Gardener's And Botanist's
Dictionary
1859

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INDEX TO THE SECOND VOLUME,

COMPRISING THE

SYSTEMATIC AND ENGLISH GENERIC NAMES, AND THE ENGLISH AND SYSTEMATIC SYNONYMES.

*** In this Index the systematic names used, and the English names in common use, are in Roman letters, the synonymes in *Italics*, the names of Classes, Sub-classes, and Orders in *large capitals*, and the names of Sub-orders and Tribes in *small capitals*.

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THE

GARDENER'S AND BOTANIST'S DICTIONARY.

Subclass II. CALYCIFLO'RÆ (from *calyx*, and *flos*, a flower). D. C. prod. 2. p. 1. Calyx gamosepalous (f. 1. *a.*); sepals more or less connected together, especially at their base (f. 1. *a.*). Torus more or less adnate to the inside of the calyx at the base (f. 4. B. *e. f.* and A. *d.*). Petals and stamens inserted in the calyx (vol. 1. f. 2. 2. *a. b.*) or in that part of the torus adnate to the calyx (f. 4. C. c. and B. *e.*), and therefore rising from the calyx. Petals usually free (vol. 1. f. 2. 2. *a.*). Ovary free or adnate to the calyx. The torus or disk in *Calyciflòræ* appears to be a dilatation of the peduncle converted into petals and stamens, it is large and adnate to the calyx, and usually bears the petals and stamens, sometimes it girds the stipe of the ovary as in *Passiflòræ* and the most of *Leguminòsæ*. The petals and stamens in the *Calyciflòræ* are, however, for the most part, inserted in the calyx. In the *Thalamiflòræ* the torus neither adheres to the calyx nor to the ovaries, which character distinguishes it from the *Calyciflòræ*.

Order LXIV. CELASTRI'NEÆ (plants agreeing with *Celástrus* in important characters). R. Br. gen. rem. p. 22. D. C. prod. 2. p. 2.—Rhamneæ, Spec. Juss.

Calyx of 4-5 obtuse sepals (f. 1. *a.*) connected at the base, imbricate in the bud (f. 2. *a.*). Petals alternating with the sepals (f. 2. *b.*), oblong, flat, rather fleshy, broadest at the base, fixed under the margin of the disk, imbricate in æstivation (f. 2. *a.*). Stamens (f. 2. *c.*) equal in number with the petals, and alternate with them, inserted in the margin, middle part, or superior part of the disk. Anthers 2-celled bursting inwards. Disk large (f. 2. *d.*) expanded, flat, closely girding the ovary, and covering the flat part of the calyx. Ovary free, immersed in the disk, and adnate to it, 2-4-celled; cells 1-seeded (f. 1. *c.*) Ova fixed to the inner angle of the cells by a short narrow podosperm, ascending. Raphe interior. Fruct or capsule never adherent, 2-4-valved, 2-4-celled, with a dissepiment in the middle of each valve, or a dry drupe containing a 2-celled nut; cells 1 or many-seeded. Seeds ascendent, rarely resupinate, suspended, arillate or exarillate. Endosperm fleshy. Embryo straight, with flat, thick cotyledons and a short inferior radicle. The order is composed of shrubs, having alternate or opposite, simple, rarely compound, rather coriaceous, entire, or toothed, feather-nerved, usually stipulate leaves, and axillary cymes of small whitish or greenish flowers. Several of the species are favourite ornaments of our shrubberies, as the *Staphylēa*, the *Celástrus*, and the *Euónymus*. The fruit of *Euónymus Europæ'us* is a brisk purgative, as is also the inner bark, and in strong doses powerfully emetic. A decoction of the twigs of *Maytēnus Boària* is used to bathe the swellings produced by the poisonous shade of the tree *Litri* or *Llithi*, *Rhus caústica*. This order is distinguished from *Rhámneæ* in the sepals being imbricate in æstivation, not valvate, and in the stamens being alternate with the petals as well as in the ovary being wholly superior and in the petals being flat. It differs from *Ilicíneæ* in the petals being free and in the stamens being perigynous, and from *Hippocrateáceæ*, to which it has been referred by R. Brown, in the stamens being free and perigynous, not as in that order hypogynous and monadelphous.

Synopsis of the genera.

Tribe I.

Staphylea'ceæ. *Seeds bony, truncate at the hilum, exarillate. Albumen wanting, or very sparing. Leaves compound, pinnate, or trifoliate.*

1 Staphyle'a. Calyx 5-parted (f. 1. *a.*), with coloured segments. Disk urceolate. Petals 5. Stamens 5. Styles 2-3, sometimes connected. Capsule bladdery, 2-3-celled, few-seeded (f. 1. *c.*).

2 Turpi'nia. Flowers polygamo-dioecious. Calyx 5-parted, with coloured margins. Petals 5, inserted in a 10-crenated disk. Styles 3, joined in one. Berry trigonal, 3-celled; cells 2-3-seeded.

Tribe II.

Euony'meæ. *Seeds arillate, not truncate at the hylum. Embryo straight, placed in the axis of a fleshy albumen. Leaves simple.*

3 Euo'nymus. Calyx 4-6-lobed (f. 2. *a.*), flat, with the base covered by the peltate disk. Petals 4-6 (f. 2. *b.*), spreading, inserted in the disk. Stamens 4-6, inserted in rather prominent glands. Style 1. Capsule 3-5-celled, 3-5-angled (f. 2. *f.*); cells 1-4-seeded, with a dissepiment in the middle of each valve.

4 Cela'strus. Calyx small, 5-lobed. Petals 5, unguiculate. Stamens 5. Ovary immersed in the disk. Style 1, crowned by 2-3 stigmas. Capsule 2-3-valved, usually with a complete or an incomplete dissepiment in the middle of each valve, and usually with a single seed in each cell.

5 Ca'tha. Calyx flat, 5-lobed. Petals 5, inserted under the margin of the disk. Stamens 5, inserted with the petals. Capsule 3-4-sided, 3-4-celled; cells 1-seeded. Style short, crowned by a 3-parted stigma.

6 Plectro'nia. Calyx obsoletely 5-toothed. Petals 5, sessile. Stamens 5, short. Style filiform, crowned by an ovate stigma. Berry oblong, 2-celled, 2-seeded.

7 Mayte'nus. Flowers polygamous. Calyx small, 5-cleft. Petals 5, spreading. Stamens 5. Disk fleshy. Stigma sessile, 2-3-lobed. Capsule 1-4-valved, with a dissepiment in the middle of each valve. Seeds few.

8 Alzate'a. Calyx 5-cleft, 5-angled, coloured. Stamens 5, hypogynous? Style 1. Capsule obcordate, 2-valved, 2-celled, with a dissepiment in the middle of each valve. Seeds numerous, girded by a membrane. Corolla none.

9 Crypterònia. Flowers monoecious. Calyx small, 5-toothed. Corolla none. Stamens 5. Style crowned by an obtuse stigma. Capsule 2-celled, 2-valved, many-seeded.

10 Polyca'rdia. Calyx 5-lobed. Petals 5. Stamens 5, short. Ovary depressed. Style very short, crowned by a lobed stigma. Capsule woody, 5-celled, 5-valved, or from abortion only 3-4-valved, with a dissepiment at the base of each valve. Seeds few, covered by a jagged aril.

11 Elæode'ndron. Calyx small, 4-5-lobed. Petals 4-5. Stamens 4-5. Disk fleshy. Style very short. Drupe dry, containing a 5-celled nucleus, rarely 2-celled from abortion. Seeds solitary or twin in the cells.

12 Actegeʹton. Flowers dioecious. Calyx 4-toothed. Petals 4. Stamens 4, connate at the base. Stigmas 2, sessile. Berry globose, 1-3-seeded.

13 Pteli'dium. Calyx urceolate, 4-lobed. Petals 4, inserted in the 4-lobed disk by the broad claws. Stamens 4. Ovary compressed. Style almost wanting. Fruit samaroid, much compressed, indehiscent, girded by a wing, 2-celled, 2-seeded.

14 Trallia'na. Calyx 5-parted. Petals 5, spreading. Disk erect, 10-crenate. Stamens 5. Style 1. Berry roundish, 2-celled, 2-seeded.

Tribe III.

Cassinie'æ. *Petals broadest at the base. Fruit indehiscent. Embryo straight in the axis of a fleshy albumen. Leaves simple.*

15 Cassi'ne. Calyx small, 5-parted. Petals 5, spreading. Stamens 5. Stigmas 3. Drupe dry, containing a 3-celled, 3-seeded nut. Seeds hanging from the top of the cells.

16 Harto'gia. Calyx 4-5-cleft. Petals 4-5, spreading. Stamens 4-5. Style thick, bifid; lobes bifid. Drupe dry, ovate, 2-celled, 2-seeded.

17 Curti'sia. Calyx 4-parted. Petals 4. Stamens 4. Style crowned by 4-5 stigmas. Drupe subglobose, succulent, containing a 4-5-celled, 4-5-seeded nut.

18 Nemopa'nthes. Flowers dioecious or polygamous from abortion. Calyx very small. Petals 5. Stamens 5. Stigmas 3-4, sessile. Berry subglobose, 3-4-celled, 3-4-seeded.

19 Ski'mmia. Calyx small, 4-parted. Petals 4, concave. Stamens 4, very short. Style 1. Berry ovate, umbilicate, obsoletely 4-furrowed, somewhat 4-valved, filled with farinaceous pulp. Seeds 4.

20 Le'pta. Calyx small, 4-parted. Petals 4, inflexed, triangular. Stamens 4, inserted at the angles of the disk. Style almost wanting. Stigma obtuse. Berry 4-lobed; lobes 1-seeded.

† *Genera allied to Celastrineæ, but differ materially in the valvate æstivation of the petals.*

21 Perrotte'tia. Calyx 5-lobed. Petals 5, valvate in æstivation, inserted under the disk. Stamens 5, inserted with the petals. Stigma sessile. Berry subglobose, containing 1-2 wrinkled nuts.

22 Dulóngia. Flowers hermaphrodite. Calyx 5-toothed, adnate to the ovary. Petals 5, valvate in æstivation, inserted round the base of the disk. Stamens 5, inserted with the petals. Stigmas 2, sessile. Fruit globose, baccate 2-celled; cells 2-3-seeded.

Tribe I.

STAPHYLEA'CEÆ (plants agreeing with *Staphylèa* in some characters). D. C. prod. 2. p. 2. Seeds bony, truncate at the hilum, without aril. Albumen wanting or sparing. Cotyledons fleshy. Leaves compound.

I. STAPHYLE'A (name abridged from *Staphylodéndron*, its name in ancient botany, derived from σταφυλη, *staphyle*, a bunch or cluster, and δενδρον, *dendron*, a tree; the flowers and fruit are disposed in clusters). Lin. gen. no. 374. Lam. ill. t. 210. D. C. prod. 2. p. 2.—Staphylodéndron, Tourn. inst. 386. —Bumálda, Thunb.

Lin. syst. *Pentándria, Di-Trigýnia.* Calyx 5-parted (f. 1. *a.*), covered by an urceolate disk at the base; lobes oblong, concave, coloured. Petals 5 (f. 1. *f.*). Stamens 5. Ovary 2-3-lobed. Styles 2-3, sometimes connected together. Capsule 2-3-celled; cells membranous (f. 1. *c.*), opening on the inside, few-seeded, sometimes connected together at the base, sometimes their whole length. Seeds globose.—Shrubs with impari-pinnate or trifoliate, opposite, rarely alternate leaves, bearing 2 stipulas at the base of the petioles (f. 1. *b.*), and at the base of the leaflets. Flowers white, disposed in racemose panicles.

* *Leaves trifoliate.*

1 S. trifòlia (Lin. spec. 386.) leaflets ovate, acuminate, regularly serrated, young ones downy beneath; styles smooth; capsules bladdery. ♄. H. Native of North America, from New York to Carolina, on rocks. Schmidt œstr. baum. 2. t. 81. A very common shrub in the gardens.

Three-leaved Bladder-nut. Fl. May, June. Clt. 1640. Sh. 6 to 8 feet.

2 S. Buma'lda (D. C. prod. 2. p. 2.) leaflets oblong, acu-

minate, rather scabrous; serratures awned, protruding from the recesses of the crenæ; styles villous; capsule with 2 beaks. ♄. G. Native of Japan, on the mountains. Bumálda trifòlia, Thunb. fl. jap. p. 8. Flowers white.

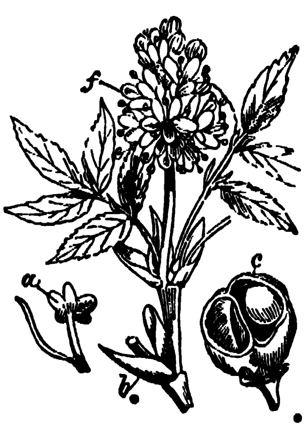
Bumalda's or Japan Bladder-nut. Fl. June, Aug. Clt. 1812. Shrub 6 feet.

* * *Leaves impari-pinnate.*

3 S. HETEROPHY′LLA (Ruiz et Pav. fl. per. 3. p. 29. t. 253. f. A.) petioles biglandular; leaflets 3-5 or 7, oblong-lanceolate, quite smooth, with callous serratures; flowers disposed in racemose panicles; capsules coriaceous, not bladdery. ♄. S. Native of Peru, in groves. Flowers white.

Variable-leaved Bladder-nut. Shrub 12 feet.

FIG. 1.



4 S. PINNA′TA (Lin. spec. 386.) petioles without glands; leaflets 5 to 7, oblong-lanceolate, quite smooth, serrated; flowers racemose; styles 2; capsules membranous, bladdery. ♄. H. Native of Europe, in hedges and thickets. In England, about Pontefract and other parts of Yorkshire; about Ashford, Kent. Smith, engl. bot. t. 1560. Staphylodéndron pinnàtum, Ray. syn. 468. Duh. arb. 2. t. 77. A smooth branching shrub with foliage resembling some kind of ash. Flowers white or of a pale greenish-yellow, bell-shaped, pendulous, inodorous. Haller says children eat the kernels, but according to Gerarde their first sweetness is succeeded by a nauseous taste, and an emetic effect. The nuts being hard and smooth, are strung for beads by the Roman Catholics in some countries. Singularity rather than beauty procures this plant a place in gardens.

Pinnate-leaved or Common Bladder-nut. Fl. June. Britain. Shrub 4 to 12 feet.

Cult. These shrubs possess very little beauty, but answer very well to mix with other shrubs for variety. They will grow in any common soil, and are easily increased by taking the suckers from the roots, by layers, or by cuttings put in the ground in September. The *S. heterophýlla* and *S. Bumálda* will require protection during frost.

II. TURPI′NIA (in honour of M. Turpin, a distinguished French botanical artist and naturalist, author of several articles in the Annales du Musée d'Histoire Naturelle). Vent. choix. 1803. p. 31. t. 31. but not of Humb. nor Pers. nor Rafin. D. C. prod. 2. p. 3. Dalrýmplea, Roxb. cor. 3. p. 276.

LIN. SYST. *Polygàmia, Dioècia,* or *Dioècia, Pentándria.* Flowers polygamous or dioecious. Calyx 5-parted, permanent, with coloured edges. Petals 5, inserted in the disk, alternating with the sepals. Stamens 5, inserted in a 10-crenate disk, alternating with the petals. Ovary trigonal. Styles 3 joined in one, or distinct. Berry trigonal, 3-celled; cells 2-3-seeded.—Trees with the habit of *Staphylèa,* with smooth, opposite, impari-pinnate leaves, and stalked, ovate, acuminated, serrated leaflets. Flowers white, disposed in panicles.

1 T. PANICULA′TA (Vent. choix. 1803. p. and t. 31.) upper branches of panicle alternate. ♄. S. Native of St. Domingo on the mountains, as well as of Mexico. Dalrýmplea Domingénsis, Spreng. syst. 1. p. 771. Flowers loosely panicled. Leaflets 7, 2 inches long, edged with glandular serratures. Fruit blue, 3-furrowed, very bluntly 3-lobed.

Panicle-flowered Turpinia. Tree 25 feet.

2 T. CORYMBÒSA; flowers panicled, corymbose; leaflets 5-7, oval, acuminate, bluntly sinuate-crenate, quite smooth; styles distinct. ♄. S. Native of Jamaica. Staphylèa corymbòsa, D. C. prod. 2. p. 3. Leaflets opposite.

Corymbose-flowered Turpinia. Tree 30 feet.

3 T. OCCIDENTA′LIS; flowers panicled; leaves doubly pinnate; leaflets ovate, acuminate, serrated, smooth; styles distinct. ♄. S. Native of Jamaica, on the mountains. Fruit about the size of a cherry. Leaflets alternate. Stipulas in pairs between the pinnæ. Staphylèa occidentàlis, Swartz, fl. ind. occ. 1. p. 566. exclusive of the synonyms. Flowers white.

Western Turpinia. Clt. 1824. Tree 30 feet.

4 T. POMI′FERA (D. C. prod. 2. p. 3.) branches of panicle all opposite; leaves ternate or pinnate, bluntly serrated. ♄. S. Native of the East Indies, in Silhet and probably in Nipaul. Its vernacular name in Silhet is *Junki-jam.* Dalrýmplea pomífera, Roxb. cor. 3. p. 276. t. 279. Panicle spreading. Leaflets 3-7, opposite, 5-6 inches long. Fruit yellow when ripe, roundish, 3-lobed, almost smooth, size of a large medlar, very fleshy. Flowers yellowish-white.

Pome-bearing Turpinia. Fl. May. Clt. 1820. Tree 20 feet.

Cult. These trees possess very little beauty, they are therefore hardly worth cultivating, unless in general collections. They will thrive well in a mixture of loam and peat, and cuttings will strike root in a pot of sand under a hand-glass, in heat.

TRIBE II.

EUONY′MEÆ (plants agreeing with *Euónymus* in important characters). D. C. prod. 1. p. 3. Seeds arillate, not truncate at the hylum. Embryo erect in the axis of a fleshy albumen. Cotyledons leafy.—Shrubs and trees with simple leaves.

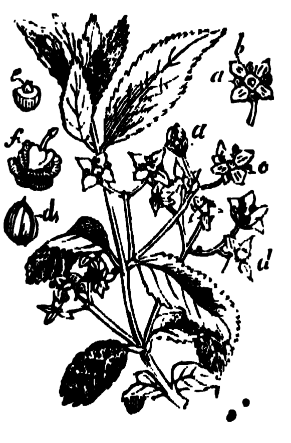
III. EUO′NYMUS (from ευς, *eus,* good, and *ονομα, onoma,* a name, well-named; by antiphrasis fetid). Tourn. inst. t. 388. Lin. gen. 271. D. C. prod. 2. p. 3. Roxb. fl. ind. 2. p. 402.

LIN. SYST. *Tetra-Hexándria, Monogýnia.* Calyx 4 (f. 2. *a.*) or 5-lobed, flat, covered by the peltate disk at the base. Petals 4 (f. 2. *b.*) -6, spreading, inserted in the disk. Stamens 4-6, inserted above the disk in rather prominent glands, alternating with the petals (f. 2. *c.*). Style 1. Capsule 3-5-celled, 3-5-angled, bearing a dissepiment in the middle of each valve. Seeds 1-4 in each cell, enwrapped in pulp or aril. Embryo green, straight, placed in the middle of a fleshy albumen.—Shrubs with tetragonal or terete branches, and ovate, usually opposite leaves, scarcely stipulaceous. Peduncles axillary. Shrubs, fetid in every part when bruised, and esteemed poisonous.

* *Petals oblong, oval, or ovate.*

European.

FIG.



1 E. EUROPÆ′US (Lin. spec. 286. var. *a,* exclusive of the synonym of Clus.) branches smooth; leaves ovate-lanceolate, finely serrated; peduncles usually 3-flowered; petals oblong, acute; lobes of capsule 5, blunt. ♄. H. Native of Europe in hedges and thickets. Plentiful in Britain. Smith, engl. bot. t. 362. Bull. herb. t. 135. E. vulgàris, Mill. dict. no. 1. Flowers small, greenish-white, fetid. Capsules of a fine rose-colour, 5-celled, 5-valved; cells 1-seeded. seeds orange-coloured. From its use for skewers it has the name of *Prickwood,* and is called by

Gerard *Prick-timber.* It is called also *Louse-berry*, *Dogwood*, and *Catteridge-tree.* In German it is named *Spindelbaum*; in Danish, *Beenved*; in Italian, *Fusaggéne*; in Spanish, *Bonetero*; *Bonete de Clerigo*; in Portuguese, *Barrete de Clerigo*; in Russian, *Mereskletiana kislianka*, *Swida*, *Sedlini Beresdren.* The wood is said to be used by musical instrument makers. For skewers and toothpicks the branches should be cut when the shrub is in blossom, for it is tough and not easily broken in that state; it is also used by watchmakers for cleaning watches: it was formerly used to make spindles, hence the English name of the genus. According to Linnaeus, kine, goats, and sheep eat the leaves, but horses refuse it. No animal, however, seems to browze upon it but the goat. The berries are said to be fatal to sheep; they are violently emetic and purgative; powdered and sprinkled upon the hair they destroy lice. The shrub seldom attains any great size when growing wild in the hedges, but when planted singly and properly trained it will have a strong woody stem, and rise more than twenty feet high, dividing into many branches, and when in fruit it has a fine appearance, the capsules being red and the seeds yellow. First flowers pentandrous, but the others are tetrandrous.

Var. β, leucocárpus (D. C. prod. 2. p. 4.) capsules white or pale, as well as the seeds.

European or Common Spindle-tree. Fl. May. Britain. Shrub 6 to 20 feet.

2 E. verrucòsus (Scop. carn. ed. 2. no. 268.) branches warted; leaves ovate, somewhat serrated; peduncles 3-flowered; petals ovate; capsule bluntly tetragonal. ♄. H. Native of Europe, particularly in Austria, Hungary, and Carniola. Jacq. fl. austr. t. 49. Duh. ed. nov. 3. t. 8. Schmidt. arb. t. 72. E. Europæ'us lepròsus, Lin. fil. suppl. 154. Petals covered with a pile consisting of very small teats. Capsules 3-4-celled, 3-4-valved; cells 1-seeded. Stigma bladder-like. Flowers small, greenish-white or greenish-yellow, tetrandrous and pentandrous.

Warted-branched Spindle-tree. Fl. May, June. Clt. 1763. Shrub 6 to 8 feet.

3 E. latifòlius (C. Bauh. pin. 428.) branches smooth; leaves broad-ovate, toothletted; peduncles trichotomous, many-flowered; petals oval, obtuse; lobes of capsule acutely angled, wing-formed. ♄. H. Native of Europe, in groves from Dauphiny to Tauria. Jacq. austr. t. 289. Sims, bot. mag. 2384. Jacq. hort. vind. 2. t. 120. Duh. arb. ed. nov. 3. t. 7. E. Europæ'us β, Lin. spec. 286. Flowers usually pentandrous, white at first, but becoming purplish as they fade. Capsules red?

Broad-leaved Spindle-tree. Fl. June, July. Clt. 1730. Shrub 10 to 20 feet.

4 E. na'nus (Bieb. fl. taur. suppl. p. 160.) branches smooth, somewhat herbaceous; leaves lanceolate, quite entire, nearly opposite; peduncles 1-3-flowered; flowers tetrandrous, 4-petalled. ♄. H. Native of the north of Caucasus. A little shrub, with the appearance of *Cneòrum tricóccum.* The fruit being unknown the genus is doubtful. Flowers whitish?

Dwarf Spindle-tree. Clt. 1825. Shrub 2 feet.

Asiatic.

5 E. Hamiltonia'nus (Wall. in fl. ind. 2. p. 403.) branches smooth, terete; leaves lanceolate, finely serrated; peduncles dichotomous, 6-flowered; flowers tetrandrous; petals 4, lanceolate, cordate; ovary 4-lobed, 4-celled, each cell containing 2 ova. ♄. H. Native of Nipaul. E. atropurpùrea, Wall. in fl. ind. 2. p. 402. Trunk erect; branchlets spreading. Petals with revolute edges, white. Anthers brown.

Hamilton's Spindle-tree. Fl. April, May. Clt. 1825. Sh. 5 to 20 feet.

6 E. gla'brus (Roxb. fl. ind. 2. p. 403.) arboreous; leaves oblong, smooth, with the anterior margin serrated; peduncles 2 or 3 times dichotomous, with a single flower in each fork; flowers pentandrous. ♄. F. Native of Chittagong, in the East Indies, where it flowers in May. Flowers greenish-white.

Smooth Spindle-tree. Tree 15 feet.

7 E. garcinifòlius (Roxb. in fl. ind. 2. p. 403.) branchlets smooth, terete; leaves lanceolate, entire; petals oblong, with incurved edges, much longer than the calyx; peduncles between the leaves, sometimes solitary, 3-flowered; flowers pentandrous. ♄. F. Native of Silhet, in the East Indies, where it is called *Mori*, and at Suemba in Upper Nipaul. E. lácerus, Hamilt. in D. Don, prod. fl. nep. p. 191? Flowers small, pale-yellow. Capsule oblong, size of a small field-bean, 1-celled, 2-valved, opening from the base, containing a solitary, oval seed, covered with a thin, succulent, veined, bright scarlet aril.

Garcinia-leaved Spindle-tree. Fl. May. Clt. 1820. Tree 12 feet.

8 E. tíngens (Wall. in fl. ind. vol. 2. p. 406.) branchlets obscurely tetragonal, smooth; leaves leathery, ovate-lanceolate, serrulated, wrinkled above; lobes of calyx permanent; peduncles 2 or 3 times dichotomous, short, flattened, disposed in numerous approximate pairs on the young shoots, with opposite, linear, fringed bracteas at each subdivision; petals veined, ovate, with short claws; capsule 5-cornered. ♄. F. Native of the East Indies, on the summit of Sheopore, as well as on the Sewalik mountains, and on those of Shreenugur. Its Newar name is *Kasoori.* Trunk as thick as a man's thigh, spotted with large, ochre-coloured tubercles; branchlets short, thick. Both the flower and leaf-buds consist of imbricated, lanceolate, fringed scales, and here and there interspersed among the peduncles. Flowers large, tetrandrous, or pentandrous, yellowish-green, marked with purplish veins. The yellow bark is employed by the Nipaulese for the purpose of marking the forehead with the idolatrous symbol, commonly called *Tika.* The wood is white and compact. Capsule about the size of a gooseberry, 4-5-cornered, 5-seeded.

Painting Spindle-tree. Fl. April, May. Tree 16 to 20 feet.

9 E. fimbria'tus (Wall. in fl. ind. 2. p. 408.) branches terete, smooth; leaves ovate, finely acuminated, fringed with long parallel toothed serratures; flowers tetrandrous, subumbellate, on long filiform peduncles; capsules with from 2-5 long, vertical tapering wings. ♄. F. Native of the East Indies, on the Sewalik mountains, as well as on those of Shreenugur. It is impossible to confound this with any other species, the leaves being distinctly doubly-serrated.

Fringed-leaved Spindle-tree. Tree.

10 E. gro'ssus (Wall. in fl. ind. 2. p. 408.) branches dotted; leaves subopposite, ovate, acute, bluntly and coarsely serrated on longish footstalks; peduncles twice dichotomous, with long, divaricating divisions, supported by a pair of lanceolate, acute bracteas; petals oblong. ♄. F. Native of Nipaul, on the northward of Sheopore, flowering in June. Leaves shining, rounded at the base, elegantly reticulated beneath.

Coarse-serrated Spindle-tree. Clt. 1824. Tree 12 feet.

11 E. I'ndicus (Heyne, herb. Wall. in fl. ind. 2. p. 409.) branches terete, smooth; leaves lanceolate or ovate-lanceolate, acuminated, quite entire; peduncles 1-3-flowered; petals oval, fringed; flowers pentandrous; capsule clavate, furnished with 5 short projecting wings. ♄. F. Native of the East Indies. Branchlets slender, slightly quadrangular. Leaves acute at the base.

Indian Spindle-tree. Shrub 8 feet.

12 E. dicho'tomus (Heyne, herb. Wall. in fl. ind. 2. p. 410.) branchlets slightly quadrangular; leaves linear-lanceolate, acuminate at both ends, perfectly entire; peduncles fascicled, filiform, one-third shorter than the leaves, 2 or 3 times dichotomous at the apex, bearing a number of small pentandrous

flowers; petals oval, fringed; capsules lengthened, clavate, 5-lobed, retuse. ♄. S. Native of the East Indies. Branches smooth, slender, opposite, or dichotomous.

Forked-branched Spindle-tree. Shrub.

13 E. MICRA'NTHUS (D. Don, prod. fl. nep. p. 191.) leaves elliptical, serrulated, smooth, acuminated, shining; peduncles trifid, many-flowered, one-half shorter than the leaves. ♄. F. Native of Nipaul. E. frígida, Wall.? Petals oval.

Small-flowered Spindle-tree. Clt. 1820. Shrub 8 feet.

14 E. LU'CIDUS (D. Don. prod. fl. nep. p. 191.) leaves lanceolate, acuminated, sharply serrated, shining, acute at the base; umbels lateral, opposite, pedunculate. ♄. F. Native of Nipaul. Petals ovate or oval?

Shining-leaved Spindle-tree. Clt. 1820. Shrub 6 feet.

* * *Petals orbicular.*

American.

15 E. ATROPURPU'REUS (Jacq. hort. vind. 2. t. 120.) branches smooth; leaves oblong-lanceolate, acuminate, serrated, stalked; peduncles many-flowered, compressed; petals orbicular; capsules angularly-furrowed, smooth. ♄. H. Native of North America, from New York to Carolina, on the banks of rivulets, Schmidt. arb. 73. E. Caroliniénsis, Marsh. arbr. amer. no. 1. and probably latifòlius, Marsh. arb. no. 2. Flowers quadrifid. tetrandrous, dark-purple. Fruit red.

Dark-purple-flowered Spindle-tree. Fl. June, July. Clt. 1756. Shrub 6 to 10 feet.

16 E. AMERICA'NUS (Lin. spec. 286.) branches smooth, quadrangular; leaves elliptic-lanceolate, acute, serrated, almost sessile; peduncles 1-3-flowered; flowers pentandrous; petals nearly orbicular; capsules warted and echinated. ♄. H. Native of North America from New England to Carolina, in hedges and shady woods, among rocks, and on the edges of swamps. Duham. arb. ed. nov. 3. t. 9.—Pluk. alm. t. 115. f. 5. Schmidt. arb. t. 75. Flowers yellow, tinged with red. Fruit scarlet, resembling those of *A'rbutus U'nedo* at first sight. They are a great ornament to this almost evergreen shrub. Its common name in America is *Burning-bush* on account of the colour of the fruit. E. sempervìrens, Marsh. arbr. amer. no. 3. E. alternifòlius, Mœnch.

American Burning-bush. Fl. June, July. Clt. 1686. Shrub 6 feet.

17 E. SARMENTÒSUS (Nutt. gen. amer. 1. p. 155.) branches smooth, tetragonal, sarmentose, usually rooting; leaves lanceolate, serrated, almost sessile; peduncles 1-3-flowered; flowers pentandrous; petals somewhat orbicular; capsules muricated. ♄. ◡. H. Native of North America, in Virginia and Carolina, in shady woods. E. scándens, Hort. Flowers yellow, tinged with red? Fruit scarlet?

Sarmentose Spindle-tree. Fl. June, July. Clt. 1824. Shrub straggling.

18 E. ANGUSTIFÒLIUS (Pursh. fl. amer. sept. 1. p. 168.) branches quadrangular, smooth; leaves elongated, linear-elliptical, somewhat falcate, nearly entire, almost sessile; peduncles for the most part 1-flowered; flowers pentandrous; capsules warted. ♄. H. Native of North America, in Georgia, in shady woods. Flowers yellow, tinged with red. Fruit scarlet. This species is nearly related to *E. Americànus*, and keeps its distinction from seed.

Narrow-leaved Spindle-tree. Fl. June, July. Clt. 1806. Shrub 6 feet.

19 E. OBOVA'TUS (Nutt. gen. amer. 1. p. 155.) stem prostrate, rooting; branches erect, bluntly quadrangular, with the bark inflated at the apex; leaves broad, obovate, obtuse, almost sessile, acutely-serrulated; peduncles 3-flowered; calyxes inflated. ♄. H. Native of Pennsylvania, in marshes between Franklin and Waterford. Fruit unknown. Anthers sessile.

Obovate-leaved Spindle-tree. Fl. June, July. Clt. 1820. Shrub creeping and straggling.

Asiatic species.

20 E. GRANDIFLÒRUS (Wall. in fl. ind. 2. p. 404.) branches terete, smooth; leaves obovate-oblong, obtuse, acutely-serrulate, with a tapering entire base; peduncles slender, flattened, nearly equalling the length of the leaves, 3-6-flowered; flowers tetrandrous; petals orbicular, flat with curled edges; capsule globular, pendulous, obscurely 4-cornered, with usually geminate, pendulous seeds. ♄. H. Native of the valley of Nipaul, in forests. Branches slightly 4-cornered. Flowers white, very large, inodorous, slightly nodding. Capsule nearly globular, about the size of a cherry, 4-celled, 4-valved. Seeds oval, black, half covered by a brilliant, red, minutely lobed, warted aril. This is a very ornamental shrub, both when in flower, and when loaded with its yellow pendulous capsules, each of which is furnished with as many as 6 black pendulous seeds.

Great-flowered Spindle-tree. Fl. April, May. Shrub 10 ft.

21 E. JAPO'NICUS (Thunb. jap. 100.) branchlets pendulous, slightly compressed; leaves oblong, sharply serrulated, acuminated; peduncles flattened, crowded and panicled on the recent shoots, 2 or 3 times dichotomous, bearing several flowers; petals orbicular, fringed, twice as long as the stamens; capsule with 4 horizontal spreading wings. ♄. G. Native of Nipaul, on Sheopore and Chundrugiri, as well as at Shreenugur and of Japan. Hell. in Ust. del. op. 1. p. 84. t. 4. Banks, icon. Kæmpf. t. 8. Flowers small, white, tetrandrous, rarely pentandrous. Outer branches hanging down in a very elegant manner.

Japan Spindle-tree. Fl. April, May. Clt. 1804. Tree 20 ft.

22 E. ECHINA'TUS (Wall. in fl. ind. 2. p. 410.) stems climbing, as well as rooting; leaves ovate-lanceolate, serrated; peduncles filiform, several times dichotomous, many-flowered, with one flower in each fork; petals orbicular, crenulate; capsules armed with numerous prickles. ♄. ◡. F. Native of the mountains of Nipaul, especially on Sheopore. Hook. bot. mag. 2767. Branches quadrangular at the apex, climbing over trees, and rooting by means of dense capillary fibres. Flowers small, pea-green, inodorous, tetrandrous. Capsules pendulous, globular, yellow, 4-celled, 4-seeded. Seeds black, almost covered with a scarlet fleshy aril. E. scandens, Graham.

Echinated-capsuled Spindle-tree. Fl. Ap. March. Clt. 1824. Shrub climbing.

23 E. VA'GANS (Wall. in. fl. ind. 2. p. 412.) climbing; branches quadrangular at the apex; leaves ovate-lanceolate, serrated; peduncles filiform, several times dichotomous, many-flowered, with a single flower in each bifurcation; petals orbicular, crenulate; capsules globular, naked, unarmed. ♄. ◡. F. Native of the mountainous forests of Nipaul, especially on Sheopore, and on Cheesapani. A most extensive, rambling, and climbing shrub, with stem, branches, and flowers exactly like those of *E. echinàtus*, but never throwing out roots from the branches and stems. Capsule 4-celled, 4-seeded. Seeds large, covered with a scarlet fleshy aril.

Rambling Spindle-tree. Shrub cl.

24 E. JAVA'NICUS (Blum. bijdr. 1146.) leaves opposite, oblong, bluntish, smooth, remotely serrulated above; pedicels 1-flowered, in fascicles, axillary, and terminal; flowers pentandrous; petals fringed. ♄. S. Native of Java, in woods.

Java Spindle-tree. Shrub 8 feet.

25 E. SIEBOLDIA'NUS (Blum. bijdr. 1147.) leaves opposite, oblong-lanceolate, sharply serrulated, smooth, puberulous on the middle nerve beneath; peduncles usually 5-flowered; flowers

tetrandrous; capsule acutely tetragonal. ♄. S. Native of Java. The shape of the petals is unknown.

Siebold's Spindle-tree. Shrub 10 feet.

26 E. subtriflòrus (Blum. bijdr. 1147.) spinose; leaves nearly opposite, oval-lanceolate, acuminated, sharply-serrulated, smooth; peduncles lateral, 3-flowered at the apex; flowers tetrandrous; capsule 4-lobed. ♄. G. Native of Japan.

Somewhat-three-flowered Spindle-tree. Shrub.

27 E. Thunbergia'nus (Blum. bijdr. 1147.) leaves nearly opposite, elliptic-oblong, tapering to both ends, sharply-serrulated, smooth; peduncles axillary, 3-flowered; flowers tetrandrous; capsule 4-lobed. ♄. G. Native of Japan. Celàstrus alàta, Thunb. fl. jap. 98. Form of petals unknown.

Thunberg's Spindle-tree. Shrub.

† *A doubtful species, which probably should be excluded from the genus.*

28 E. Chine'nsis (Lour. fl. coch. ed. Willd. 1. p. 194.) stem herbaceous, climbing, with tendrils; leaves cordate, toothletted, rough; peduncles lateral; petals 5, oblong-ovate; berry free, ovate, 10-angled, 1-celled, valveless; seeds many, covered with aril. ♃. ◡. G. Native of China, in the suburbs of Canton. Flowers white, pentandrous.

China Spindle-tree. Fl. May, June. Clt. 1820. Pl. cl.

Cult. The hardy kinds of this genus are well adapted for large shrubberies. They will thrive in any common soil, and are easily increased by seeds, which ripen in abundance; or ripened cuttings, planted in autumn, will readily strike root. Those said to be frame and greenhouse plants will no doubt turn out to be truly hardy.

IV. CELA'STRUS (from κηλας, *celas*, the latter season; the fruit remains on the tree all winter. The *Celàstros* of the Greeks is supposed to be *Euónymus*). Lin. gen. 270. Gært. fruct. 2. t. 95. D. C. prod. 2. p. 5.—Cátha, Forsk. descr. p. 63.—Euonymoìdes, Mœnch. meth. 70.

Lin. syst. *Pentándria, Monogýnia.* Calyx small, 5-lobed. Petals 5, unguiculate. Stamens 5. Ovary small, immersed in a 10-striped disk. Style 1. Stigmas 2-3. Capsule 2-3-valved, bearing a complete or incomplete dissepiment in the middle of each valve. Seed 1, or few, more or less involved in a large fleshy aril.—Shrubs with alternate leaves, and many-flowered axillary peduncles, sometimes approximating in terminal panicles. The carpology of many of the species being unknown, the species are arranged here in an artificial manner.

* *Leaves quite entire.*

African.

1 C. filifórmis (Thunb. fl. cap. 2. p. 115.) climbing, smooth; leaves lanceolate, opposite; branches filiform, flexuous; flowers axillary, few, almost sessile. ♄. ◡. G. Native of the Cape of Good Hope. Flowers white. Stigma capitate.

Filiform-branched Staff-tree. Shrub cl.

2 C. críspus (Thunb. fl. cap. 2. p. 115.) erect, much branched; leaves obovate, obtuse, wavy, smooth; branchlets pubescent; flowers axillary, umbellate, hairy. ♄. G. Native of the Cape of Good Hope. Flowers white.

Curled-leaved Staff-tree. Shrub 4 feet.

3 C. obtu'sus (Thunb. fl. cap. 2. p. 116.) erect, smooth; leaves obovate, very blunt, with revolute edges; panicles axillary. ♄. G. Native of the Cape of Good Hope. Panicle simple or dichotomous. Flowers white.

Obtuse-leaved Staff-tree. Shrub 6 feet.

4 C. lau'rinus (Thunb. fl. cap. 2. p. 116.) erect, smooth; leaves ovate-oblong, blunt, somewhat emarginate, with the edges a little revolute; panicles axillary. ♄. G. Native of the Cape of Good Hope. Style very short. Leaves 2 inches long. Flowers white.

Laurel-like Staff-tree. Fl. June, July. Clt. 1818. Shrub 2 ft.

5 C. oleoìdes (Lam. ill. no. 2596.) erect, smooth; leaves ovate-lanceolate, acute, stalked; petiole short, stem-clasping at the base; corymbs axillary, few-flowered, subterminal, some of them opposite the leaves, and others axillary. ♄. G. Native of the Cape of Good Hope. C. oleifòlia, Pers. ench. 1. p. 327. C. oleoìdes, Sieb. pl. ex sic. cap. no. 93. Flowers white.

Olive-like Staff-tree. Fl. May, June. Clt. 1824. Shrub 4 ft.

6 C. pteroca'rpus (D. C. prod. 2. p. 5.) erect, smooth; leaves ovate, somewhat emarginate; racemes short, axillary; capsules 3-valved, drawn out into 3 vertical toothed wings. ♄. G. Native of the Cape of Good Hope.—Burm. afr. t. 97. f. 1. This and the two following species will probably form a distinct genus, on account of their appendiculate fruit. Flowers white.

Wing-fruited Staff-tree. Fl. July. Clt. 1824. Shrub 4 ft.

7 C. rostra'tus (Thunb. fl. cap. 2. p. 117.) erect, smooth; leaves oblong-ovate, unequal, bluntly acuminated; panicles or corymbs dichotomous, axillary; capsules prickly, with unarmed scales. ♄. G. Native of the Cape of Good Hope. Flowers white.

Beaked-capsuled Staff-tree. Shrub 6 feet.

8 C. tricuspida'tus (Lam. ill. no. 2594.) erect, smooth; leaves oblong-ovate, obtuse, smooth, on short petioles; racemes axillary, simple, nearly the length of the leaves; fruit trigonal. ♄. G. Native of the Cape of Good Hope. Cassìne lævigàta, Lam. dict. 1. p. 652. O'lea Capénsis, Buchoz. dec. 6. t. 3. Flowers white.

Three-pointed-fruited Staff-tree. Fl. May, June. Clt. 1818. Shrub 6 feet.

9 C. lu'cidus (Lin. mant. 49.) erect, smooth; leaves oval or roundish, shining, marginated; pedicels axillary, crowded, very short; fruit 3-valved, naked. ♄. G. Native of the Cape of Good Hope. Lher. stirp. t. 25. Cassìne concàva, Lam. dict. 1. p. 633.—Pluk. alm. t. 280. f. 4. Flowers white.

Shining-leaved Staff-tree. Fl. April, Sept. Clt. 1722. Sh. 3 ft.

10 C. microphy'llus (Thunb. fl. cap. 2. p. 110.) erect, smooth; leaves ovate, blunt, approximate; panicle terminal, dichotomous. ♄. G. Native of the Cape of Good Hope. Flowers white.

Small-leaved Staff-tree. Shrub 2 feet.

11 C. diffu'sus; much branched, diffuse; leaves alternate, ovate, almost entire, obtuse, mucronate, glabrous; flowers axillary and terminal, sessile. ♄. S. Native of Guinea. Flowers yellowish-green.

Diffuse Staff-tree. Shrub 6 feet.

12 C. elli'pticus (Thunb. fl. cap. 2. p. 119.) erect, smooth; leaves elliptical, opposite; panicles simple, axillary. ♄. G. Native of the Cape of Good Hope, in woods. Flowers white.

Elliptical-leaved Staff-tree. Shrub 4 feet.

Asiatic.

13 C. tri'gynus (Roxb. fl. ind. 2. p. 391.) erect, smooth; leaves oblong, on short petioles; flowers in small, axillary, dichotomous, round heads; nectary of 5 scales; styles 3. ♄. S. Native of the Moluccas. Flowers white?

Three-styled Staff-tree. Shrub.

14 C. verticilla'tus (Roxb. fl. ind. 2. p. 291.) arboreous, smooth; leaves scattered, broad-lanceolate, wavy; panicle terminal, umbelliferous; capsule 1-celled, 2-valved, few-seeded. ♄. F. Native of Nipaul, where it is known by the name of *Tiblliti.* Trunk straight; the branches and branchlets have a strong tendency to be verticillate, as well as the leaves, which

are drooping. Stigma 2, rarely 3-lobed. Flowers white? Seeds covered with a soft scarlet aril.

Whorled-branched Staff-tree. Fl. April, July. Clt.? Tree 20 feet.

15 C. ROBU'STUS (Roxb. fl. ind. 2. p. 395.) erect, smooth; leaves lanceolate, entire, glossy; racemes axillary, length of leaves; capsules 1-celled, 2-valved. ♄. G. Native of Silhet, in the East Indies, where it is called *Sheelkoil.* It grows to be one of their largest timber trees. Racemes simple, solitary, or in pairs. Flowers numerous, small, greenish-yellow. Disk 5-lobed, girding the base of the ovary. Styles 2, terminated by capitate stigmas.

Robust Staff-tree. Fl. Aug. Tree 50 feet.

16 C. OPPOSÌTUS (Wall. in fl. ind. 2. p. 398.) erect, smooth, with opposite jointed branches, younger ones tetragonal; leaves opposite, lanceolate, blunt; peduncles axillary, 3-flowered. ♄. S. Probably a native of the peninsula of India. Flowers small, white? Style columnar, terminated by a bifid stigma.

Opposite-branched Staff-tree. Shrub 6 feet.

17 C. BIVA'LVIS (Jack, in mal. misc. 1. no. 2. p. 19.) erect, smooth; leaves lanceolate, acuminate; peduncles lateral, few-flowered; capsules ovate, 2-valved, 1-seeded; corolla wanting. ♄. S. Native of the Malay Islands. Peduncles dichotomous, 5-10-flowered. Style terminated by a truncate stigma. Seeds covered with a crimson aril, which is beautifully veined.

Two-valved-capsuled Staff-tree. Shrub.

American.

18 C. MACROCA'RPUS (Ruiz et Pav. fl. per. 3. t. 230. f. 16.) erect, smooth; leaves oblong-lanceolate, with an emarginate acumen; pedicels axillary, very short, aggregate; capsules ovate, 2-3-valved. ♄. S. Native of Peru, in woods. Haénkia multiflòra, Ruiz et Pav. fl. per. syst. p. 65. Seeds with a white pulpy aril. Flowers white. This is probably a species of *Pyrulària,* according to Nuttal.

Large-fruited Staff-tree. Shrub 6 feet.

19 C. DU'BIUS (Spreng. syst. 1. p. 774.) erect, smooth; leaves elliptical, obtuse; flowers axillary, somewhat fascicled; capsules 2-valved. ♄. S. Native of the Antilles. Senàica ellíptica, Lam.

Doubtful Staff-tree. Shrub 4 feet.

20 C. BULLA'TUS (Lin. spec. 285.) climbing, smooth; leaves ovate, acute, stalked, coriaceous; panicle terminal. ♄. ◡. G. Native of St. Domingo.—Pluk. alm. t. 28. f. 5. Capsules scarlet, elegantly wrinkled, 3-valved, each containing a hard oval seed, covered with a thin red aril. Flowers white, in loose terminal racemes. This species is said to be a native of Virginia, but notwithstanding the diligent researches of Mr. Pursh at the place of its supposed nativity, he has not been able to find it. He therefore strongly suspects that it is not a native of North America.

Wrinkled-capsuled Staff-tree. Fl. July. Clt. 1759. Shrub cl.

21 C. HA'ENKEI (Spreng. syst. app. p. 88.) branches flexuous; leaves stalked, oblong-lanceolate, wavy, quite entire; racemes axillary, much exceeding the leaves; flowers bracteate. ♄. S. Native of Peru. Háenkea flexuòsa, Ruiz et Pav. fl. per. 3. t. 231. Corolla monopetalous? pitcher-shaped, and the fruit a drupe. This is a very doubtful species of *Celástrus.*

Haenk's Staff-tree. Shrub.

22 C. OVA'TUS (Hill in hort. kew. 437. t. 16.) erect, smooth; leaves ovate, stalked, entire; flowers axillary, crowded. ♄. H. Native of the Bahama Islands.

Ovate-leaved Staff-tree. Shrub 4 feet.

* * *Leaves toothed, serrated or crenate.*

African.

23 C. ACUMINA'TUS (Thunb. fl. cap. 2. p. 119.) erect, smooth; leaves elliptical, acute, crenated; flowers axillary, usually twin. ♄. G. Native of the Cape of Good Hope. C. populifòlius, Lam. ill. no. 2698. according to Poir. suppl. 2. p. 144. Flowers white.

Acuminate-leaved Staff-tree. Shrub 6 feet.

24 C. PROCU'MBENS (Thunb. fl. cap. 2. p. 119.) decumbent, smooth; leaves ovate, toothed; flowers axillary, usually solitary; capsules 3-4-valved. ♄. G. Native of the Cape of Good Hope, in sandy places.

Procumbent Staff-tree. Shrub decumbent.

25 C. CYMATÒDES (Spreng. syst. 1. p. 775.) leaves obovate, wavedly-toothed, and reticulately veined, opposite; flowers axillary, sessile. ♄. G. Native of the Cape of Good Hope.

Waved-toothed-leaved Staff-tree. Shrub.

26 C. CE'RNUUS (Thunb. prod. p. 42.) leaves ovate, obtuse, serrated; peduncles axillary, 1-flowered, drooping. ♄. G. Native of the Cape of Good Hope. Flowers white?

Drooping-flowered Staff-tree. Fl. May, June. Clt. 1817. Shrub 6 feet.

27 C. UNDA'TUS (Thunb. fl. cap. 2. p. 126.) erect, smooth; leaves obovate, somewhat wedge-shaped, undulately-toothed; flowers axillary, sessile. ♄. G. Native of the Cape of Good Hope. Flowers white.

Waved-leaved Staff-tree. Fl. June, July. Clt. 1826. Sh. 6 ft.

28 C. TETRAGÒNUS (Thunb. prod. p. 42.) erect, smooth; leaves ovate, serrated, opposite; branches tetragonal; panicle terminal. ♄. G. Native of the Cape of Good Hope. Flowers white?

Tetragonal-branched Staff-tree. Clt. 1816. Shrub 4 feet.

29 C. ILI'CINUS (Burch. cat. afr. austr. no. 1663.) erect, smooth; leaves alternate, ovate, somewhat rhomboid, coarsely serrated, pale beneath; pedicels axillary, 1-flowered, jointed beneath the middle. ♄. G. Native of the Cape of Good Hope. Capsules 3-valved. Leaves like those of *Quércus ilex.* Flowers white.

Spanish-oak-leaved Staff-tree. Clt. 1817. Shrub 4 feet.

30 C. RHAMNOÌDES (Poir. suppl. 2. p. 145.) branches diffuse; leaves ovate or lanceolate, acute, sharply serrated, smooth; pedicels 1-flowered, axillary, crowded, unequal. ♄. G. Native of the Cape of Good Hope. Flowers white. It is not known whether this shrub is unarmed or spiny.

Rhamnus-like Staff-tree. Shrub 10 feet.

31 C. CASSINOÌDES (Lher. sert. p. 6. t. 10.) erect, smooth; leaves ovate, acute at both ends, serrated, permanent; pedicels 2-3 together, axillary, very short. ♄. G. Native of the Canary Islands. Flowers white.

Cassine-like Staff-tree. Fl. Aug. Sept. Clt. 1779. Shrub 4 ft.

32 C. LYCIOÌDES (Brouss. ex Willd. mss. in Schult. syst. 5. p. 427.) erect, smooth; leaves roundish-ovate, obtuse, crenate, coriaceous; pedicels axillary, very short. ♄. G. Native of the Canary Islands. Flowers white.

Lycium-like Staff-tree. Shrub 4 feet.

33 C. EDU'LIS (Vahl. symb. 1. p. 21.) erect, smooth; leaves opposite and alternate, elliptical, bluntly serrated; cymes axillary, dichotomous. ♄. G. Native of Yemen, in Arabia, where it is cultivated in gardens along with the coffee. The green leaves of this tree are eaten with avidity by the Arabs. They possess nearly the same qualities as opium. The tree is called *cat* or *kat* in Arabic; hence Càtha of Forsk. Flowers white. Capsule oblong-cylindrical, 3-celled, with one seed in each cell.

Eatable Staff-tree. Shrub 10 feet.

34 C. DE'COLOR (Gaillaud. voy. meroe. 2. t. 64. f. 6.) leaves oval-oblong, somewhat crenate, tapering to the base; peduncles axillary, 3-6-flowered; flowers subumbellate; capsules 2-valved. ♄. F. Native of Upper Egypt?

Ill-coloured Staff-tree. Shrub.

35 C. POPULIFÒLIUS (Lam. ill. no. 2698.) leaves ovate, acuminated, serrated; umbels almost sessile, few-flowered. ♄. G. Native of the Cape of Good Hope.

Poplar-leaved Staff-tree. Shrub 6 feet.

Asiatic.

36 C. PANICULA'TUS (Willd. spec. 1. p. 1125.) climbing; leaves roundish-oval, serrated, smoothish; panicle terminal; stamens inserted in a nectarial ring. ♄. ◡. S. Native of the East Indies, on the Circar mountains.—A large climbing shrub; the bark covered with grey scabrous specks. Flowers numerous, small, yellow. Style 1. Stigmas 3. Capsule round, size of a pea, 1-celled, 3-valved, containing from 3 to 6 seeds, surrounded by yellow aril.

Panicle-flowered Staff-tree. Fl. March, April. Shrub cl.

37 C. DEPE'NDENS (Wall. in fl. ind. 2. p. 389.) climbing, smooth; leaves oblong, acuminated, serrated; panicle terminal, composed of many simple, diverging, short racemes; stamens alternating, with an equal number of reniform nectarial glands. ♄. ◡. G. Native of Nipaul. C. multiflòra, Roxb. fl. ind. 2. p. 389. Flowers numerous, small, pale greenish-white. Capsule straw-coloured, roundish, somewhat 3-lobed, 3-valved, 3-celled, and usually with a single seed in each cell. Seeds covered with a thin, pulpy, scarlet aril. Style terminated by a stigma of 3 emarginate lobes.

Hanging-leaved Staff-tree. Fl. July. Shrub cl.

38 C. NU'TANS (Roxb. fl. ind. 2. p. 390.) climbing, smooth; leaves stalked, broad-ovate, bluntly serrated; panicle racemose, terminal, drooping; seeds invested by a complete aril. ♄. ◡. S. Native of Mysore. A large climbing and twining tree, with light-brown scabrous bark. Nectary a concave, 5-sided receptacle. Flowers small, greenish-white. Capsule round, size of a pea, 1-celled, 3-valved, containing 3-6 seeds each, invested by a thick, complete, fleshy, orange-coloured aril. Style scarcely any. Stigma with 3 spreading notched lobes.

Nodding-panicled Staff-tree. Clt. 1810. Shrub cl.

39 C. OBTUSIFÒLIUS (Roxb. fl. ind. 2. p. 393.) arboreous, smooth; leaves stalked, lanceolate, bluntly serrulated, very blunt and hard; peduncles axillary, many-flowered. ♄. S. Native of the Mauritius. C. trigynus, Lam. ill. 2. no. 2699. Style none. Stigma deeply 3-lobed. Capsules 3-valved, naked. Sonneràtia, Comm. C. pỳrius, Willem. herb. maur. p. 21. Young shoots glaucous, nodding at the points. Peduncles once or twice dichotomous. Flowers small, white. Calyx fringed. Stigma obscurely 3-lobed.

Blunt-leaved Staff-tree. Fl. May, June. Clt. 1824. Tree 20 feet.

40 C. MONOSPE'RMUS (Roxb. fl. ind. 2. p. 394.) climbing, smooth; leaves oblong, glossy, serrulated; panicles thin, linear, axillary, and terminal, longer than the leaves; capsules 3-valved, 1-seeded. ♄. ◡. G. Native of Silhet, in the East Indies, where it is called *Tiara*. Climbing and twining over trees to a considerable extent. Flowers numerous, small, pale greenish-yellow. Disk flat, repand, embracing the base of the ovary. Stigma trigonal. Capsule slightly triquetrous, oblong, smooth, the size of a field bean. Seed solitary, covered with an orange-coloured or scarlet aril.

One-seeded Staff-tree. Fl. April, May. Shrub cl.

41 C. WALLI'CHII; climbing, smooth; leaves ovate, coriaceous, acute, serrated, glossy, and shining; racemes axillary; capsules triquetrous, 3-valved, many-seeded. ♄. ◡. S. Native of Penang, in the East Indies. C. lùcida, Wall. in fl. ind. 2. p. 400. but not of Lin.

Wallich's Staff-tree. Shrub cl.

42 C. PAUCIFLÒRUS (Wall. in fl. ind. 2. p. 400.) erect, smooth; leaves lanceolate, acuminate, serrulated; peduncles axillary, 6-8-flowered; pistil villous; nectary 5-lobed; capsule triangularly globose, 3-valved. ♄. S. Native of Penang, in the East Indies, where it is called *Boonga Lawung*. Pittósporea serrulàta, Jacq. mss. Flowers yellowish-green, fascicled. Ovary downy. Stigma simple. Capsule 1-celled. Seeds attached along the middle of each valve to parietal prominent placentas, 6 in number, roundish, and angular.

Few-flowered Staff-tree. Shrub 6 feet.

43 C. STYLÒSUS (Wall. fl. ind. 2. p. 401.) climbing, smooth; leaves ovate-lanceolate, acuminated, acutely serrated; peduncles axillary, few-flowered, racemose; petals oblong; capsules globular, crowned by a long style. ♄. ◡. G. Native of Nipaul. Flowers greenish-white. Capsule yellow. Style crowned by a 3-lobed, 3-furrowed stigma.

Long-styled Staff-tree. Fl. May, July. Shrub cl.

44 C. ALNIFÒLIUS (D. Don, prod. fl. nep. p. 190.) leaves elliptical, acuminated, serrated, nerved, opaque on both surfaces, blunt at the base; peduncles axillary, usually solitary. ♄. G. Native of Nipaul, at Sirinagur. A smooth shrub.

Alder-leaved Staff-tree. Shrub.

45 C. MICROCA'RPUS (D. Don, prod. fl. nep. p. 191.) leaves ovate, crenated, pubescent on both surfaces, as well as the branchlets, acute at the base; peduncles axillary, usually solitary, 1-flowered. ♄. G. Native of Nipaul, at Sirinagur.

Small-fruited Staff-tree. Shrub.

46 C. HEYNEA'NUS (Roth. in Schult. syst. 5. p. 421.) erect, smooth; leaves elliptical, bluntly serrulated; cymes axillary, when in fruit divaricating. ♄. S. Native of the East Indies. C. serrulàtus, Roth. nov. spec. p. 155. Flowers whitish.

Heyne's Staff-tree. Shrub.

47 C. ALPE'STRIS (Blum. bijdr. 1145.) leaves ovate-oblong, acuminated, glandularly serrated, smooth; corymbs axillary, dichotomous. ♄. S. Native of Java, in the higher woods.

Alp Staff-tree. Shrub 7 feet.

48 C. REPA'NDUS (Blum. bijdr. p. 1145.) leaves ovate-oblong, long-acuminated, ratherrepand, smooth; panicle axillary, about equal in length to the leaves. ♄. S. Native of Java.

Repand Staff-tree. Shrub.

49 C. ROTHIA'NUS (Schult. syst. 5. p. 423.) leaves roundish-oval, acuminated, serrated, pubescent; panicle terminal, with corymbose branches. ♄. S. Native of the East Indies. C. paniculàtus, Roth. mss. but not of Willd. Flowers white.

Roth's Staff-tree. Shrub.

50 C. PUNCTA'TUS (Thunb. fl. jap. 97.) climbing, smooth; branches dotted; leaves oval, acuminated, serrated; flowers scattered on the branches. ♄. ◡. G. Native of Japan and China. Branches angular, rough from white dots. Flowers greenish. Seeds covered with a yellow wrinkled aril.

Spotted-branched Staff-tree. Clt. 1817. Shrub cl.

51 C. STRIA'TUS (Thunb. jap. 98.) erect, smooth; branches striped, and are as well as the leaves, opposite, ovate, acuminated, serrated; peduncles scattered, 1-flowered. ♄. G. Native of Japan. Capsule 1-4-celled, or from 1-4 aggregate carpels.

Striped-branched Staff-tree. Shrub.

52 C. CRENA'TUS (Forst. prod. no. 113.) leaves ovate, crenulate; cymes axillary. ♄. G. Native of Marquesas Islands in the Pacific ocean, as well as in the East Indies, according to Roth, which is probably the same.

Notch-leaved Staff-tree. Shrub.

53 C. DILATA'TUS (Thunb. in Lin. trans. 2. p. 332.) erect, smooth; leaves obovate, pointed, serrated at the apex; flowers aggregate, terminal. ♄. G. Native of Japan. Berries blue, aggregate.

Dilated-leaved Staff-tree. Shrub.

54 C. ARTICULA'TUS (Thunb. jap. 97.) erect, smooth; leaves

roundish, serrated, acuminate; peduncles axillary, somewhat trifid. ♄. G. Native of Japan. C. orbiculàris, Lam. ill. no. 2700. C. auriculàtus, Vitm. summ. 2. p. 31. Capsules 3-valved.

Jointed Staff-tree. Shrub.

55 C. ALA'TUS (Thunb. jap. 98.) erect, smooth; branches winged; leaves opposite, on very short petioles, acuminate, serrulated; peduncles 1-flowered, furnished with 2 glands above the middle. ♄. G. Native of Japan. Capsules 1-2-3-celled. This is probably a species of *Euónymus.*

Winged-branched Staff-tree. Shrub 7 feet.

American.

56 C. SCA'NDENS (Lin. spec. 285.) climbing, smooth; leaves oval, acuminated, serrated; racemes terminal. ♄. ◡. H. Native of North America, from Canada to Virginia, in hedges and woods among rocks. Duh. arb. 1. t. 95. Schkuhr. handb. 1. t. 47. Flowers pale yellow. Berries orange-scarlet, 3-cornered, 3-seeded. See H. B. et Kunth, nov. gen. amer. 7. p. 64. Flowers dioecious.

Climbing Staff-tree. Fl. May, June. Clt. 1736. Shrub cl.

57 C. MYRTIFÒLIUS (Lin. spec. 285.) erect, smooth; leaves ovate, serrulated; flowers racemose. ♄. S. Native of Jamaica.—Sloane, hist. 2. t. 193. f. 1. There is a species from Siberia very like this plant, and another said to be from Virginia; but these are truly obscure plants.

Myrtle-leaved Staff-tree. Clt. 1810. Tree 15 feet.

58 C. QUADRANGULA'RIS (Schrad. in Gœtt. anz. 1821. p. 716.) erect, smooth; younger branches quadrangular; leaves oblong-oval, spiny-toothed, shining; peduncles axillary, crowded. ♄. S. Native of Brazil. Ilex acutángula, Neuw. bras. ex Nees, in flora, 1821. p. 739. Flowers white.

Quadrangular-branched Staff-tree. Clt. 1820. Sh. 10 feet.

59 C. ILICIFÒLIUS (Schrad. l. c.) erect, smooth; leaves oblong, truncate, subsinuate, spiny, shining above, opaque beneath; peduncles axillary. ♄. S. Native of Brazil. I'lex truncàta, Neuw. bras. 2. ex Nees, in flora, 1821. p. 329 and 361.

Holly-leaved Staff-tree. Shrub.

60 C. RETU'SUS (Poir. suppl. 2. p. 146.) erect, smooth; leaves ovate and oval, acuminated, emarginate, or retuse at the apex, serrately-crenate. ♄. G. Native of the Andes of Peru. C. emarginàtus, Ruiz et Pav. fl. per. 3. p. 6. t. 229. f. *a.* but not of Willd. C. Peruviànus, Deitr. lex. 2. p. 111. This is probably a species of *Maytènus* according to Kunth.

Retuse-leaved Staff-tree. Clt. 1824. Tree 20 feet.

61 C. CONFE'RTUS (Ruiz et Pav. fl. per. 3. p. 6.) erect, smooth; branches in aggregate whorles; leaves crowded, oval, and roundish, serrulated; flowers crowded. ♄. S. Native of Peru in groves. Flowers white. Capsules with 2 or 3 spreading reflexed valves. Probably a species of *Maytènus.*

Crowded Staff-tree. Shrub.

62 C. MEXICA'NUS (Moc. et Sesse, fl. mex. icon. ined. D. C. prod. 2. p. 8.) erect, smooth; leaves ovate-oblong, acute, serrated; pedicels axillary, trifid, 3-flowered. ♄. G. Native of Mexico. Capsule 3-celled, 3-seeded.

Mexican Staff-tree. Clt. 1824. Shrub 6 feet.

63 C. MAGELLA'NICUS (D. C. prod. 2. p. 8.) leaves ovate-lanceolate, acute, bluntly serrated; flowers axillary, almost sessile; fruit compressed, 2-celled, 2-seeded. ♄. F. Native of the Straits of Magellan. Cassine Magellánica, Lam. ill. no. 2590.

Magellan Staff-tree. Shrub.

† *Doubtful species. Leaves ternate or pinnate. These will probably form a distinct genus in some other order.*

64 C. MAURITIA'NUS (Willem. herb. maur. 22.) leaves ternate, downy beneath; panicle terminal. ♄. S. Native of the Mauritius.

Mauritian Staff-tree. Shrub.

65 C. MICRA'NTHUS (Roxb. fl. ind. 2. p. 393.) climbing, somewhat armed; leaves unequally pinnate, with from 7-9 opposite, oblong, entire, smooth leaflets; panicles axillary, filiform, rusty; disk saucer-shaped, bearing the stamina on its margin; style wanting. ♄. S. Native of the Moluccas.

Small-flowered Staff-tree. Shrub.

Cult. The hardy kinds of *Staff-tree* will grow in any common soil; they are well fitted to be planted in small shrubberies. *C. scándens* is a plant well adapted to cover bowers or trellis-work. All are easily increased by laying the young shoots or by slips of the roots. The stove, greenhouse, and frame species will thrive well in a mixture of loam, peat, and sand; and ripened cuttings, planted in mould with a hand-glass placed over them, will root freely, those of the stove kinds in heat.

V. CA'THA (a name of Arabian origin). Forsk. descr. p. 63.

LIN. SYST. *Pentándria, Monogýnia.* Calyx small, flat, 5-lobed, regular. Petals 5, inserted under the margin of the disk, sessile, spreading. Stamens 5, inserted with the petals, equal. Disk large, orbicular, filling the bottom of the flower, emarginate at the origin of the stamens. Ovary half immersed in the disk, 3-celled; ovula 2, fixed to the central axis, collateral, ascending, in *C. pyracántha* 5-6, and without an axis. Style short, or nearly wanting, crowned by a 3-parted stigma. Capsules triquetrous, 3-furrowed, 3-celled, 3-valved. Albumen fleshy. Cotyledons leafy. Radicle pointing towards the hilum. Spiny trees and shrubs, with scattered, simple, leaves, sometimes in fascicles, with stipular ciliæ. Corymbs of flowers axillary, somewhat dichotomous. Flowers stalked in fascicles, white.

This genus being separated from *Celástrus*, we shall therefore retain the authorities for the species under that genus.

* *Leaves quite entire.*

1 C. LACÍSA (Thunb. fl. cap. p. 219.) prickles recurved; leaves orbicular, cut; peduncles axillary, very short, subumbellate. ♄. G. Native of the Cape of Good Hope.

Cut-leaved Staff-tree. Shrub 4 feet.

2 C. LINEA'RIS (Thunb. fl. cap. 219.) spines leafy; leaves linear; panicles axillary. ♄. G. Native of the Cape of Good Hope, in woods.

Linear-leaved Staff-tree. Fl. May, Ju. Clt. 1818. Sh. 4 ft.

3 C. INTEGRIFÒLIA (Thunb. fl. cap. 219.) spines leafy; leaves ovate, reflexed; pedicels axillary. ♄. G. Native of the Cape of Good Hope, in bushy places. Flowers white.

Entire-leaved Staff-tree. Shrub 3 to 4 feet.

4 C. IN'TEGER (Thunb. fl. cap. 123.) spiny, smooth; leaves ovate, emarginate; panicle axillary. ♄. G. Native of the Cape of Good Hope. According to Sprengel this is the same as *C. integrifòlius.*

Entire Staff-tree. Shrub 3 to 4 feet.

5 C. RÍGIDA (Thunb. fl. cap. 220.) spiny, smooth; branches somewhat secund; leaves obovate, quite entire, cut; flowers axillary, sessile. ♄. G. Native of the Cape of Good Hope. Flowers white.

Stiff Staff-tree. Clt. 1818. Fl. May, June. Shrub 4 feet.

6 C. EMARGINA'TA (Willd. spec. 1. p. 1128.) spines leafy; leaves obovate, entire, smooth; flowers numerous, axillary; capsules inflated; cells 2-seeded. ♄. S. Native of every part of the East Indies, very common. Stem nothing deserving the name, but innumerable branches bent in every direction. Umbellets many-flowered on very short peduncles, one or two

rising from the centre of the fascicles of leaves. Flowers small, whitish-yellow. Disk saucer-like, crenulate, surrounding the base of the ovary. Style half 3-parted. Stigmas emarginate. Capsule inflated, 3-sided, 3-celled, 3-valved, with 2 red seeds in each cell, resting on a white fleshy receptacle. It is called *Chennee-chintoo* in the Telinga language, and is very useful to make fences and for fuel.

Emarginate-leaved Staff-tree. Clt. 1820. Shrub 4 feet.

* * *Leaves toothed or serrated.*

Asiatic.

7 C. MONTA'NA (Roth. nov. spec. 154. Roxb. fl. ind. 2. p. 387.) spines bearing leaves and flowers; leaves obovate, serrulated, smooth; panicles axillary, small, dichotomous; capsules 3-sided, 3-celled, each cell containing 1 or 2 seeds. ♄. S. Native of the East Indies, on mountains. Flowers small, white. Disk as in *C. emarginàta.* Stigmas emarginate. Seeds small, nearly round, with a white aril embracing the lower part of the seed. The wood is hard and durable.

Mountain Staff-tree. Tree 20 feet.

8 C. WALLI'CHII; spines bearing leaves and even flowers; stem erect, stiff; branches round, flexuous; leaves very tough, obovate-cuneated, sharply-serrulated; corymbs small, scattered among the leaves. ♄. S. Native of the East Indies, at Travancore. C. rígida, Wall. fl. ind. 2. p. 396. C. buxifòlius, Roxb. Leaves at first in fascicles on the spines. Flowers small, white.

Wallich's Staff-tree. Shrub 8 feet.

9 C. RU'FA (Wall. fl. ind. 2. p. 397.) erect, smooth, sparingly armed with axillary short spines; leaves lanceolate, acuminate, serrulated, coriaceous; corymbs axillary, fascicled, on capillary, coloured peduncles; capsule obovate, triangular, 3-seeded. ♄. S. Native of the forests in the valley of Nipaul. A large very branchy tree. Young branches angular, of a more or less deep red colour, glaucous. Leaves with glandular serratures. Flowers small, white. Capsules small, obovate, 3-lobed, 3-celled, 3-seeded. Segments of calyx and petals crenulate.

Rufous Staff-tree. Fl. March, April. Tree 30 feet.

10 C. ZEYLA'NICA (Roth. mss. ex Schult. syst. 6. p. 427.) spines axillary, opposite, shorter than the petioles; leaves roundish-cuneated, somewhat emarginate at the apex, obsoletely crenated, shining; peduncles axillary, aggregate. ♄. S. Native of the East Indies. Flowers white.

Ceylon Staff-tree. Shrub.

African.

11 C. SENEGALE'NSIS (Lam. dict. 1. p. 661.) spines bearing leaves and flowers; branches terete; leaves obovate-oblong, smooth, somewhat glaucous, unequally toothed; cymes small, few-flowered. ♄. S. Native of Senegal and Gambia. C. phyllacánthus, Lher. sert. ang. 6. no. 28. Flowers whitish-green.

Var. β, glaucifòlius (D. C. prod. 2. p. 8.) leaves whitish-glaucous beneath, bluntish; cymes many-flowered, about the length of the leaves.

Senegal Staff-tree. Shrub 8 feet.

12 C. BUXIFÒLIA (Lin. spec. 285.) spines large, bearing both leaves and flowers; leaves lanceolate-obovate, obtuse, serrated, smooth, coriaceous; branches angular; corymbs axillary, pedunculate, longer than the leaves. ♄. G. Native of the Cape of Good Hope, in bushy places. Sims, bot. mag. 2114. Houtt. pfl. syst. 3. t. 21. f. 1. Flowers white. Capsules globular.

Box-leaved Staff-tree. Fl. May, June. Clt. 1752. Shrub 8 to 10 feet.

13 C. CYMÒSA (Sol. in bot. mag. t. 2070.) spines all naked; leaves obovate, obtuse, serrated, smooth, coriaceous; corymbs shorter than the leaves. ♄. G. Native of the Cape of Good Hope. Flowers whitish.

Cymose-flowered Staff-tree. Fl. July. Clt. 1816. Shrub 8 to 10 feet.

14 C. MULTIFLÒRA (Lam. dict. 1. p. 661.) lower spines very long, those on the branches small, rather leafy; leaves obovate, rhomboid, serrated, smooth; branches rather angular; cymes axillary, stalked. ♄. S. Native of Africa. C. Hispánicus, Hort. par. Flowers white.

Many-flowered Staff-tree. Fl. May, Ju. Clt. 1816. Sh. 6 ft.

15 C. PYRACA'NTHA (Lin. spec. 285.) spines naked; branches round; leaves obovate or elliptical, serrated or entire, shining; peduncles axillary, few-flowered, branched, divaricating. ♄. G. Native of the Cape of Good Hope. Sims, bot. mag. 1157. Mill. icon. t. 87. Flowers greenish-white. Capsule red, 3-celled, 3-seeded, but often fewer from abortion.

Fire-spined Staff-tree. Fl. May, Ju. Clt. 1742. Sh. 4 ft.

16 C. ROTUNDIFÒLIA (Thunb. fl. cap. 221.) spines spreading; leaves stalked, roundish, obsoletely toothed. ♄. G. Native of the Cape of Good Hope. Flowers unknown.

Round-leaved Staff-tree. Shrub 4 feet.

17 C. FLEXUÒSA (Thunb. fl. cap. 221.) spines filiform; branches flexuous; leaves smooth, ovate, wavedly-serrated; pedicels numerous, axillary, 1-flowered. ♄. G. Native of the Cape of Good Hope. Flowers whitish.

Flexuous-branched Staff-tree. Fl. May, June. Clt. 1820. Shrub 6 feet.

18 C. PARVIFLÒRA (Vahl. symb. 1. p. 31.) spines naked; leaves ovate, crenated, smooth; peduncles filiform, dichotomous, longer than the leaves. ♄. G. Native of Kurma, in Arabia. Càtha spinòsa, Forsk. descr. 64. Flowers small, white.

Small-flowered Staff-tree. Shrub.

19 C. ARTICULA'TA (Thunb. jap. Blum. bijdr. p. 1146.) spinose; leaves roundish, oval, acute at both ends, smooth; young branches rather spiny, sarmentose; peduncles axillary, trifid. ♄. G. Native of Japan.

Jointed Staff-tree. Shrub 6 feet.

Cult. The culture and propagation of the species of *Càtha* is the same as that for the stove and greenhouse species of *Celástrus*, p. 9.

VI. PLECTRO'NIA (from πλεκτρον, *plectron*, a thorn; shrub covered with thorns.) Lin. gen. no. 300. Schreb. gen. no. 389. Burm. prod. p. 6.

LIN. SYST. *Pentándria, Monogýnia.* Calyx obsoletely 5-toothed, clothed with sinuses or 5 villous scales, permanent. Petals 5, sessile, inserted in the throat of the calyx. Stamens 5, very short; anthers 2-celled, roundish, each covered by a calycine scale. Ovary small. Style filiform. Stigma ovate. Berry oblong, 2-celled, 2-seeded. Seeds oblong, compressed.—A tree of no beauty, with quadrangular branches, opposite, stalked, lanceolate-ovate, entire, long leaves, and branched corymbs of white flowers, which are shorter than the leaves.

1 P. VENTÒSA (Lin. mant. 52. syst. 242.). ♄. G. Native of the Cape of Good Hope. P. corymbòsa, Burm. prod. 6.—Burm. afr. 257. t. 94. Celástrus? Plectrònia, D. C. prod. 2. p. 9.

Wind Plectronia. Clt. 1816. Tree.

Cult. For culture and propagation see greenhouse species of *Celástrus*, p. 9.

VII. MAYTE'NUS (Maiten is the name of one of the species in Chili). Feuill. Domb. Molin. ? H. B. et Kunth, nov. gen. amer. 7. p. 64. D. C. prod. 2. p. 9.

LIN. SYST. *Polygàmia, Diœ'cia.* Flowers polygamous. Calyx 5-cleft, small, permanent. Petals 5, spreading, alternating with the sepals. Disk fleshy, surrounding the ovary. Stigma sessile, 2-3-lobed. Capsule 1-4-valved, with a dissepiment in the middle of each valve. Seeds few, arillate, in the bottom of the cells. Embryo flat, placed in a fleshy albumen.—Small trees, natives of Chili and Peru, with alternate, simple, coriaceous, toothed, permanent leaves, and axillary, small, greenish-white flowers. Capsules usually copper-coloured inside. This genus is allied to *Senàcia* from the structure of the fruit, but from the embryo is referable to *Celastrìneæ*. According to Molina, his *Maytènus* has a 1-leaved calyx, a monopetalous corolla, 2 stamens, and a 1-seeded capsule. It may be this genus badly described, or a distinct one.

1 M. OCTOGÒNUS (D. C. prod. 2. p. 9.) leaves elliptical, bluntly angular, nerveless, obtuse, glaucous. ♄. S. Native of Peru in groves. Celástrus octogònus, Lher. sert. angl. p. 7. Senàcia octogòna, Lam. ill. no. 2713. Zízyphus Peruviàna, Lam. dict. 3. p. 320. Capsule 2-valved, 1-seeded.

Eight-angled-stemmed Maytenus. Fl. Oct. Nov. Clt. 1786. Shrub 6 feet.

2 M.? ULIGINÒSUS (H. B. et Kunth, nov. gen. amer. 7. p. 65.) branches terete, scattered; leaves obovate-elliptical, rounded at both ends, obsoletely repand-toothed, rather coriaceous, smooth; flowers axillary, crowded; pedicels 1-flowered. ♄. G. Native of New Granada, in the province of Quito, near Guayaquil, in bogs. Celástrus orbiculàris, Willd. in Schult. syst. 5. p. 423. Capsule 3-valved, 3-celled, 3-seeded, ex. Bonpl.

Bog Maytenus. Shrub 5 feet.

3 M. CHILE'NSIS (D. C. prod. 2. p. 9.) leaves elliptic-oblong, tapering to the base, taper-pointed, with serrated edges. ♄. G. Native of Chili, at Coquimbo. Maiten. Feuill. obs. 3. p. 39. t. 27. Maytènus, Juss. gen. 449. Desrous, in Lam. dict. 4. p. 2. exclusive of the synonyme of Molina? Senàcia Maytènus, Lam. ill. no. 2712. Celástrus Maytènus, Willd. spec. 1. p. 1127. Capsules 2, rarely 3-valved.

Chili Maytenus. Tree 12 feet.

4 M. UNCINA'TUS; leaves lanceolate-linear, narrow, elongated, acuminated, serrated. ♄. G. Native of Chili. Celástrus uncinàtus, Ruiz et Pav. fl. per. 3. p. 7. t. 230. Flowers as in the former species crowded in the axillæ of the leaves, on short pedicels. M. Chilénsis, var. β, angustifòlius, D. C. prod. 2. p. 10.

Hooked Maytenus. Shrub 6 feet.

5 M. VERTICILLA'TUS (D. C. prod. 2. p. 10.) branches aggregate, whorled; leaves oblong-lanceolate, serrated; peduncles 1-3-flowered, much shorter than the leaves, rising along the branches either above or below the leaves in racemes. ♄. G. Native of Peru, in groves at Cuchero, Munna, &c. Leaves almost smooth, shining. Capsules 2-3-4-celled.

Whorled-branched Maytenus. Clt. 1823. Shrub 6 feet.

6 M. BOA'RIA (Mol. chili, 152.) leaves opposite or alternate, oblong, smooth, serrated; flowers scattered; seeds covered with red aril; corolla monopetalous; style 1; stamens 2; capsule 2-valved, 2-celled, 2-seeded. ♄. G. Native of Chili. A decoction of the twigs of this shrub is used to bathe the swellings produced by the poisonous shade of the Llithi, *Rhús caústica*. Its vernacular name is *Boaria*.

Boaria Maytenus. Clt. 1822. Shrub 10 feet.

Cult. See greenhouse species of *Celástrus* for culture and propagation, p. 9.

VIII. ALZATE'A (in honour of Joseph Anthony de Alzati y Ramirez, a Spanish naturalist). Ruiz et Pav. fl. per. prod. t. 7. D. C. prod. 2. p. 10.

LIN. SYST. *Pentándria, Monogýnia.* Calyx 5-cleft, 5-angled, permanent. Petals wanting. Stamens 5, hypogynous? Style 1. Capsules obcordate, 2-celled, 2-valved, with a dissepiment in the middle of each valve. Very like *Maytènus*, but the flowers are apetalous.

1 A. VERTICILLA'TA (Ruiz et Pav. fl. per. 3. p. 20. t. 241. f. *a*.). ♄. G. Native of Peru in groves near Messapata. Leaves obovate, emarginate. Flowers small, greenish-white, in corymbs.

Whorled Alzatea. Clt. 1824. Shrub 10 feet.

Cult. See greenhouse species of *Celástrus* for culture and propagation.

IX. CRYPTERO'NIA (from κρυπτος, *cryptos*, hidden, and πτερον, *pteron*, a wing; the seeds are terminated by a narrow wing). Blum. bijdr. 1145.

LIN. SYST. *Monœ'cia, Pentándria.* Flowers monoecious from abortion. Calyx inferior, small, 5-toothed. Corolla none. Stamens 5, short, alternating with the calyx. Ovary 2-celled, girded by a membranous margin. Style crowned by an obtuse stigma. Capsule subglobose, crowned by the permanent style, 2-celled, 2-valved, many-seeded. Dissepiments contrary to the valves. Seeds albuminose, terminated by a subalate wing. This genus comes near to *Alzatèa* —A tall tree, with opposite, oblong, quite entire leaves, and lateral panicles of small flowers.

1 C. PANICULA'TA (Blum. l. c.). ♄. S. Native of Java on the mountains.

Panicled-flowered Crypteronia. Tree 50 feet.

Cult. For culture and propagation see *Polycárdia.*

X. POLYCA'RDIA (from πολυ, *poly*, many, and καρδια, *kardia*, a heart; in allusion to the petioles being furnished with numerous heart-shaped wings). Juss. gen. 377. D. C. prod. 2. p. 10.

LIN. SYST. *Pentándria, Monogýnia.* Calyx 5-lobed, permanent. Petals 5. Stamens 5, short, alternating with the petals. Ovary depressed. Style 1, very short. Stigma lobed. Capsule woody, 5-celled, 5-valved (rarely 3-4-valved from abortion) with a membranous dissepiment at the base of each valve in the middle. Seeds few in the bottom of each cell, oblong, each surrounded by a calyciform jagged aril. Flowers sessile on the middle nerves of the leaves.

1 P. PHYLLANTHOÌDES (Lam. ill. 2. p. 100. t. 132.). ♄. S. Native of Madagascar. A smooth shrub, with alternate coriaceous leaves, tapering into the footstalk, some of which are oblong, entire; others deeply emarginate, bearing 1-5 flowers in the recess. Florínda, Nor. mss. Commersònia, Comm. mss. P. Madagascariénsis, Gmel. syst. p. 407. P. epiphýlla, Smith, in Rees' cycl. vol. 28.

Phyllanthus-like Polycardia. Shrub 6 feet.

Cult. Loam, peat, and sand is a good soil for this shrub, and ripened cuttings will strike root in a pot of sand under a hand-glass, in heat.

XI. ELÆODE'NDRON (from ελαια, *elaia*, an olive, and δενδρον, *dendron*, a tree; the fruit is like that of an olive, and the seeds are oily). Jacq. in act. helv. nov. 1. p. 36. but not of Retz. D. C. prod. 2. p. 10.—Rubéntia, Comm. in Juss. gen. 378.—Schrebèra, Retz. obs. 6. p. 25.

LIN. SYST. *Tetra-Pentándria, Monogýnia.* Calyx small, 4-5-lobed. Petals 4-5, spreading, broad at the base. Stamens 4-5, alternating with the petals. Disk fleshy, girding the ovary. Style very short. Drupe dry, containing a woody 5-celled (rarely 2-4-celled from abortion) nut. Seeds 2 in each cell, but sometimes solitary from abortion, erect, oblong. Albumen fleshy. Embryo central, straight, with leafy cotyledons and an inferior radicle.—Trees or shrubs with smooth, laurel-like, opposite leaves, and axillary panicles of flowers. Flowers small, greenish-white or yellowish-green.

1 E. ORIENTA'LE (Jacq. icon. t. 48.) leaves entire, or toothed,

obovate-oblong, or ovate, much longer than the petioles; flowers usually pentandrous. ♄. S. Native of the Mauritius and Madagascar, where it is called bois d'olive. Rubéntia olívina, Gmel syst. 108. E. I'ndicum, Gært. fruct. 1. t. 57. Lam. ill. t. 132. Nerves in the young leaves reddish. The nut is said to be hairy on the outside. Flowers yellowish-green.

Eastern Olive-wood. Clt. 1771. Tree 12 feet.

2 E. AUSTRA'LE (Vent. malm. t. 117.) leaves crenately-toothed, oblong-lanceolate, coriaceous, much longer than the petioles; flowers usually tetrandrous. ♄. G. Native of New Holland. Portenschlágia austrális, Tratt. arch. t. 250. Lamárckia dentàta, Hortul. Flowers small, greenish-yellow.

Southern Olive-wood. Fl. June, Aug. Clt. 1796. Sh. 4 ft.

3 E. INTEGRIFÒLIUM; leaves oblong-lanceolate, coriaceous, much longer than the petioles, quite entire, or with a few small glandular teeth; flowers numerous, usually tetrandrous; calyx reflexed. ♄. G. Native of New Holland. Portenschlàgia integrifòlia, Tratt. arch. t. 284. Flowers yellowish-green.

Entire-leaved Olive-wood. Fl. June, Aug. Clt.? Sh. 6 ft.

4 E. GLAU'CUM (Pers. ench. 1. p. 241.) leaves elliptical, serrated, hardly 3-times longer than the petioles; cymes loose, nearly the length of the leaves; flowers pentandrous. ♄. S. Native of Ceylon and Coromandel. Schrebèra álbens, Retz. obs. 6. p. 25. t. 3. Celástrus glaúcus, Vahl. symb. 2. p. 42. Mangífera glaúca, Rottb. nov. act. hafn. 2. t. 4. f. 1. Senàcia glaúca, Lam. ill. no. 2714. Leaves oblong. Panicles axillary, dichotomous. Flowers small, greenish-yellow. Drupe nearly round, size of a large cherry. This plant has been introduced from Ceylon, under the name of Ceylon-tea; its leaves are like those of that plant, but much longer; their taste slightly bitter and astringent.

Glaucous Olive-wood. Clt. 1824. Tree 14 feet.

5 E. XYLOCA'RPUM (D. C. prod. 2. p. 11.) leaves ovate, entire, or somewhat scolloped, glaucous, coriaceous, on very short petioles; corymbs dichotomous, one-half shorter than the leaves; flowers pentandrous. ♄. S. Native of the island of St. Thomas. Cassine xylocárpa, Vent. choix. t. 23. Cassine sphærocárpa, hort. par. Flowers greenish-yellow. Probably this and the following will form a separate genus.

Woody-fruited Olive-wood. Clt. 1816. Shrub 4 feet.

6 E. ROTUNDA'TUM (D. C. prod. 2. p. 11.) leaves ovate-roundish, obtuse, quite entire, or a little toothed, coriaceous, on short stalks, usually three in a whorl; cymes crowded, one-half shorter than the leaves; flowers pentandrous, dioecious. ♄. S. Native of St. Thomas, in salt marshes. Flowers greenish-yellow.

Rounded-leaved Olive-wood. Shrub.

† *Species hardly known.*

7 E.? CRÓCEUM (D.C. prod. 2. p. 11.) leaves elliptical, coriaceous, with awned, spiny serratures. ♄. G. Native of the Cape of Good Hope. Flowers copper-coloured?

Copper-coloured Olive-tree. Shrub.

8 E.? TOMENTÒSUM (Humb. ex Willd. mss. in Rœm. et Schult. syst. 3. p. 345.) leaves oblong-lanceolate, downy; flowers pentandrous. ♄. S. Native of South America. Flowers greenish-yellow.

Downy Olive-wood. Tree.

9 E.? TRINE'RVE (Hort. madr. ex Willd. l. c.) leaves ovate, cordate, 3-nerved, crenated; branches spiny. ♄. S. Native of?

Three-nerved-leaved Olive-wood. Tree?

Cult. See *Ptelídium* for culture and propagation.

XII. ACTEGE'TON (from ἀκτιν, *actin*, a ray, and γειτων, *geiton*, near to?). Blum. bijdr. p. 1143.

LIN. SYST. *Diœ'cia, Tetrándria.* Flowers dioecious from abortion. Calyx inferior, urceolate, 4-toothed. Petals 4. Stamens 4, joined together a little at the base, alternating with the petals. Anthers incumbent. Ovary 1-celled, 4-ovulate. Stigmas 2, sessile. Berry globose, 1-3-seeded. Seeds marked by a prominent hilum at the base, exalbuminous. Embryo straight. This genus comes near to *Schæffèria*, but differs in the structure of the fruit.—A sarmentose shrub with axillary, twin, spreading prickles. Leaves opposite, ovate, elliptic, cuspidate, quite entire, smooth. Flowers small, racemose, axillary, and terminal.

1 A. SARMENTÒSUM (Blum. bijdr. 1144.). ♄. ◡. S. Native of Java, where it is called *Papadjaran.*

Sarmentose Actegeton. Shrub straggling.

Cult. For culture and propagation, see next genus.

XIII. PTELI'DIUM (it has received this name from its similarity to *Ptèlea*). Pet. Th. gen. nov. 24. veg. afr. austr. 1. p. 11. and 29. t. 2. D. C. prod. 2. p. 11.—Seríngia, Spreng. syst. 1. p. 160. but not of Gay.

LIN. SYST. *Pentándria, Monogýnia.* Calyx urceolate, 4-lobed. Petals 4, inserted by the broad claws in the calyx. Disk 4-lobed. Stamens 4, alternating with the petals. Ovary compressed. Style almost wanting. Fruit samara-like, much compressed, indehiscent, surrounded by a wing, 2-celled, 2-seeded. Seeds erect. Embryo flat, green, in a fleshy albumen.—A shrub with opposite, ovate, quite entire leaves, and loose, axillary panicles of small flowers.

1 P. OVA'TUM (Poir. suppl. 4. p. 597. Lam. ill. t. 910.) ♄. H. Native of Cochin-china. Seríngia ovàta, Spreng. syst. 1. p. 441. Ptèlea ovàta, Lour. fl. coch. p. 82. Flowers greenish-white.

Ovate-leaved Ptelidium. Clt. 1818. Shrub 6 feet.

Cult. Loam, peat, and sand is a good mixture for this shrub, and ripened cuttings will strike root in sand under a hand-glass, in heat.

XIV. TRALLIA'NA (in honour of Alexander Trallian, a celebrated physician of the sixth century: his works were published at Paris, 1548.) Lour. fl. coch. p. 157. D. C. prod. 2. p. 11.

LIN. SYST. *Pentándria, Monogýnia.* Calyx permanent, 5-parted, with rounded lobes. Petals 5, spreading, reflexed. Disk erect, with 10 notches. Stamens 5, hypogynous? Ovary roundish. Style 1. Berry roundish, 2-celled, 2-seeded. Seeds angular inside, and rounded on the outside. Leaves cordate, acuminated, alternate. Peduncles lateral, dichotomous, bearing small greenish-white flowers.

1 T. SCA'NDENS (Lour. l. c.) ♄. ◡. G. Native of Cochin-china. Rhámnus scándens, Spreng. syst. 1. p. 768.

Climbing Tralliana. Shrub cl.

Cult. A climbing shrub of no beauty. It will grow in any common soil, and ripened cuttings will root in sand, under a hand-glass.

Tribe III.

CASSINIEÆ (plants agreeing with *Cassine* in important characters). Petals broadest at the base. Fruit indehiscent. Embryo straight, placed in the axis of a fleshy albumen.—Trees or shrubs, with simple leaves.

XV. CASSI'NE (a name of American origin). Lin. gen. 371. Lam. ill. t. 310. Gært. fruct. 2. p. 72. t. 92. D. C. prod. 2. p. 11.

LIN. SYST. *Pentándria, Monogýnia.* Calyx small, 5-parted. Petals 5, spreading, broadest at the base. Stamens 5, alternating with the petals. Ovary 1. Style wanting. Stigmas 3-5. Drupe almost dry, containing a thin 3-5-celled, 3-5-seeded nut. Seeds hanging from the top of the cells.—Cape and Asiatic shrubs, with tetragonal branches, opposite, smooth, coriaceous leaves, and axillary peduncles, bearing small flowers.

1 C. Mauroce'nia (Lin. spec. 385.) leaves sessile, obovate, quite entire, convex; pedicels many, very short. ♄. G. Native of Æthiopia. Maurocènia frangulària, Mill. dict. no. 1.—Dill. elth. t. 121. f. 147. Flowers at first greenish-yellow, but changing at length to white. Fruit dark-purple when ripe. The specific name is in honour of the Venetian senator Franc Morosini, who had a fine garden at Padua, a catalogue of which was published by Ant. Tita.

Morosini's Hottentot-cherry. Fl. July, Aug. Clt. 1690. Shrub 6 feet.

2 C. Cape'nsis (Lin. mant. 220.) leaves stalked, ovate, retuse, crenate, flat; panicles axillary, shorter than the leaves. ♄. G. Native of the Cape of Good Hope, in woods.—Burm. afr. t. 85.—Dill. elth. t. 238. Flowers small, white.

Cape Phillyrea. Fl. July, Aug. Clt. 1629. Shrub 6 feet.

3 C. exce'lsa (Wall. in fl. ind. 2. p. 376.) leaves alternate, oval, acuminate, quite entire, with an acute base, rather fleshy, shining above; umbels axillary and lateral, many-flowered, rounded; stigmas 5; berry 5-celled, 5-seeded. ♄. G. Native of Nipaul, in all the forests of the valley and the surrounding mountains. Flowers white? Berry about the size of a currant, pulpy, yellow. Notwithstanding the rotate corolla, and the increased number of stigmas and seeds, as well as the alternate leaves, Dr. Wallich had no hesitation in referring this tree to *Cassine*.

Tall Cassine. Fl. May, June. Clt. 1820. Tree 40 feet.

4 C. di'scolor (Wall. in fl. ind. 2. p. 278.) leaves ovate, acuminate, tapering much to the base, whitish beneath, quite entire, coriaceous; fascicles of flowers axillary, dichotomous; stigmas 4. ♄. G. Native of the East Indies, on the mountains bordering on Silhet. Flowers yellowish, monopetalous.

Two-coloured-leaved Cassine. Fl. Jan. Tree 20 feet.

5 C. Colpoòn (Thunb. fl. cap. 2. p. 227.) leaves stalked, ovate, crenate, but usually quite entire; panicle axillary, length of leaves. ♄. G. Native of the Cape of Good Hope. Euónymus Colpoòn, Lin. mant. 200.—Burm. afr. t. 86. Flowers white. (quadrifid?)

Colpoon-tree. Fl. July, Aug. Clt. 1791. Shrub 6 feet.

† *Doubtful species.*

6 C. Æthiópica (Thunb. fl. cap. 2. p. 227.) leaves stalked, oblong, deeply crenate; panicles axillary. ♄. G. Native of the Cape of Good Hope. Flowers white. This is probably a variety of *C. Capénsis.*

Æthiopian Cassine. Fl. July, Aug. Clt.? Shrub 5 feet.

7 C. ba'rbara (Lin. spec. 385.) leaves sessile, cordate-oblong, serrate-toothed; panicles axillary, shorter than the leaves. ♄. G. Native of the Cape of Good Hope. Thunb. fl. cap. 2. p. 226. Peduncles usually 3-flowered. Flowers small, white.

Barbarous Cassine. Fl. July, Aug. Clt. 1816. Shrub 6 ft.

8 C. oppositifòlia (Mill. dict. no. 3.) leaves stalked, ovate, acute; flowers axillary, scattered. ♄. G. Native of? Formerly cultivated in the gardens of England under the name of Hyson tea. Flowers greenish-white?

Opposite-leaved Cassine. Shrub.

Cult. Shrubs with large thick leaves, and small white flowers. They will grow freely in a mixture of loam and peat; and ripened cuttings will readily strike root, if planted in a pot of sand with a hand-glass placed over them.

XVI. HARTO'GIA (in honour of J. Hartog, a Dutch naturalist and traveller at the Cape of Good Hope). Thunb. nov. gen. 5. p. 35. with a figure, but not of Lin. D. C. prod. 2. p. 12.

Lin. syst. *Tetra-Pentándria.* Calyx 4-5-cleft. Petals 4-5, spreading. Stamens 4-5, alternating with the petals. Ovary 1. Style thick, bifid, with bifid lobes. Drupe dry, ovate, 2-celled, 2-seeded. Habit of *Myginda*, from which it is hardly distinct.

1 H. Cape'nsis (Lin. fil. suppl. 128.) ♄. G. Native of the Cape of Good Hope. Leaves opposite, oblong, crenated, smooth, hardly stalked. Pedicels few-flowered, axillary, drooping. Schrebèra schinoìdes, Thunb. prod. t. 2. Elæodéndron schinoìdes, Spreng. syst. 1. p. 780.

Cape Hartogia. Fl. June, July. Clt 1800. Shrub 10 feet.

Cult. See *Cassine* for culture and propagation.

XVII. CURTI'SIA (in honour of the late William Curtis, a celebrated English botanist, who commenced the Botanical Magazine) Ait. hort. kew. 1. p. 162. but not of Schreb. D. C. prod. 2. p. 12.—Doràtium, Sol. in Jaum. exp. 2. p. 267. Relhània and Junghània, Gmel. syst. 247. and 259.

Lin. syst. *Tetrándria, Monogýnia.* Calyx 4-parted. Petals 4, blunt, longer than the calyx. Stamens 4, alternating with the petals. Ovary and style 1. Stigmas 4-5. Drupe subglobose, succulent, containing a 4-5-celled, 4-5-seeded nucleus.—A fine tree, with opposite, broad, shining, toothed, smooth leaves, which are rusty beneath, and racemose panicles of small flowers. See Rich. dict. class. hist. nat. t. 5. p. 203.

1 C. fagi'nea (Ait. hort. kew. l. c. Lam. ill. t. 71.) ♄. G. Native of the Cape of Good Hope.—Burm. afr. t. 82. The Hottentots and Caffres make the shafts of their javelins or assagays from the wood of this tree. They always carry one or two of these with them on their journeys. They consist of an iron spear, hollowed out on each side, about six inches long, with or without an iron shaft, which is sometimes round and smooth, and sometimes grooved. It is fastened with thongs of leather to a slender, round stick, 5 feet long, tapering towards the end, and made of the wood of this tree. With these lances, which they throw with great dexterity to the distance of a hundred paces, the Hottentots and Caffres defend themselves, and kill buffaloes and other wild animals. The tree is called in Dutch *Assagay-hout*, *Wite-else*, and *Stink-hout.* In English *Hassagay*, or *Assagay-tree*, from its use among the natives at the Cape.

Beech-like Hassagay-tree. Clt. 1775. Tree 60 feet.

Cult. See *Cassine* for culture and propagation.

XVIII. NEMOPA'NTHES (from *νεμος, nemos*, a grove, and *ανθος, anthos*, a flower; habitat). Rafin. journ. phys. 1819. p. 96. and in Sillim. amer. journ. 1. p. 377. D. C. prod. 2. p. 17.—Ilicioìdes, Dum. Cours. ed. 1. vol. 4. p. 27.

Lin. syst. *Polygámia, Diœ'cia.* Flowers dioecious or polygamous from abortion. Calyx small, scarcely conspicuous. Petals 5, distinct, oblong-linear, deciduous. Stamens 5, alternating with the petals. Ovary hemispherical, covered with clammy juice. Style wanting. Stigmas 3-4, sessile, in the male flowers they are hardly manifest. Berry somewhat globose, 3-4-celled, 3-4-seeded.—A small deciduous shrub.

1 N. Canade'nsis (D. C. mem. soc. gen. 1. p. 44. pl. rar. hort. gen. t. 3.) ♄. H. Native of North America, from Canada to Carolina, on high mountains, near edges of ponds. I'lex Canadénsis, Michx. fl. bor. amer. 2. p. 299. t. 49. N. fasciculàris, Rafin. l. c. I'lex delicátula, Bart. fl. virg. p. 67.? Prinos lùcidus, Ait. hort. kew. 2. p. 478. Leaves ovate, quite entire, or serrated at the apex, smooth. Pedicels usually solitary, 1-flowered, very long. Flowers white. Berries large, beautiful crimson, very ornamental.

Canadian Nemopanthes. Fl. April, May. Clt. 1802. Shrub 3 feet.

Cult. See hardy species of *Prinos* for culture and propagation.

XIX. SKI'MMIA (from *mijama-skimmi*, the name of the plant in Japan). Thunb. fl. jap. 62. nov. gen. 57. D. C. prod. 2. p. 18.

Lin. syst. *Tetrándria, Monogýnia.* Calyx small, permanent, 4-parted. Petals 4, concave. Stamens 4, very short. Ovary free? Style 1. Berry ovate, umbilicate, obsoletely 4-furrowed, somewhat 4-valved, containing mealy pulp inside. Seeds 4, somewhat trigonal, oblong. Perhaps an *I'lex* or *Euónymus*, or probably allied to *Rhámnus.*

1 S. Japónica (Thunb. l. c.) ♄. G. Native of Japan. Leaves alternate, somewhat crowded in whorles, oblong, wavy, evergreen. Flowers panicled. Kæmpf t. 5. I'lex Skímmia, Spreng. syst. 1. p. 495.

Japan Skimmia. Tree 20 feet?

Cult. See *Cassine* for culture and propagation, p. 13.

XX. LE'PTA (from λιπτος, *leptos*, minute; flowers minute). Lour. fl. coch. p. 82. D. C. prod. 2. p. 18.

Lin. syst. *Tetrándria, Monogýnia.* Calyx small, 4-parted, spreading. Petals 4, somewhat triangular, furrowed, inflexed. Stamens 4, inserted in the angles of the receptacle; filaments awl-shaped. Ovary roundish. Style almost none. Stigma blunt. Berry 4-lobed; lobes 1-seeded.—A much branched shrub, with ternate, lanceolate, quite entire leaves, and axillary compound racemes of small white flowers. This is a species of *Skimmia* according to Juss., *I'lex* of Spreng., *Vitis* of Smith, and *Othèra* of Poir. but it is hardly known.

1 L. triphy'lla (Lour. l. c.) ♄. G. Native of Cochinchina, in woods. I'lex Lépta, Spreng. syst. 1. p. 496.

Three-leaved Lepta. Shrub 10 feet.

Cult. See *Cassine* for culture and propagation, p. 13.

† *Genera allied to Celastríneæ, but differ materially in the æstivation of the petals.*

XXI. PERROTTE'TIA (in honour of Perrottet, a botanical collector, who travelled in Guiana and Madagascar). H. B. et Kunth, nov. gen. amer. 7. p. 73.

Lin. syst. *Pentándria, Monogýnia.* Calyx 5-lobed, regular, permanent. Petals 5, inserted under the disk, sessile, ovate, acute, longer than the calyx, permanent, valvate in æstivation. Stamens 5, inserted with the petals, and alternating with them, free, permanent. Anthers roundish, kidney-shaped, 2-celled. Disk orbicular, filling the bottom of the flower. Ovary superior, half immersed in the disk, 2-celled, and with 2 ovula in each cell. Stigma sessile, obtuse. Berry subglobose, containing 1-2 wrinkled nuts.—An unarmed shrub, with alternate, simple, entire, dotless leaves, with twin petiolar stipulas. Panicles axillary, bracteate. Flowers very minute, sessile, in fascicles, dark-purple.

1 P. Quindiue'nsis (H. B. et Kunth, nov. gen. amer. 7. p. 75. t. 622.) ♄. S. Native of South America, on Mount Quindiu.

Quindiu Perrottetia. Shrub 5 to 6 feet.

Cult. Loam and sand is a good mixture for this shrub; and ripened cuttings will root in heat.

XXII. DULO'NGIA (in honour of Peter Louis Dulong, a learned physician, and member of the Academy of Sciences of Paris). H. B. et Kunth, nov. gen. amer. 7. p. 78.

Lin. syst. *Pentándria, Digýnia.* Calyx adnate to the ovary, with a free 5-toothed limb. Petals 5, inserted round the base of the disk, sessile, ovate, valvate in æstivation. Stamens 5, free, inserted with the petals. Anthers 2-celled, didymous. Ovary inferior, 2-celled, having 6 ova in one cell, and 3 in the other. Disk orbicular, rather convex. Stigmas 2, sessile, acutish. Fruit globose, baccate, pea-formed, crowned by the permanent calyx, petals and stamens half-2-celled; cells 2-3-seeded, tuberculated.—An unarmed shrub, with alternate, simple, exstipulate leaves. Peduncles rising from the middle nerve of the leaf, branched, many-flowered. Flowers stalked, minute, white.

1 D. acumina'ta (H. B. et Kunth, nov. gen. amer. 7. p. 78. t. 626.) ♄. S. Native of South America, near Popayan. Phyllonòma ruscifòlia, Willd. in Rœm. et Schult. syst. 6. p. 210.

Acuminated-leaved Dulongia. Shrub 6 feet.

Cult. See last genus for culture and propagation.

Order **LXV. BREXIA'CEÆ** (the order only contains the genus *Bréxia*). Lindl. introd. nat. syst. p. 112.

Calyx inferior, small, permanent, 5-parted, imbricate in æstivation. Petals hypogynous, also imbricate in æstivation. Stamens 5, hypogynous, alternating with the petals, arising from a narrow cup, which is toothed between each stamen; anthers oval, innate, 2-celled, bursting lengthwise. Style one, continuous, crowned by a simple stigma. Fruit drupaceous, 5-celled, many seeded. Seeds attached to the axis, without albumen. Embryo with ovate, obtuse cotyledons, and a cylindrical centripetal radicle.—Trees, with nearly simple stems. Leaves alternate, simple, without dots, and furnished with minute deciduous stipulas. Flowers green, in axillary umbels, surrounded by bracteas on the outside. This order differs from *Celastríneæ* in the hypogynous insertion of the stamens, and in the numerous seeds. It agrees with *Pittospòreæ* in the insertion and definite number of stamens, as well as in the fruit being many seeded; but it differs in many important characters.

I. BRE'XIA (from βρεξις, *brexis*, rain; the leaves afford protection against rain). Pet. Th. mad. 69.—Venàna, Lam. ill. 2. t. 99. no. 365. t. 131. dict. 8. p. 450.

Character the same as the order.

1 B. Madagascarie'nsis (Pet. Th. gen. mad. no. 69.) leaves obovate or oblong, entire, while young minutely gland-toothed. ♄. S. Native of Madagascar. Ker. bot. reg. 730.

Madagascar Brexia. Fl. June. Clt. 1812. Tree 20 feet.

2 B. spinòsa (Lindl. bot. reg. 872.) leaves lanceolate, long, spiny-toothed. ♄. S. Native of Madagascar.

Spiny Brexia. Fl. June. Clt. 1812. Tree 20 feet.

3 B. chrysophy'lla (Sweet. hort. brit. p. 492.) leaves lanceolate, yellowish, entire or slightly and sparingly toothed. ♄. S. Native of Madagascar.

Golden-leaved Brexia. Clt. 1820. Tree 20 feet.

Cult. Elegant trees, with fine foliage. They will grow freely in a mixture of turfy loam and peat; and cuttings with their leaves not shortened strike readily in sand under a hand-glass in heat, or a leaf torn off with a bud attached will grow.

Order **LXVI. ILICI'NEÆ** (plants agreeing with *I'lex* in important characters). Brogn. mem. Rhamneæ, p. 16.

Calyx of 4-5 sepals, imbricate in æstivation. Corolla submonopetalous (f. 3. *a.*), deeply divided, imbricate in æstivation, inserted under the ovary (f. 3. *d.*). Stamens alternating with the petals (f. 3. *b.*), rarely opposite them, and inserted in the corolla (f. 3. *b.*); filaments erect. Anthers 2-celled;

cells adnate to the sides of the filament. Disk wanting. Ovary fleshy, thick, subtruncate, 2-6-celled; cells small, 1-2-ovulate. Ova hanging from the tops of the cells, by a podosperm, which is cup-shaped at the top, and girding the ovum at the base. Raphe exterior. Stigma nearly sessile, lobed. Fruit baccate (f. 3. c.), containing 2-6 woody or fibrous nuts. Seed suspended, nearly sessile. Endosperm large, fleshy. Embryo small, situated near the hilum, 2-lobed, with a superior radicle.—This order is composed of shrubs or trees, having alternate or opposite, usually coriaceous, glabrous, entire or prickly-toothed, feather-nerved leaves. Flowers axillary, solitary, or in fascicles. Peduncles simple, but sometimes disposed in dichotomous cymes. The order differs from *Celastrìneæ* in the corolla being monopetalous, with the stamens inserted in it, and in the absence of the disk. It differs from *Rhámneæ* in these last particulars, as well as in the calyx being valvate in æstivation.—The famous Paraguay-tea is the leaves of a species of *I'lex*, and the *Prìnos verticillàtus* possesses such active and astringent bitter tonic and febrifugal qualities, that it is used in North America with success as a substitute for Peruvian bark.

Synopsis of the Genera.

1 MYGI'NDA. Calyx small, 4-cleft. Corolla deeply 4-cleft. Stamens 4, inserted in the base of the corolla. Style short, crowned by 4 stigmas. Drupe 1-celled, 1-seeded, probably from abortion.

2 LEPIONU'RUS. Flowers monoecious. Calyx small, entire. Corolla 4-parted. Stamens 4, opposite the segments of the corolla, and inserted in its throat. Drupe baccate, containing a 1-seeded nut. Stigmas 4, sessile.

3 I'LEX. Calyx 4-5-toothed. Corolla 4-5-cleft. Stamens 4-5, inserted in the tube of the corolla. Stigmas 4-5, almost sessile, sometimes distinct, sometimes connected. Drupe containing 4-5 1-seeded nuts.

4 PRI'NOS. Calyx 6-toothed. Corolla 6-cleft. Stamens 6, inserted in the tube of the corolla. Drupe containing 6 1-seeded nuts.

5 STROMBÒSIA. Calyx small, obsoletely-crenulated. Corolla 5-cleft, with a villous throat, with 5 stamens inserted in the bottom of it; these are opposite the divisions. Drupe baccate, 1-seeded from abortion. Style short, crowned by an obtuse stigma.

6 LEUCO'XYLON. Flowers polygamous. Calyx 4-parted. Corolla 4-parted. Stamens 12-14, adhering to the base of the corolla. Drupe containing 1-2 1-seeded nuts.

I. MYGI'NDA (in honour of Francis von Mygind, a German botanist). Jacq. amer. p. 24. D. C. prod. 2. p. 12.—Rhacòma, Lin. gen. no. 114.—Crossopétalum, P. Browne, jam. 145.

LIN. SYST. *Tetrándria, Monogýnia.* Calyx small, 4-cleft. Corolla deeply 4-cleft, sub-rotate. Stamens 4, alternating with the segments of the corolla, and shorter than them, and inserted in its throat. Ovary roundish. Style short or wanting. Stigmas 4, therefore sometimes at the top of the style, and sometimes sessile. Drupe ovate, 1-celled, 1-seeded, probably from abortion. Seed hanging from the top of the cell, albuminous.—Caribbean or South American shrubs, with tetragonal branches, opposite, subcoriaceous, laurel-like leaves, axillary pedicels, which are usually trifid or trichotomous, and small flowers, which are for the most part white.

* *Leaves downy beneath.*

1 M. MICROPHY'LLA (D. C. prod. 2. p. 12.) leaves obovate-oblong, blunt, quite entire, pubescent beneath, as well as the branchlets; fruit solitary, almost sessile, terminated by the filiform style. ♄. S. Native of St. Domingo, where the Spaniards call it *Mala-muger*. I'lex microphýlla, Spreng. in herb. Balb.

Small-leaved Myginda. Shrub.

2 M. ROTUNDA'TA (Lam. ill. no. 1546.) leaves ovate-roundish, crenate, pubescent beneath; peduncles nearly simple, few-flowered. ♄. S. Native of the Antilles.

Rounded-leaved Myginda. Shrub.

3 M. URAGÒGA (Jacq. amer. t. 16. pict. t. 22.) leaves ovate or cordate, almost sessile, acuminated, serrated, pubescent; corymbs twice trifid. ♄. S. Native of South America, near Carthagena, and in the island of St. Martin, near the sea. Each division of the corymb bearing 3 flowers. Flowers small, of a dark shining red. Fruit red, soft, the size of a pea. The Spaniards call it *Yerva de Maravedi*. At Carthagena the inhabitants use a decoction or infusion of the root as a powerful diuretic; the leaves have the same quality, but in a much smaller degree. Houtt. fl. syst. 3. p. 142. t. 19. Lam. ill. t. 76. Rhacòma crossopétalum, Lin. and crossopétalum, P. Browne, jam. t. 17. f. 1.

Diuretic Myginda. Fl. Aug. Sep. Clt. 1790. Shrub 3 to 6 ft.

* * *Leaves smooth on both surfaces.*

4 M. ILICIFÒLIA (Lam. dict. 4. p. 396.) leaves ovate-roundish, spiny-toothed, smooth, pale beneath; peduncles axillary, forked; fruit pointed by the permanent style. ♄. S. Native of St. Domingo. Flowers white.

Var. β, *acutifòlia* (D. C. prod. 2. p. 13.) leaves ovate, acuminated, spiny-toothed, smooth. ♄. S. Native of St. Domingo.

Holly-leaved Myginda. Shrub 4 feet.

5 M. MYRSINOÌDES (H. B. et Kunth. nov. gen. amer. 7. p. 68. t. 620.) leaves somewhat distich, elliptical, acute, rounded at the base, serrulated, smooth, on short stalks; peduncles 1-flowered, 2-3 times longer than the leaves; flowers pentandrous. ♄. S. Native of Peru, in hot places, near Contumasa. The ovary in this and the preceding species is 2-celled, each cell containing 3 seeds. It is therefore probable that these two species may form a distinct genus.

Myrsine-like Myginda. Shrub 2 feet.

6 M. MYRTIFÒLIA (Nutt. gen. 1. p. 109.) leaves oblong, blunt, serrated, smooth, with revolute edges; peduncles very short, usually solitary, 1-flowered; style short, club-shaped, 4-lobed at the apex. ♄. H. Native of North America, on the western coast. I'lex myrsinites, Pursh. fl. sept. amer. 1. p. 119. Flowers small, white. Drupe containing only one seed at maturity, dark-purple, about the size of a pea. Leaves permanent, serrate in front, and entire behind.

Myrtle-leaved Myginda. Fl. May, Aug. Clt. 1818. Sh. 4 ft.

7 M. PA'LLENS (Smith in Rees' cycl. no. 4.) leaves elliptical, very obtuse, crenate, smooth, almost sessile; peduncles bifurcate, with a flower in the fork; style 4-lobed at the apex. ♄. S. Native of Antigua. Flowers white? with waved petals. Leaves yellowish-green.

Pale-leaved Myginda. Shrub 4 feet.

8 M. RHACÒMA (Swartz. fl. ind. occ. p. 34[illegible].) leaves lanceolate-ovate, bluntish, crenated, on short stalks, smooth; peduncles dichotomous, cymosely-umbellate; style short, filiform, 4-lobed at the apex. ♄. S. Native of St. Domingo and Jamaica, in the sand by the sea-side, and many other parts of South America in a like situation. Rhacòma crossopétalum, Lin. spec.

169.—P. Browne, jam. t. 17. f. 1.—Jacq. icon. rar. t. 311. Flowers small, reddish. Drupe about the size of a red currant, containing one nut.

Rhacoma Myginda. Clt. 1798. Shrub 3 feet.

9 M. LATIFÒLIA (Swartz, fl. ind. occ. 1. p. 342.) leaves elliptical, crenate, smooth, on short footstalks, coriaceous; peduncles trifid, few flowered; stigmas 2-4, almost sessile. ♄. S. Native of the Caribbee islands. Flowers small, white Drupe ovate, about the size of pepper, drooping.

Broad-leaved Myginda. Fl. Ap. May. Clt. 1795. Sh. 3 ft.

10 M. INTEGRIFÒLIA (Lam. dict. 4. p. 396.) leaves elliptical, blunt, entire, smooth, coriaceous, on short stalks; peduncles dichotomous, few-flowered; flowers dioecious; stigmas 4, sessile. ♄. S. Native of Martinique and St. Domingo. It is probably a species of *I'lex*, according to Kunth, but with the true habit of *Rhacòma*. M. integrifòlia Guadalupénsis, Spreng. syst. 1. p. 496. Flowers white?

Entire-leaved Myginda. Clt. 1826. Shrub 3 feet.

11? M. BRASILIE'NSIS (Spreng. syst. 1. p. 496.) leaves oblong, tapering to both ends, coriaceous, quite entire, shining, reticulated; panicles axillary, shorter than the leaves. ♄. S. Native of Brazil. Flowers whitish?

Brazilian Myginda. Shrub 3 feet.

12? M. GONGÓNHA (D. C. prod. 2. p. 13.) leaves oblong, rounded at the base, with a short acumen at the apex, marginate, remotely serrated; racemes axillary, sparingly branched; flowers sessile; branches terete. ♄. S. Native of Brazil, in the provinces of St. Paul and Minas Geraes, where it is called *Gongonha*. Cassine Gongónha, Mart. in Isis. 1824. p. 589. An infusion or decoction of the roots is a powerful diuretic; the leaves and branches possess the same quality, but in a less degree.

Gongonha Myginda. Shrub 6 feet.

Cult. A mixture of loam and peat will answer the species of *Mygínda*, and ripened cuttings will root in sand, under a hand-glass; those of the stove species in heat.

II. LEPIONU'RUS (from λεπις, *lepis*, a scale, and *ουρα*, *oura*, a tail; in allusion to the pendulous bracteate spikes of flowers). Blum. bijdr. 1148.

LIN. SYST. *Monœ'cia, Tetrándria.* Flowers monoecious from abortion. Calyx inferior, small, coloured, entire. Corolla deeply 4-parted, with spreading segments. Stamens 4, opposite the segments of the corolla; filaments very short, inserted in the base of the corolla. Ovary girded by a short fleshy margin. Stigmas 4, acute, sessile. Drupe baccate, fleshy, containing a 1-seeded nut. Embryo albuminous, inverted.—A shrub, with alternate, oblong, entire, smooth leaves, and axillary, pendulous spikes of flowers, before expansion covered with imbricate bracteas, each bractea covering 3 flowers.

1 L. JAVA'NICUS. ♄. S. Native of Java.

Java Lepionurus. Shrub 6 feet.

Cult. For culture and propagation, see stove species of last genus.

III. I'LEX (this name is originally derived from *ac*, a point in Celtic; the leaves of several species are prickly). Lin. gen. no. 172. D. C. prod. 2. p. 13. Aquifòlium, Tourn. inst. t. 371. Gært. fruct. 2. t. 92.

LIN. SYST. *Tetrándria, Tetragýnia.* Calyx 4-5-toothed, permanent. Corolla 4-5-cleft, sub-rotate. Stamens 4-5, alternating with the segments of the corolla, and inserted in its tube. Ovary sessile, 4-celled; stigmas 4, almost sessile, sometimes distinct, sometimes connected in one. Berry containing 4-5 1-seeded nuts. Seeds inverted; albumen fleshy.—Evergreen shrubs or trees, with the leaves usually coriaceous. Peduncles many-flowered. Flowers small, usually white, hermaphrodite, rarely dioecious or polygamous from abortion.

† *Leaves spiny-toothed.*

1 AQUIFÒLIUM (Lin. spec. 181.) leaves ovate or oblong acute, shining, waved, spiny-toothed at the apex; peduncles axillary, short, many flowered; flowers subumbellate. ♄. H. Native of Europe, in shady places. It is to be found in many parts of Britain in woods and forests, but still it is a truly doubtful native. Smith, eng. bot. t. 496. Fl. dan. 508. Mill. fig. 46. Black. icon. t. 205. The holly rises even to 30 feet high, and sometimes more. The flowers dirty white, hermaphrodite, dioecious, or polygamous. Berries roundish, red, crowned by the calyx, each containing 3 or 4 seeds. The holly is called also in English *Hulver* and *Holme.* It is known by the name of *Hulver* in Norfolk. In German it has a great variety of appellations; *Stechpalme*, *Stecheiche*, *Stechbaum*, *Stechlaub*, *Hulse*, *Hulsenbaum*, *Hulsenstrauch*, *Hulst*, *Hulch*, *Holst*, *Hubze*, *Hullgenobz*, *Myrtendorn*, *Christdorn*, *Mausedorn*, *Zwieseldorn*, *Kleesebusch*, *Stechapsel*, *Stechwinde*, *Walddistel.* In Danish *Stikpalme*, *Marctorn*, *Chirstorn*, *Skoutisdel.* In Swedish *Jerneck*, *Christorn.* In French, *Le Houx*, *le grand Housson*, *l'Agron grand Pardon*, and *Bois Franc.* In Italian, *Agrifolio*, *Alloro spinoso.* In Spanish, *Acebo Agrifolio.* In Portuguese, *Azevinko*, *Agrifolio*, *Acrifolio*, *Aquifolio.* In Russian, *Wacfoscheld*, *Ostrokof*, *Padub.*—The holly makes an impenetrable fence, and bears cropping well, nor is its verdure, or the beauty of its scarlet berries, ever observed to suffer from the severest of our winters. It would be preferable to the hawthorn for hedges were it not for the slowness of its growth. A holly hedge should always be cropped in May. The wood is the whitest of all hard woods, and useful for various purposes. It is used in fineering, and is sometimes stained black to imitate ebony. It is much used with box, yew, white-thorn, &c. in the small trinkets, and other works carried on in and about Tunbridge, commonly called Tunbridge-ware. The bark also affords the substance called bird-lime, which is prepared by boiling it till the green part is capable of being separated from the white, then laying it in a cool cellar for a few days, afterwards pounding it till it becomes a tough paste, washing it repeatedly till it gets quite clear; then placing it in an earthen vessel to ferment or become fine, when it will be fit for use.

There are numerous varieties of this tree, which are highly ornamental in clumps, borders, and other parts of pleasure grounds, affording much variety when judiciously intermixed. The most remarkable of these are as follow: the *smooth green-leaved*, the *common green-leaved*, the *narrow-serrated green-leaved*, the *green-leaved yellow-berried*, the *box-leaved green*, and the *hedge-hog green*, the *prickly silver-striped-leaved hedge-hog*, the *gold-striped-leaved hedge-hog*, the *blotched-leaved hedge-hog*, *yellow* and *white*, the *smooth white-striped-leaved*, the *smooth yellow-white-striped-leaved*, the *smooth blotched-leaved*, the *smooth narrow-striped-leaved*, the *blotched-leaved yellow-berried*, the *cream-coloured-leaved*, the *copper-coloured-leaved*, the *white-leaved*, the *mottled-edged-leaved*, the *painted lady*, the *various-leaved*, the *thick-leaved holly*, &c.

Var. β, *echinàtum* (Mill. dict. no. 2.) leaves full of spines on the disk, as well as the edges. ♄. H. Said to be originally from North America. It does not change by culture.

The leaves in young plants are always spiny-toothed, but in the adult ones they are usually entire. The plant, native of Cochin-china, is said to bear black berries: it is therefore probable that this may turn out to be a distinct species.

Prickly-leaved or common Holly. Fl. May, June. Britain. Tree 30 feet.

2 I. RECU'RVA (Link, enum. 1. p. 247.) leaves oblong, acu-

minated, regularly spiny-serrated; spines of the young leaves recurved; peduncles short, many-flowered. ♄. H. Native of? Ilex Aquifòlium, var. γ serràtum, Desf. caf. 230. Flowers whitish. Berries red.

Recurved-spined Holly. Fl. May, June. Clt.? Tree.

3 I. BALEA'RICA (Desf. arb. 2. p. 262.) leaves ovate, acute, shining, flat, entire or spiny-toothed; umbels axillary, few-flowered, short. ♄. G. Native of Minorca and Madeira. I. Aquifòlium, var. δ, Lam. dict. 3. p. 145. I. Maderénsis, Willd. enum. suppl. 8. ex Link. Flowers white.

Minorca Holly. Fl. May, July. Clt. 1815. Tree 10 feet.

4 I. OPA'CA (Ait. hort. kew. 1. p. 177.) leaves ovate, flat, coriaceous, acute, sinuately-toothed, spiny, smooth, but not shining; flowers at the base of the annual shoots; calycine teeth acute. ♄. H. Native of North America, from Canada to Carolina, in sandy woods, particularly plentiful in the State of New Jersey. Tree sometimes 80 feet high, and 4 in diameter. Flowers white. Berries scarlet.

Opaque Holly. Fl. May, June. Clt. 1744. Tree 80 feet.

5 I. LAXIFLÒRA (Lam. dict. 3. p. 147.) leaves ovate, sinuately toothed, spiny, coriaceous, smooth; stipulas awl-shaped; peduncles many-flowered, loosely branched, scattered above the axillæ of the leaves on the young branches; calycine teeth acute. ♄. H. Native of Carolina, in shady sandy woods. Flowers white. Berries yellowish-red.

Loose-flowered Holly. Fl. May, June. Clt. 1811. Shrub 5 feet.

6? I. MADAGASCARIE'NSIS (Lam. dict. 3. p. 148.) leaves ovate, acute, spiny, smooth; pedicels axillary, 1-flowered; berries ovate, 2-seeded. ♄. S. Native of Madagascar.

Madagascar Holly. Tree 30 feet.

7 I. DIPYRE'NA (Wall. in fl. ind. 1. p. 473.) leaves elliptical-oblong, mucronate, on short stalks, even, hardly wavy, remotely spiny-serrated; flowers sessile, in axillary fascicles; berries 2-seeded. ♄. G. Native of Nipaul, where it is called *Caulah*; also on the confines of Chinese Tartary, where it is called *Kundar.* Branchlets angular. Flowers small, white. Berries dark-brown. The tree is called *Gumshing* in the Bhotea language.

Two-seeded Holly. Fl. April, May. Shrub 12 feet.

8? I. LONGIFÒLIA (Neuw. bras. 2. ex flora. 1821. p. 301.) leaves oblong, spiny, with 6 recesses on both sides, wavy, tridentate at the apex, cuneated at the base. ♄. S. Native of Brazil.

Long-leaved Holly. Tree.

* * *Leaves toothed, serrated, or crenate, but not spiny.*

9 I. PERA'DO (Ait. hort. kew. 1. p. 169.) leaves ovate, with an entire acumen, or having a very few teeth, shining; umbels short, axillary, few-flowered. ♄. G. Native of Madeira. I. Maderénsis, Lam. dict. 3. p. 146. Flowers white or reddish. Berries large, red.

Var. β, obtùsa (D. C. prod. 2. p. 14.) leaves blunt, emarginate. Duh. ed. nov. 1. t. 2.

Perado Holly. Fl. May, June. Clt. 1760. Tree.

10 I. CHINE'NSIS (Sims, bot. mag. t. 2043.) leaves oblong, tapering to both ends, with cartilaginous toothletted edges; teeth hardly pungent; petioles and midrib villous; corymbs lateral; peduncles dichotomous. ♄. G. Native of China. Leaves somewhat spotted above. Flowers white.

China Holly. Fl. July. Clt. 1814. Tree 20 feet.

11 I. HETEROPHY'LLA; leaves opposite, stalked, oval, acute at both ends, quite entire, or spiny-toothed; peduncles crowded, axillary, 1-flowered. ♄. G. Native of Japan. I. Aquifòlium var. heterophylla, Blum. bijdr. 1150.

Variable-leaved Holly. Tree 30 feet.

12 I. MACROPHY'LLA (Blum. bijdr. 1150.) leaves ovate or oval-oblong, obtuse, acute at the base, serrated, coriaceous, glabrous, shining above; racemes axillary, about equal in length to the petioles; branches smooth, striated. ♄. G. Native of Japan.

Large-leaved Holly. Tree.

13 I. TRIFLÒRA (Blum. bijdr. 1150.) leaves oval-lanceolate, acute at both ends, serrulated, veinless, puberulous on the middle nerve, and on the branches; fascicles of flowers axillary and lateral, usually 3-flowered. ♄. S. Native of Java.

Three-flowered Holly. Tree.

14 I. CASSINE (Ait. hort. kew. p. 170.) leaves ovate-lanceolate, sharply serrated, flat, smooth, as well as midrib petioles and branches; peduncles lateral, corymbosely-branched. ♄. H. Native of North America, from Lower Carolina to Florida, in swamps. Aquifòlium Carolinénse, Catesb. car. 1. t. 31. I. Caroliniàna, Mill. dict. no. 3. I. cassinoìdes, Link, enum. 1. p. 148. Flowers white. Berries red. The leaves of this species are used in the same way as those of *I. vomitòria.*

Cassine-like or Broad-leaved Dahoon Holly. Fl. Aug. Clt. 1700. Shrub 10 feet.

15 I. ANGUSTIFÒLIA (Willd. enum. 1. p. 172.) leaves linear-lanceolate, serrated at the apex, with the edges rather revolute, smooth, as well as the midrib petioles and branches; cymes lateral, stalked. ♄. H. Native of North America, from Virginia to Georgia, in deep swamps. I. myrtifòlia, Walt. carol. 241. I. rosmarinifòlia, Lam. ill. 1. p. 356. Flowers white. Berries red?

Narrow-leaved Holly. Fl. June. Clt. 1806. Shrub 8 feet.

16 I. VOMITÒRIA (Ait. hort. kew. 1. p. 278.) leaves oblong or elliptical, blunt at the apex, crenate-serrated, and are, as well as the branchlets smooth; umbels lateral, nearly sessile. ♄. H. Native of North America along the sea coast, from Carolina to Florida. I. Cassine vèra, Walt. fl. carol. 241. I. ligustrìna, Jacq. coll. 4. p. 105. icon. rar. t. 310. Wendl. hort. t. 31. Cassine Perágua, Mill. fig. t. 83. f. 2.—I. Cassèna, Michx. fl. 1. p. 229. I. religiòsa, Bart. fl. virg. 69. I. Floridàna, Lam. ill. no. 1731. Flowers white. Berries red. The leaves of this handsome shrub are used by the Indians to make their black drink, so much in use among them, not only as a medicine, but also as a drink of etiquette on their councils, when matters of consequence are to be transacted. At a certain time of the year the Indians come down in droves, from a distance of some hundred miles, to the coast, for the leaves of this tree, which is not known to grow at any considerable distance from the sea shore. They make a fire on the ground, and putting a great kettle of water on it, they throw in a large quantity of these leaves, and setting themselves round the fire, from a bowl that holds about a pint they begin drinking large draughts, which in a very short time occasion them to vomit easily and freely; thus they continue drinking and vomiting for the space of two or three days, until they have sufficiently cleansed themselves, and then every one taking a bundle of the branches to carry away with him, they all retire to their habitations.

Emetic Holly or South-sea Tea. Fl. June, July. Clt. 1700. Shrub 12 feet.

17 I. OVALIFÒLIA (Meyer. esseq. 91.) leaves oval, serrate-crenate, coriaceous, with revolute edges, smooth; flowers racemose, axillary, and terminal; pedicels corymbose. ♄. S. Native of South America, about Essequebo. The leaves are 3 times larger than those of *I. vomitòria.* Flowers white.

Oval-leaved Holly. Shrub 6 feet.

18 I. ELLÍPTICA (H. B. et Kunth, nov. gen. amer. 7. p. 70. but not of D. Don,) leaves elliptical, rounded at both ends, sharply serrulated towards the apex, coriaceous, quite smooth, shining above; peduncles 1-flowered, and are, as well as the

branches, hairy; flowers 4-5-petalled. ♄. G. Native of Peru; in hot places, about Contumasay. Flowers white.

Elliptic-leaved Holly. Shrub.

19 I. SCOPULÒRUM (H. B. et Kunth, nov. gen. amer. 7. p. 70.) leaves ovate, roundish, and obovate, rounded at the apex, obsoletely-crenate, coriaceous, smooth, shining above; peduncles 5-7-flowered, and are, as well as the branchlets, pubescent, clammy; flowers 4-5-petalled. ♄. G. Native of Quito, at Paramo de Alpachaca. Flowers white.

Rock Holly. Tree 20 feet.

20 I. RUPÌCOLA (H. B. et Kunth, l. c.) leaves ovate-roundish, elliptical, blunt, crenate-serrated, coriaceous, quite smooth, shining on both surfaces; peduncles usually 3-flowered, and are, as well as the branches, smooth; flowers 4-petalled. ♄. G. Native of the province of Quito, near Loxa, in Paramo de Saragura. Flowers white.

Rock-hill Holly. Tree.

21 I. SALICIFÒLIA (Jacq. coll. 5. p. 36. t. 2. f. 2.) leaves long-lanceolate, acuminated at both ends, coriaceous, smooth, toothletted from the middle; cymes axillary, longer than the petioles. ♄. S. Native of the Mauritius. Burglària lùcida, Wendl.? ex Steud. Flowers white. Leaves with red edges.

Willow-leaved Holly. Fl. June, July. Clt. 1818. Shrub 10 feet.

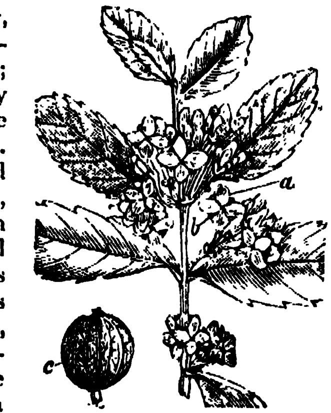
22 I. ODORA'TA (Hamilt. in D. Don, prod. fl. nep. p. 189.) leaves oval-oblong, bluntly acuminated, crenulate, stalked; umbels sessile, glomerate, equal in length to the petioles. ♄. H. Native of Nipaul, in the vicinity of Chitlong at the town of Lahuri. Flowers white, sweet-scented.

Sweet-scented Holly. Tree.

23 I. PALTÒRIA (Pers. ench. 1. p. 152.) leaves oval, crenate, coriaceous, smooth, crowded, hardly stalked; branches somewhat velvety; peduncles axillary, 1-3-flowered. ♄. G. Native of Peru and New Granada, on the highest mountains. Branches brownish-black. Stigma large, tetragonal. Corolla usually 4-petalled, white. Paltòria ovàlis, Ruiz et Pav. fl. per. 1. t. 84. f. 6. Ilex Paltòria, H. B. et Kunth, nov. gen. amer. 7. p. 69.

Paltor's Holly. Shrub 10 feet.

FIG. 3.



24 I. PARAGUE'NSIS (Lamb, pin. vol. 2. app. t. 2.) quite smooth; leaves obovate, oblong, bluntish, remotely serrated; peduncles axillary, many-parted; flowers 4-cleft, tetrandrous, rarely 5-cleft; stigma 4-lobed; drupe 8-furrowed, containing 4 nuts. ♄. S. Native of Paraguay, and in the Brazils, about Curitiba, where it is called *Mate*, and in French *Herbe du Paraguai*, and in Paraguay *Yerva mate*. Flowers white. Berries red. This plant is that which grows in Paraguay, where the Jesuits make a great revenue from the leaves. These leaves are used in Paraguay, La Plata, Chili, Peru, and Quito at all hours of the day, by putting a handful in a kind of tea-pot called *mate*, and from the spout of this the hot liquor is imbibed. Some mix sugar with it, and others add a few drops of lemon juice: and by pouring fresh boiling water, the infusion may be renewed. The Creoles are very fond of it, and never travel without a supply. They drink the infusion at every meal, and never eat until they have taken some of it. It must be drank directly, for if suffered to remain long the liquor would become as black as ink. The pipe to the mate, or tea-pot, called a bombilla, is perforated with holes at the top, to prevent swallowing the pulverized herb, which swims on the surface. The whole party is supplied by handing the mate and pipe from one to another, filling up the vessel with hot water as fast as it is drunk out. The repugnance of Europeans to drink after all sorts of people in a country where siphilitic diseases are so prevalent, has occasioned the introduction of small glass pipes, with which each person is sometimes provided. About 200,000 arrobas of the leaves, equal to 5 millions lbs., are annually obtained from Paraguay, 110,000 arrobas of which go to Chili, from which Lima and Quito are supplied; the rest is expended in the vice-royalty of Buenos Ayres. The leaves when green taste something like mallow leaves; they are roasted and dried, and almost pulverized before they are packed. There are three kinds of it in its prepared state, although produced by the same plant, which go under the names of *Caa-cuys*, *Caa-mini*, and *Caa-guazu*; the first is the buds of the leaves when hardly expanded; the second is the leaves stripped off the ribs before roasting, and the third is roasted without any preparation. The *Caa-cuys* does not keep, and is consequently all used in Paraguay. The aromatic bitterness which the herb possesses when prepared is partly dissipated by carriage. The principal harvest of the herb is made in the eastern part of Paraguay, and about the mountains of Maracaya, but it is also cultivated in the marshy valleys which intervene between the hills. The people boast of innumerable qualities which this herb possesses. It is certainly aperient and diuretic, but the other qualities attributed to it are rather doubtful. In the mine countries the use of this herb is more universal, from the opinion that prevails amongst the Spaniards, that the wines there are prejudicial to health. Like opium, it produces some singular effects; it gives sleep to the restless, and spirit to the torpid. Those who have once contracted the habit of taking it, do not find it an easy matter to leave it off, or even to use it in moderation, though when taken to excess it brings on similar disorders to those which are produced by the immoderate use of strong liquors.

The practice adopted for procuring the leaves is for the merchant to provide himself with a quantity of such goods as are best suited to the natives. After having obtained permission of the government, he goes to the quarter where the natives understand the work, and there he gives public notice of his design. The cutters collect, and having received advances in goods, he provides them with mules, and then conducts them to whatever yerval or grove promises the best harvest. Each morning the cutters disperse on foot, and cut as many branches as they can carry, and after scorching them over the fire, they bring them to the general deposit. A hurdle of long poles is there prepared in the shape of a cylindrical vault, which they call barbaqua; on this the branches are placed, and under a large fire is made, on which they dry the leaves. This done, they remove the fire, and on a hard and hot platform, after being swept clean, they throw the leaves, which they beat and separate. The leaves being separated are put into leather bags; they are now considered as fit for use, but not considered as seasoned until they are a few months old.

Mate or *Paraguay* Tea. Clt. 1823. Tree 15 feet.

25 I. GONGO'NHA (Mart. trav. engl. edit. 2. p. 100.) leaves elliptical, pungently-mucronate, spiny-toothed, rounded at the base, green and shining above; spikes usually twin, branched, densely-pubescent; flowers pentandrous; style distinct, entire. ♄. S. Native of Brazil, in the provinces of the Mines. The leaves of this plant afford a kind of tea, called in Brazil *Gongonha* or *Congonha*, and which is considered by some as identical with that from Paraguay. MM. Martius and St. Hilaire appear to be of this opinion. Dr. Martius found the plant in the province of Minas Geraes, but M. Auguste St. Hilaire met with his plant near Curitiba, in the province of St. Paul, and it

is therefore reasonable to suppose that his plant is identical with that from Paraguay. Since the export of tea from Paraguay has been prohibited by the present Dictator, Dr. Francia, the inhabitants of the other States, who were formerly supplied from Paraguay, are now obliged to use that from Brazil, which is found to be much inferior. Persons ignorant of the specific distinctions between the two trees have attributed the inferiority of the Brazil kind merely to the different mode of preparing the leaves.

Gongonha or Brazilian Mate or Tea. Tree.

26 I. MARTINIA'NA (Lamb. pin. append. t. 8.) leaves oval-oblong, crenated, coriaceous, shining, short-acuminated; racemes aggregate, compound, smoothish; flowers tetrandrous. ♄. S. Native of Guiana. Berry red, containing 4 nuts. Mr. Lambert thinks that the properties of this plant are the same as those of *I'lex Paraguénsis*, from the habit being similar.

Martin's Holly or Guiana Mâte. Tree 30 feet.

27 I. EMARGINA'TA (Thunb. jap. 78.) leaves obovate, emarginate, crenated, with revolute edges; flowers axillary, twin, stalked. ♄. G. Native of Japan, near Nagasaki. Flowers white.

Emarginate-leaved Holly. Shrub 10 feet.

28 I.? CUNEIFÒLIA (Lin. spec. 181.) leaves wedge-shaped, smooth, equally tricuspidate. ♄. H. Native of North America. Flowers and fruit unknown.

Var. β, Bonariénsis (D. C. prod. 2. p. 16.) leaves ovately wedge-shaped, smooth, tricuspidate, with the middle lobe twice as long as the lateral ones. ♄. G. Native of Buenos Ayres. Flowers axillary, solitary, almost sessile, surrounded by scales. Lam. dict. 3. p. 148.

Wedge-leaved Holly. Shrub 10 feet.

29 I. CRENA'TA (Thunb. jap. p. 78.) leaves ovate, crenate, blunt, with revolute edges; peduncles drooping, scattered on the branches, usually 3-flowered. ♄. G. Native of Japan. Flowers white.

Crenate-leaved Holly. Shrub.

30 I. SERRA'TA (Thunb. jap. 78.) leaves ovate, acute, ciliately serrated; pedicels axillary, solitary, 1-flowered, drooping. ♄. G. Native of Japan, in the island of Nipon. Flowers white.

Serrate-leaved Holly. Fl. June. Shrub.

31 I. LATIFÒLIA (Thunb. jap. 79.) leaves ovate, bluntish, serrated, shining above, with revolute edges; pedicels aggregate, longer than the petiole, and rising above the axillæ of the leaves. ♄. G. Native of Japan. Flowers white.

Broad-leaved Holly. Tree 20 feet.

32 I. MYRICOÌDES (H. B. et Kunth, nov. gen. amer. 7. p. 71.) leaves oblong, acute, cuneated at the base, somewhat cordate, serrulated, smooth, as well as the branches; peduncles 3-flowered, twice or thrice longer than the petioles; flowers 4-petalled. ♄. G. Native of New Granada, on the mountains between Meneses and Pasto. Flowers whitish.

Myrica-like Holly. Tree 6 feet.

33? I. HIPPOCRATEOÌDES (H. B. et Kunth, nov. gen. amer. 7. p. 71.) leaves oblong, somewhat acuminated, crenate-serrulated, veiny, coriaceous, rather shining, and are, as well as the branchlets, smooth; peduncles dichotomous, 3-7-flowered, 2 or 3 times longer than the petioles; flowers 4-petalled. ♄. S. Native of South America? Flowers white.

Hippocratea-like Holly. Shrub.

34? I. LAU'RINA (H. B. et Kunth, nov. gen. amer. 7. p. 71.) leaves lanceolate-oblong, acuminated, acute at the base, remotely serrulated, netted, coriaceous, and are, as well as the branches, smooth; peduncles 1-3-flowered, in crowded fascicles, length of petioles; flowers 4-petalled. ♄. S. Native of South America?

Laurel-like Holly. Tree.

* * * *Leaves quite entire or nearly so.*

35 I. CANARIE'NSIS (Poir. suppl. 3. p. 67.) leaves ovate-lanceolate, flat, somewhat acute, quite entire, shining; umbels axillary, few-flowered; peduncles longer than the petioles. ♄. H. Native of the Canary Islands. Flowers white, truly dioecious. Fruit black.

Canary-Island Holly. Fl. June, July. Clt. 1820. Tr. 20 ft.

36 I. DAHOÒN (Walt. fl. car. 241.) leaves lanceolate-elliptical, coriaceous, almost quite entire, with the edges a little revolute, and with the midrib, petioles, and branchlets villous; peduncles lateral and terminal, in panicled corymbs. ♄. H. Native of North America, from Carolina to Florida, in open swamps. I. Cassìne, Willd. hort. berl. 1. t. 31. Flowers white. Berries red. An elegant shrub.

Var. β, laurifòlia (Nutt. in Sillim. amer. journ. 5. 1822. p. 289.) leaves larger, elliptical, acutish, permanent; pedicels elongated, usually 3-flowered. ♄. H. Native of Eastern Florida. Very like *I. Dahoòn*.

Dahoon Holly. Fl. May, June. Clt. 1726. Shrub 8 feet.

37 I. LIGUSTRIFÒLIA; leaves obovate-lanceolate, quite entire, with the edges revolute, midrib, petioles, and branches smooth; cymes lateral. ♄. H. Native of North America, from Virginia to Georgia, in deep swamps. I. angustifòlia, Nutt. gen. amer. 1. p. 109. Flowers white. Berries red.

Privet-leaved Holly. Fl. June, July. Shrub 6 feet.

38 I. MYRTIFÒLIA (Lam. ill. no. 1732.) leaves ovate, acute at both ends, quite entire; flowers lateral, in fascicles, dioecious. ♄. S. Native of the Caribbee islands. Flowers white. This species has the habit of a *Sideróxylon*.

Myrtle-leaved Holly. Clt. 1806. Shrub 10 feet.

39 I. NIPAULE'NSIS (Spreng. syst. app. p. 48.) leaves elliptical, quite entire, acute at both ends; umbels globose, stalked, solitary, puberulous, shorter than the petioles. ♄. H. Native of Nipaul. I. ellíptica, D. Don, prod. fl. nep. p. 189. but not of Kunth. Flowers white.

Nipaul Holly. Shrub 8 feet.

40 I. CYMÒSA (Blum. bijdr. 1149.) leaves oblong, bluntly acuminated, quite entire, smooth; cymes dichotomous, axillary; berry 8-seeded. ♄. S. Native of Java. Flowers dioecious.

Cymose-flowered Holly. Tree 50 feet.

41 I. SPICA'TA (Blum. bijdr. 1149.) leaves oblong-lanceolate, quite entire, coriaceous, quite smooth, with revolute margins; spikes axillary and lateral; berry 6-8-seeded. ♄. S. Native of Java, in woods on the higher mountains.

Spike-flowered Holly. Tree 20 feet.

42 I. MACOUCÒUA (Pers. ench. 1. p. 152.) leaves oval or somewhat ovate, sometimes tapering to an obtuse emarginate point, coriaceous, smooth, quite entire; peduncles numerous, cymose, axillary. ♄. S. Native of Guiana and Cayenne, in woods, as well as of the islands of St. Domingo and Trinidad. Macoucòua Guianénsis, Aubl. guian. 1. t. 34. I'lex acuminàta, Willd. spec. 1. p. 711. Cassìne Maurocènia, Sieb. pl. exsic. trin. no. 81. Flowers white. Berries red, ovate, 2-celled. The tree is called *Macoucou* in Guiana.

Macoucoua Holly. Tree 40 feet.

43? I. OBCORDA'TA (Swartz, fl. ind. occ. 1. p. 338.) leaves obcordate, coriaceous, quite entire, shining, nerveless; stipulas small, prickly; peduncles 3-flowered, axillary, shorter than the petioles. ♄. S. Native of Jamaica, on the Blue Mountains. Flowers white. Style very short. Stigma blunt. Berries red, 1-celled.

Obcordate-leaved Holly. Shrub 6 feet.

44 I. ASIA'TICA (Lin. spec. 710.) leaves broad-lanceolate, obtuse, quite entire. ♄. G. Native of the East Indies.

Asiatic Holly. Shrub?

45 I. inte'gra (Thunb. fl. jap. p. 77.) leaves oblong, blunt, quite entire; umbels axillary, sessile; pedicels 1-flowered, usually 4 together. ♄. G. Native of Japan.

Entire-leaved Holly. Shrub 6 feet.

46 I. rotu'nda (Thunb. fl. jap. 77.) leaves broad, oval, acuminated, entire, smooth; peduncles umbelliferous, pubescent, longer than the petioles. ♄. G. Native of Japan. Branches knotted. Flowers pentandrous.

Round-leaved Holly. Shrub 8 feet.

47 I. bumelioìdes (H. B. et Kunth, nov. gen. amer. 7. p. 71.) branches smooth; leaves obovate, mucronate, decurrent at the base, almost quite entire, coriaceous, shining above; peduncles 3-4 together, 1-flowered. ♄. G. Native of Peru, in the province of Quito, near Loxa. Flowers unknown. Berries 4-5-seeded.

Bumelia-like Holly. Tree 16 feet.

Cult. All kinds of *Hollies* are much esteemed on account of their evergreen leaves. The hardy kinds are usually increased by budding or grafting on the common Holly, which is easily reared from seed, but they will also root freely by cuttings taken off at a joint in ripened wood, planted in sand in a shady situation, with a hand-glass placed over them. The greenhouse and stove kinds may be struck in the like manner, but those of the latter will require a little heat. The berries of all kinds of Holly should be gathered when they are ripe, mixed with sand, and turned over frequently till the October following, when they should be sown in beds covered over with mould three quarters of an inch thick, or the berries may remain on the trees till spring, when they may be sown. In general they do not vegetate till the second year.

IV. PRI'NOS (*πρινος*, *prinos*, is the Greek name of the Holly, which the present genus much resembles). Lin. gen. no. 461. D. C. prod. 2. p. 16.—Agèria, Adans. fam. 2. p. 166.

Lin. syst. *Hexándria*, *Monogýnia*, or *Polygàmia*, *Diœ'cia*. The character is the same as *Ilex*, but the flowers are 6-cleft, hexandrous, usually dioecious or polygamous from abortion, and the fruit contains 6 nuts.—Shrubs, with alternate, deciduous or permanent leaves, and axillary, usually 1-flowered pedicels.

§ 1. *Prinoìdes* (see genus for derivation). *D. C. prod. 2. p. 16. Flowers usually 4-5-cleft.*

1 P. deci'duus (D. C. prod. 2. p. 16.) leaves deciduous, elliptic-lanceolate, tapering into the petiole, serrated, with the middle nerve villous beneath; pedicels axillary, those bearing the male flowers aggregate, and those bearing the female ones solitary. ♄. H. Native of North America, from Virginia to Georgia, on rocky shady banks of rivers. Ilex prinoìdes, Ait. hort. kew. 2. p. 278. Ilex decídua, Walt. fl. car. 241. Flowers white. Berries crimson, large.

Var. β, æstivàlis (Lam. dict. 3. p. 147.) adult leaves smooth on both surfaces. ♄. H. Native of North America. Ilex æstivàlis, Lam. l. c. Flowers white.

Deciduous Winter-berry. Fl. June, July. Clt. 1736. Shrub 4 feet.

2 P. ambi'guus (Michx. fl. bor. amer. 2. p. 236. but not of Pursh.) leaves deciduous, oval or elliptical, mucronate, entire, quite smooth; pedicels bearing the male flowers, crowded at the bottom of the branchlets, those bearing the female ones solitary, upon long pedicels. ♄. H. Native of Carolina. Wats. dend. brit. t. 29. Cassìne Caroliniàna, Walt. fl. car. p. 242. The leaves, according to Nuttall, are entire, but in De Candolle's specimen they are serrated at the apex. Perhaps distinct plants. Flowers white. Berries red.

Ambiguous Winter-berry. Fl. June, Aug. Clt. 1812. Sh. 4 ft.

3 P. ni'tidus (Vahl. ecl. 2. p. 26.) leaves oblong-ovate, serrated, shining, membranous; pedicels axillary, 1-flowered; flowers tetrandrous. ♄. G. Native of Montserrat. The leaves are probably deciduous. Branches angular.

Shining-leaved Winter-berry Shrub.

4 P. dioi'cus (Vahl. ecl. 2. p. 25. t. 14.) leaves oblong-ovate, somewhat serrated, smooth, coriaceous; peduncles axillary, usually 1-flowered; flowers dioecious, tetrandrous. ♄. H. Native of the island of Montserrat. Flowers white. Berries red. Perhaps a species of *Ilex*.

Dioecious Winter-berry. Shrub.

§ 2. *Agèria (D. C. prod. 2. p. 17.) Flowers usually 6-cleft. Leaves deciduous.*

5 P. verticilla'tus (Lin. spec. 471.) leaves oval, deciduous, acuminated, serrated, pubescent beneath; fascicles of male flowers axillary, umbel-like; female ones aggregate, all 6-parted. ♄. H. Native of North America, from Canada to Virginia, in sandy wet woods, and on the borders of swamps. Duh. arb. 1. t. 23. Wats. dend. brit. t. 30. P. padifòlius, Willd. enum. 394. P. Gronòvii, Michx. fl. bor. amer. 2. p. 236. P. confértus, Mœnch. Flowers white. Berries red or crimson.

Whorled Winter-berry. Fl. June, Aug. Clt. 1736. Shrub 8 feet.

6 P. du'bius; leaves deciduous, oval, acuminated at both ends, mucronately-serrated, pubescent beneath; flowers 4-5-cleft; male ones crowded at the bottom of the branches, female ones solitary. ♄. H. Native of North America, in sandy woods, and on the borders of swamps, from New Jersey to Carolina. P. ambíguus, Pursh. fl. amer. sept. 1. p. 220. Flowers white. Berries red, larger than those of *P. verticillàtus*.

Doubtful Winter-berry. Fl. July, Aug. Clt. 1736. Tree 12 ft.

7 P. lævig'atus (Pursh. fl. sept. amer. 1. p. 220.) leaves deciduous, lanceolate, with adpressed serratures, acuminated, smooth on both surfaces, shining, hardly pubescent on the nerves beneath; flowers 6-cleft, male ones scattered; female ones axillary, solitary, almost sessile. ♄. H. Native of North America, on the Alleghany mountains, from New York to Virginia. Wats. dend. brit. t. 28. Flowers white. Berries large, dark-red.

Smooth-leaved Winter-berry. Fl. July. Clt. 1812. Sh. 8 ft.

8 P. lanceola'tus (Pursh, fl. sept. amer. 2. p. 17.) leaves deciduous, lanceolate, finely and remotely serrated, smooth on both surfaces; male flowers aggregate, triandrous; female ones usually twin, stalked, 6-cleft. ♄. H. Native of Georgia and Carolina, in the lower counties. Flowers white. Berries small, scarlet.

Lanceolate-leaved Winter-berry. Fl. June, July. Clt. 1811. Shrub 8 feet.

§ 3. *Wintèrlia* (probably from the name of some botanist). *Mœnch. meth. 74. D. C. prod. 2. p. 17. Flowers for the most part 6-cleft. Leaves permanent.*

9 P. gla'ber (Lin. spec. 471.) branches rather pubescent; leaves evergreen, cuneate-lanceolate, coriaceous, smooth, shining, a little toothed at the apex; pedicels axillary, usually solitary, for the most part 3-flowered. ♄. H. Native of North America, from Canada to Florida, in sandy shady woods. Flowers white. Berries black, called in Jersey *Ink-berries*. A low and handsome shrub.

Glabrous Winter-berry. Fl. July, Aug. Clt. 1759. Shrub 3 to 4 feet.

10 P. atoma'rius (Nutt. gen. amer. 1. p. 213.) leaves evergreen; cuneate-oval, acute, coriaceous, somewhat serrated at the apex, bearing black atoms or dots beneath; young branches a little clammy; pedicels lateral, 1-flowered. ♄. H. Native of Georgia, in woods on the banks of rivers. Flowers white. Berries dark.

Atom-bearing Winter-berry. Fl. July, Aug. Clt. 1820. Shrub 2 feet.

11 P. CORIA'CEUS (Pursh, fl. sept. amer. 1. p. 221.) leaves evergreen, cuneate-lanceolate, coriaceous, smooth, shining, quite entire; corymbs axillary, sessile, very short, many-flowered; flowers 6-cleft. ♄. H. Native of Georgia in sandy woods, near the banks of rivers. Wats. dendr. brit. t. 27. Flowers white. A handsome tall shrub, with the appearance of *I'lex Dahoòn*. There are two varieties of this shrub, the one with broader obovate-lanceolate leaves, the other with narrower lanceolate acute leaves.

Coriaceous-leaved Winter-berry. Fl. June, July. Clt. 1820. Shrub 10 feet.

12 P. MONTA'NUS (Swartz, fl. ind. occ. 1. p. 622.) leaves evergreen, ovate, serrated all around the edges, quite smooth and shining on both surfaces; peduncles axillary, 3-flowered. ♄. S. Native of Jamaica among bushes on the mountains. Flowers small, white. Berries roundish, black.

Mountain Winter-berry. Tree 30 feet.

13 P. SIDEROXYLOÌDES (Swartz, fl. ind. occ. 1. p. 624.) leaves roundish, obtuse, quite entire, somewhat coriaceous; pedicels 4-8, axillary, crowded, 1-flowered, longer than the petioles. ♄. S. Native of the Caribbee Islands. Flowers white. The wood is hard.

Iron-wood-like Winter-berry. Tree 20 feet.

Cult. The hardy kinds of *Prinos* are well adapted for small shrubberies; they will grow well in any light soil, but prefer peat, and are easily increased by laying down the shoots or by seeds. The stove species will grow in a mixture of loam and peat, and ripened cuttings will root in sand under a hand-glass, in a moderate heat. The seeds will not vegetate till the second year.

† *Genera allied to Ilicìneæ, but differ materially in some particulars from the rest of the order.*

V. STROMBO'SIA (στρομβος, *strombos*, a turban, a top; shape of fruit). Blum. bijdr. 1154.

LIN. SYST. *Pentándria, Monogýnia.* Calyx inferior, small, flat, obsoletely-crenulated. Petals 5, conniving, campanulate, villous in the throat. Stamens 5, short, opposite the petals and inserted in them. Anthers bursting inwards, didymous. Ovary immersed in the disk, 5-celled, cells 1-seeded; or 3-celled, cells 2-seeded. Style short, crowned by an obtuse stigma, which is obsoletely toothed. Fruit baccate, turbinate, substipitate, 1-seeded from abortion.—A tall tree, with alternate, oblong, acuminated, entire, smooth, shining leaves, and axillary fascicles of greenish flowers.

1 S. JAVA'NICA (Blum. bijdr. 1155.). ♄. S. Native of Java, in mountain woods.

Java Strombosia. Tree 50 feet.

Cult. See stove species of *Prìnos* for culture and propagation.

VI. LEUCO'XYLON (from λευκος, *leukos*, white, ξυλον, *xylon*, wood; wood white). Blum. bijdr. 1169.

LIN. SYST. *Polygàmia, Diœ'cia.* Flowers polygamous from abortion. Calyx inferior, 4-parted, with the segments obtuse and imbricate. Corolla subcampanulate, 4-parted. Male flowers with about 12-14 stamens, which are partly hypogynous and partly adnate to the base of the corolla, and inclosed in it. Anthers 2-celled. Female flowers with a 4-celled ovary, each cell containing many seeds. Style 2-parted, crowned by 2 emarginate stigmas. Drupe corticate, 1-celled, containing 1-2 1-seeded bony nuts. Embryo inverted in cartilaginous albumen. A tall tree with spreading branches, with the branchlets and leaves distich. Leaves small, alternate, approximate, elliptic-lanceolate, coriaceous, veinless, shining above but silky-pubescent beneath as well as the branchlets. Flowers axillary, male ones crowded, female ones solitary. According to Blume, the genus has the habit of *Terebinthàceæ*, but it is more nearly allied to *Ebenàceæ* and *Ternstræmiàceæ*, but we think it is still nearer to *Ilicíneæ*.

1 L. BUXIFÒLIUM (Blum. bijdr. 1169.). ♄. S. Native of Java, in mountain woods, where it is called *Kimerak*.

Box-leaved Leucoxylum. Fl. Feb. Tree 60 feet.

Cult. For culture and propagation see stove species of *Prìnos*.

VII. RHAPTO'STYLUM (ῥαπτος, *rhaptos*, sewed together; and στυλος, *stylos*, a style; styles joined together). H. B. et Kunth, nov. gen. amer. 7. p. 78.

LIN. SYST. *Decándria, Monogýnia.* Calyx 5-cleft, with ovate, equal segments. Petals 5, sessile, valvate in æstivation, acute, equal, longer than the calyx, hypogynous. Disk wanting. Stamens 10, hypogynous, shorter than the corolla. Filaments dilated at the base and subulate at the apex, adhering together and with the petals at the base, smooth, opposite the petals. Anthers 2-celled, bursting inwards. Ovary superior, large, conical, 3-celled; ova solitary, pendulous. Stigma sessile, 3-lobed.—An unarmed, smooth tree, with alternate, slender branches, and alternate, entire, membranous, exstipulate leaves. Flowers minute, white, in fascicles in the axils of the leaves.

1 R. ACUMINA'TUM (H. B. et Kunth 7. p. 79. t. 621.). ♄. S. Native of New Granada.

Acuminated-leaved Rhaptostylum. Shrub 6 feet.

Cult. For culture and propagation see stove species of last genus.

ORDER LXVII. RHA'MNEÆ (plants agreeing with *Rhámnus* in important characters). R. Br. gen. rem. p. 22. D. C. prod. 2. p. 19. Brogn. mem.—Rhámnorum, Gen. Juss.

Calyx monosepalous, 4-5-cleft (f. 4. B. *a.* D. *c.*), with the tube adhering to the base of the ovary (f. 6. C. *d.* B. *f.*); lobes valvate when in the bud. Petals 4-5 (f. 4. D. *a.* B. *c.*), cucullate (f. 7. A. *h.*) or convolute (f. 6. C. *c.*), rarely wanting, alternating with the lobes of the calyx, very often of the form of a scale, all inserted in the mouth of the calyx. Stamens 4-5, opposite the petals (f. 4. B. *c.*). Anthers 1- (f. 7. D. *c.*) 2-celled (f. 6. C. *b.*). Ovary free, or adhering to the calyx more or less, always immersed in the disk when there is any, 2-3 (f. 6. E. *g.*) rarely 4-celled, each cell containing 1 erect seed (f. 6. E. *g.*). Style 1-3. Stigmas 2-3 (f. 6. E. *c.*). Fruit fleshy (f. 5. F. *k.*) indehiscent or dry, tricoccous (f. 6. E. *g.*). Seeds erect. Albumen fleshy, rarely wanting. Embryo straight, slender, about equal in length to the seed, with large, flat cotyledons, and a short inferior radicle. —Trees or shrubs, with simple, alternate, rarely opposite leaves, usually furnished with stipulas. Flowers small, usually greenish-yellow. This order is nearly allied to *Celastrìneæ*, but differs in the sepals or lobes of the calyx being valvate in æstivation, not imbricate, and in the stamens being opposite the petals, not alternating with them, as well as in the ovary being more or less adnate to the calyx, not distinct from it. It also comes near to *Byttneriàceæ* in the æstivation of the calyx, but is distinguished from it by the insertion of the stamens. Throughout this order there is a remarkable agreement between the inner bark and the fruit, especially in several species of *Rhámnus*, in which they both are purgative and emetic, and in some degree astringent. Many species of *Zizyphus*, however, bear wholesome and agreeable fruit. The berries of the greater number yield yellow and green dyes, under the hands of the chemist, of much importance to manufacture. The bark of *Ceanóthus cœrúleus* is esteemed febrifugal in Mexico.

Synopsis of the Genera.

1 Paliu'rus. Calyx spreading, 5-cleft (f. 4. A. *a.*). Petals obovate, convolute (f. 4. A. *b.*). Stamens exserted (f. 4. A. *c.*). Anthers 2-celled (f. 4. A. *c.*). Disk flat (f. 4. A. *d.*) pentagonal. Styles 3. Fruit dry, indehiscent (f. 4. A. *g.*), containing a 3-celled nut (f. 4. A. *h.*), winged in the circumference (f. 4. A. *f.*).

2 Zi'zyphus. Calyx spreading (f. 4. B. *a.*), 5-cleft. Petals obovate, unguiculate (f. 4. B. *b.*), convolute. Stamens exserted (f. 4. B. *c.*). Anthers 2-celled (f. 4. B. *c.*). Disk flat (f. 4. B. *f.*), pentagonal. Styles 2-3 (f. 4. B. *g.*). Fruit fleshy, containing a 1-2-celled nut (f. 4. B. *h.*).

3 Sphæroca'rya. Calyx 5-parted. Petals minute, ovate, obtuse. Stamens short. Disk none. Style 1. Drupe fleshy, containing a 1-celled, 1-seeded nut.

4 Conda'lia. Calyx spreading, 5-cleft (f. 4. C. *a.*). Petals wanting. Anthers 2-celled (f. 4. C. *c.*). Disk flat, pentagonal (f. 4. C. *e.*). Style 1. Fruit drupaceous, containing a 1-celled nut (f. 4. C. *d.*).

5 Berche'mia. Calyx tubular, 5-cleft (f. 4. E. *a.*). Petals convolute (f. 4. E. *c.*). Stamens inclosed (f. 4. E. *d.*). Anthers 2-celled (f. 4. E. *c.*). Disk annular (f. 4. E. *f.*), nearly flat. Style simple. Fruit dry, 2-celled (f. 4. E. *g.*).

6 Ventila'go. Calyx spreading, 5-cleft (f. 4. D. *c.*). Petals obovate, convolute (f. 4. D. *a.*). Stamens exserted (f. 4. D. *b.*). Anthers 2-celled (f. 4. D. *b.*). Disk fleshy, flat. Style compressed, bidentate (f. 4. D. *j.*). Fruit indehiscent (f. 4. D. *h.*), woody, 1-celled, 1-seeded, winged at the apex (f. 4. D. *k.*).

7 Sagere'tia. Calyx urceolate, 5-cleft (f. 4. F. *a.*). Petals convolute or cucullate (f. 4. F. *c. b.*). Anthers 2-celled (f. 4. F. *f.*). Disk thick, cup-shaped. Ovary 3-celled (f. 4. F. *d.*). Style short, thick (f. 4. F. *g.*).

8 Rha'mnus. Calyx urceolate (f. 5. A. *b.* C. *b.*), 4-5-cleft (f. 5. A. *a.* C. *a.*). Petals emarginate (f. 5. C. *c.*), or wanting. Anthers 2-celled (f. 5. A. *d.*). Disk thin (f. 5. C. *c.*). Styles 3-4, connected (f. 5. A. *g.*), or free. Fruit baccate, containing 3-4, rarely 2, little nuts (f. 5. A. *j.* B. *f.*).

9 Scu'tia. Calyx urceolate, 5-cleft (f. 6. A. *g.*). Petals flattish, emarginate (f. 6. A. *e. f.*). Anthers 2-celled (f. 6. A. *b.*). Disk fleshy (f. 6. A. *e.*). Style short (f. 6. A. *k.*). Fruit containing 3 nuts (f. 6. A. *l.*).

10 Retaníla. Calyx urceolate, 5-cleft (f. 5. E. *b. e.*). Petals cucullate (f. 5. E. *c. d.*), sessile. Stamens inclosed (f. 5. E. *c.*). Anthers kidney-shaped, 1-celled. Disk covering the bottom of the calyx (f. 5. E. *g.*) Style simple (f. 5. E. *h.*). Fruit containing a 3-celled nut (f. 5. E. *i.*).

11 Colle'tia. Calyx campanulate (f. 5. F. *f.*). coloured. Petals wanting. Anthers 1-2-celled, kidney-shaped (f. 5. F. *i.*) or ovate. Disk cup-shaped (f. 5. F. *g.*). Style simple, elongated. Fruit dehiscent, containing 3 nuts (f. 5. F. *h. k.*).

12 Trevòa. Calyx turbinate, 5-cleft. Petals cucullate. Stamens inclosed. Anthers 1-celled, kidney-shaped. Disk almost wanting. Style long, hairy. Capsule membranous, 2-valved, 1-seeded.

13 Disca'ria. Calyx campanulate, 4-5-cleft, coloured. Petals 4-5. Stamens inclosed. Anthers 2-celled. Disk cup-shaped, fleshy. Style crowned by a 3-lobed stigma.

14 Hove'nia. Calyx rather spreading (f. 6. B. *a.*), 5-cleft. Petals obovate, unguiculate (f. 6. B. *e.*), convolute. Stamens inclosed (f. 6. B. *c.*). Anthers 2-celled. Disk fleshy (f. 6. B. *f.*), flat. Style trifid. Fruit of 3 free berries (f. 6. B. *l.*).

15 Colubrìna. Calyx spreading, 5-cleft (f. 6. D. *a.*). Petals obovate, convolute (f. 6. D. *b.*). Stamens exserted (f. 6. D. *c.*). Anthers 2-celled. Disk fleshy, flattish, pentagonal (f. 6. D. *g.*). Style trifid. Fruit dehiscent, containing 3 seeds (f. 6. D. *f.*).

16 Ceanòthus. Calyx a hemispherical tube, with a 5-cleft limb (f. 6. C. *d.*). Petals unguiculate, cucullate (f. 6. C. *c.*). Anthers 2-celled (f. 6. C. *b.*). Disk spongy, annular (f. 6. C. *e.*). Styles 3. Fruit containing 3-seeds (f. 6. D. *f.*).

17 Willeme'tia. Calyx urceolate, 5-cleft (f. 6. F. *d.*). Petals cucullate, sessile (f. 6. F. *b.*). Stamens inclosed. Anthers 2-celled. Disk very thin (f. 6. F. *c.*). Ovary 3-celled. Style simple.

18 Pomade'rris. Calyx rather spreading (f. 6. E. *a.*), 5-cleft. Petals flat, unguiculate, subcordate or wanting. Stamens exserted (f. 6. E. *b.*). Anthers 2-celled (f. 6. E. *c. e.*). Disk wanting. Style trifid (f. 6. E. *c. d.*). Fruit containing 3 seeds (f. 6. E. *f.*).

19 Crypta'ndra. Calyx coloured, campanulate 5-cleft (f. 5. D. *c. b. a.*). Petals small, cucullate, sessile (f. 5. D. *e.*). Stamens inclosed (f. 5. D. *c.*). Anthers 2-celled. Disk wanting. Style simple. Capsule containing 3 seeds.

20 Bartli'ngia. Calyx bibracteate, tubular, 5-cleft. Petals scale-formed. Stamens 10. Anthers 2-celled, opening laterally. Disk wanting. Style simple. Ovary compressed, 1-celled, 1-2-seeded.

21 Solena'ntha. Calyx 5-cleft. Petals 5, conniving into a tube. Anthers 2-celled, each inserted under a scale. Ovary 2-lobed.

22 Tetrapa'sma. Calyx 4-cleft. Petals 4, cucullate. Stamens 4, inclosed. Stigma 3-lobed. Ovary 3-celled.

23 Trichoce'phalus. Calyx with a short tube and long setaceous segments (f. 7. C. *b.*). Petals wanting or setaceous. Anthers kidney-shaped, 1-celled (f. 7. C. *e.*). Disk hardly any. Style simple, short. Fruct containing 3 seeds (f. 7. C. *c.*).

24 Phy'lica. Calyx with a cylindrical tube and a 5-cleft limb (f. 7. B. *b.*). Petals cucullate (f. 7. B. *d. c.*). Stamens inclosed (f. 7. B. *c.*). Anthers 1-2-celled. Disk hardly evident. (f. 7. B. *f.*). Style trifid (f. 7. B. *i.*). Fruct 3-seeded (f. 7. B. *h. k.*).

25 Soula'ngia. Calyx with an obconical tube and a cleft limb (f. 7. D. *d.*). Stamens inclosed (f. 7. D. *c.*). Anthers kidney-shaped, 1-celled (f. 7. D. *c.*). Disk epigynous (f. 7. D. *h.*), pentagonal, fleshy. Style simple. Fruit 3-seeded (f. 7. D. *k. i. j.*).

26 Goua'nia. Calyx with a rather spreading, 5-cleft limb

(f. 7. A. *a*.). Petals convolute (f. 7. A. *f*.) or cucullate (f. 7. A. *h*.). Stamens inclosed (f. 7. A. *h*.). Anthers 2-celled. Disk epigynous (f. 7. A. *d*.) pentagonal or stellate (f. 7. A. *c*.). Style trifid. Fruit 3-winged, 3-seeded (f. 7. A. *g*.).

27 Crumena'ria. Calyx campanulate, 5-cleft. Petals cucullate. Stamens inclosed. Anthers 2-celled. Style crowned by 3 stigmas. Capsule papyraceous, 3-seeded.

† *Genera allied to Rhámneæ, but they are not sufficiently known.*

28 Cou'pia. Calyx small, 5-toothed. Petals 5, oblong, appendiculate inside. Stamens 5. Stigmas 4-5, sessile. Berry pea-shaped, 4-5-celled, 4-5-seeded.

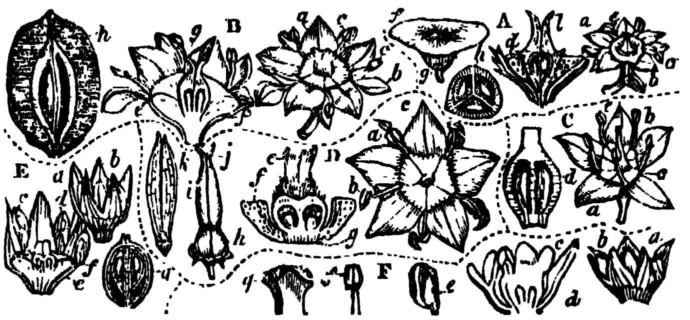
29 Carpode'tus. Calyx turbinate, 5-cleft. Petals 5, small. Stamens 5. Style filiform. Drupe dry, globose, 5-celled, 5-seeded.

30 Schæffe'ria. Flowers dioecious. Calyx 4-parted. Petals 4. Stamens 4. Style short or wanting. Stigmas 2. Berry dry, 2-celled; cells 1-seeded.

31 Olìnia. Calyx campanulate, 5-6-toothed. Petals 5, narrow. Stamens 5-6, concealed under so many scales. Style short. Fruct inferior, 5-angled, 5-seeded.

32 Daphniphy'llum. Flowers dioecious. Calyx small, crenulated. Corolla none. Stamens 6-10, connate at the base. Stigma bifid, sessile. Drupe containing a 1-seeded fibrous nut.

FIG. 4.



I. PALIU'RUS (Paliurus was the name of a town in Africa). Tourn. inst. t. 386. D. Don, prod. fl. nep. p. 189. D. C. prod. 1. p. 22. Brogn. mem. Rhamn. p. 46.

Lin. syst. *Pentándria, Trigýnia.* Calyx spreading, 5-cleft (f. 4. A. *a*.). Petals 5, obovate, convolute (f. 4. A. *b. c*.). Stamens 5, protruding (f. 4. A. *c*.). Anthers ovate, 2-celled. Disk flat (f. 4. A. *d*.), pentagonal. Ovary 3-celled (f. 4. A. *h*.), half immersed in the disk (f. 4. A. *d*.). Styles 3. Fruit dry, indehiscent (f. 4. A. *g*.), expanding into a membrane round the disk (f. 4. A. *f*.), containing a 3-celled nut f. 4. A. *h*). Seeds sessile.—Shrubs or trees with alternate simple leaves, with the habit of *Zízyphus*.

1 P. aculea'tus (Lam. ill. t. 210. fl. fr. ed. 3. no. 4081. Duh. ed. nov. 3. t. 17.) branchlets pubescent; leaves ovate, serrulated, quite smooth, 3-nerved, with 2 spines at their base, one erect the other hooked; umbellules axillary, few-flowered, crowded; wing of capsule crenated. ♄. H. Native of sterile places about the Mediterranean sea, on both shores, and on the western coast of Asia. P. petàsus, Dum. Cours. 6. p. 266. P. austràlis, Gært. fruct. 1. t. 43. f. 5. P. vulgàris, D. Don. prod. fl. nep. 189. Rhámnus Paliùrus, Lin. spec. 281. Zízyphus Paliùrus, Willd. spec. 1. p. 1103. Sims, bot. mag. 1893. Flowers greenish-yellow. From the singular appearance of the fruit, resembling a head with a broad-brimmed hat on, the French call the tree *Porte-chapeau.* This is by many persons supposed to be the plant from which the crown of thorns, which was put upon the head of our Saviour, was composed; the truth of which is supported by many travellers of credit, who affirm that this is one of the most common shrubs in the country of Judæa, and from the pliability of its branches, which may easily be wrought into any figure, it may afford a probability. Hasselquist is of opinion that it was rather the *Zízyphus spina-Chrísti.*

This is the common thorn of the hedges in Asia, and forms a fence of a most impassable kind. The seeds are sold in the herb-shops of Constantinople, and the native *hakims*, or doctors, prescribe them in many complaints, under the name of *Xallé*. They are also used as a dye.

Prickly Christ's-thorn. Fl. June, July. Clt. 1596. Sh. 8 ft.

2 P. virga'tus (D. Don, in bot. mag. t. 2535. fl. nep. 189.) branches smooth; leaves obliquely cordate or elliptical, 3-nerved, shining; wing of fruit entire. ♄. H. Native of Nipaul. Leaves serrulated, with 2 thorns at the base of each, the one straight, the other hooked. Flowers in axillary corymbs, greenish-yellow. A beautiful shrub.

Twiggy Christ's-thorn. Fl. July, Aug. Clt. 1819. Sh. 10 ft.

3 P.? Auble'tia (Schult. syst. 5. p. 343.) prickles scattered, straight, short; leaves ovate, crenulate, smooth; corymbs axillary, pubescent; berries orbicular, convex beneath, flat above. ♄. H. Native of China, about Canton. Aublètia ramosíssima, Lour. fl. coch. 283. P. ramosíssima, Poir. suppl. 4. p. 262. Flowers greenish-yellow. Stamens inclosed in the petals. Probably a species of *Zizyphus*.

Aublet's Christ's-thorn. Shrub 8 feet.

Cult. These handsome shrubs are well fitted for shrubberies; they will grow in any common soil, and may be either increased by layers, cuttings of the roots, or seeds.

II. ZI'ZYPHUS (Zizouf, in Arabic, is the name of the *Lotos*). Tourn. inst. t. 403. Gært. fruct. 1. p. 43. Lam. ill. t. 185. D. C. prod. 2. p. 19. Brogn. mem. Rhamn. p. 47.

Lin. syst. *Pentándria, Di-Trigýnia.* Calyx spreading, 5-cleft (f. 4. B. *a*.). Petals 5, obovate, unguiculate, convolute (f. 4. B. *b. c*.). Stamens 5, exserted (f. 4. B. *c*.). Anthers ovate, 2-celled (f. 4. B. *c*.). Disk flat, pentagonal (f. 4. B. *f*.), expanded, adhering to the tube of the calyx. Ovary 2-3-celled (f. 4. B. *e*.), immersed in the disk. Styles 2-3 (f. 4. B. *g*.). Fruit fleshy (f. 4. B. *h*.), containing a 1-2-celled nut (f. 4. B. *h*.). Seeds sessile, compressed, very smooth.—Shrubs with altèrnate, 3-nerved leaves, and spiny stipulas. Flowers axillary, cymose. Fruit mucilaginous, eatable, more or less grateful.

* *Leaves smooth on both surfaces.*

1 Z. vulga'ris (Lam. ill. 185. f. 1.) leaves ovate, retuse, toothletted, and are, as well as the branchlets, smooth; prickles wanting or twin, one of them recurved; drupe ovate, oblong. ♄. H. Native of Syria, from whence it has been introduced into Europe. Rhámnus Zízyphus, Lin. spec. 282. Pall. fl. ross. 2. t. 59. Z. sativa, Desf. arb. 2. p. 373. Duh. ed. nov. 3. t. 16. but not of Gært. Z. Jújuba, Mill. dict. no. 1. but not of Lam. Flowers greenish-yellow, 2 or 3 together. Fruit blood-red or saffron-coloured, having a sweet granular pulp. This tree is cultivated for its fruit in many parts of the south of Europe, where it is called *Jujube.* In Italy and Spain the fruit is served up at the table in deserts, during the winter-season, as a dry sweet-meat. It is sold in the markets in the towns of Italy and Spain. The tree is said to have been first introduced into Italy from Syria by Sextus Pampinius, in the time of Augustus Cæsar. The fruit is also sold in abundance in the markets of Constan-

tinople, under the name of *Hunnab-agaghi*, and which has for a long time been imported into the west of Europe under the name of *Jujube*. The Turks of Constantinople plant the tree before their coffee-houses with other trees, to enjoy the shade and fruit in their season.

Common Jujube. Fl. Aug. Sept. Clt. 1640. Tree 20 feet.

2 Z. Sine'nsis (Lam. dict. 3. p. 318.) leaves ovate-oblong, acutely serrated, smooth; branches pubescent; prickles twin, spreading, straightish; petals reflexed; drupe ovate. ♄. H. Native of China. Rhámnus Zizyphus, Lour. fl. coch. 158. Flowers greenish-white. Drupe eatable, brownish-yellow, ovate, fleshy, and are sold in the markets of Canton during the autumn.

Chinese Jujube. Clt. 1818. Shrub 4 to 5 feet.

3 Z. Lòtus (Lam. dict. 3. p. 316.) leaves ovate-oblong, obsoletely crenated, and are, as well as the branches, smooth; prickles twin, one of them recurved, the other straight, longer than the petiole; drupe roundish-ovate. ♄. F. Native of Persia, and the interior of Africa, Sicily, Spain, &c. Rhámnus Lòtus, Lin. spec. 281. Desf. act. par. 1788. t. 21. Park's trav. with a figure. Shaw's afr. no. 632. f. 632. This is the lotos of the Lotophagi. It grows wild in Africa, especially in the kingdom of Tunis, in a tract called *Jereed*, which was formerly the country of the Lotophagi. The Lotophagi, as the Greeks call them, possessed a considerable part of the sea-coast, between the two Syrtes, the island of Meninx (now Jérba) and the coast beyond it as far as the lake and river Tritonis to the Machlies. Scylax extends the name to the tribes between the two Syrtes. Ptolemy limits them to the neighbourhood of the river Cinyps, while Herodotus appears to confine them to the west of that river. Strabo places them in the neighbourhood of Jerba, although he calls the adjoining Syrtes that of the Lotophagi. Pliny assigns them, in addition to the island, the environs of the Syrtes also. But the allotment of this confined space to the eaters of lotos was owing to the want of a more extended knowledge of the countries that border on the desert, for it appears that the tribes who inhabit them eat universally of this fruit, in a greater or less degree, and most of them apparently as much as they can obtain of it. The Arabs know the plant by the name of *Seedra*. It has the habit of *Rhámnus*, and the flowers of the common *Jujube*. But the fruit is smaller, rounder, and sweeter, the size of sloes, containing large stones; they are borne on every part of the plant, like gooseberries; they have a purplish tinge. The farinaceous pulp is separated from the stone, and laid by for winter use; its flavour approaches nearly to that of figs or dates. A kind of wine is made from the fruit by expression, and diluted with water, but this will not keep more than a few days. The same liquor perhaps which is fabled to have produced such extraordinary effects on the companions of Ulysses.

> "The trees around them all their food produce,
> Lotos the name divine, nectareous juice,
> Thence called Lotophagi, which whoso tastes,
> Insatiate riots in their sweet repasts,
> Nor other home nor other care intends,
> But quits his house, his country, and his friends."
> *Homer's Odyssey.*

Dr. Shaw says that the fruit is common in the deserts, and other parts of Barbary, is still in great repute, and sold in the markets all over the southern districts of those kingdoms. Mr. Park says he discovered the lotos to abound in all the countries of Africa he traversed, flourishing most in a sandy soil, but in the greatest plenty in the kingdoms of Kaarta Ludamar, and in the northern parts of Bambara. The fruit small, farinaceous berries, of a yellow colour and delicious taste. The natives, he says, convert them into a sort of bread, by exposing them some days to the sun, and afterwards pounding them gently in a wooden mortar, until the farinaceous part is separated from the stone. This meal is then mixed with a little water, and formed into cakes, which, when dried in the sun, resemble in colour and flavour the sweetest gingerbread. The stones are afterwards put into a vessel of water, and shaken about so as to separate the farina which may still adhere to them, this communicates a sweet and agreeable taste to the water, and with the addition of a little pounded millet, forms a pleasant gruel called *fondi*, which is the common breakfast in many parts of Ludamar, during the months of February and March. The fruit is collected by spreading a cloth upon the ground, and beating the branches with a stick.

Mr. Browne, in his Travels in Africa, informs us that the Arabic name of the *lotos* is *Nebbek*, and that there are two sorts of it at Dár-foor, the largest of which is called *Nebbek-el-Arab*; the one a shrub the other a tree, both equally thorny. The latter bearing a smaller fruit than the former, of a darker colour and different flavour, which the natives eat both fresh and dry; for it dries on the tree and remains the greatest part of the winter months. In that state it is formed into a paste, of not unpleasant taste, and is a portable provision on journeys.

The *lotos* of the Lotophagi must not be confounded with the Egyptian *lotos*, which is *Nymphæ'a Lòtus*, nor with the *lotos* of Homer and Dioscorides, which is a species of *Trifòlium*, nor with the *lotos* of Hippocrates, which is *Céltis austràlis*, nor with the Italian *lotos* which is *Diopyrus lòtus*.

Lotos of the Lotophagi or Jujube Lotus. Clt. 1731. Shrub 2 to 4 feet.

4 Z. mucrona'ta (Willd. enum. 251.) leaves ovate, cordate, crenated, smooth; prickles twin, one recurved; drupe somewhat globose. ♄. G. Native of the Cape of Good Hope, along the banks of the river Cariep. Z. bubalina, Licht. ex Schult. syst. 5. p. 334. Flowers greenish-yellow. Fruit red, eatable.

Mucronate-leaved Jujube. Clt. 1810. Tree 20 feet.

5 Z. heteroge'nea (Poir. suppl. 3. p. 193.) leaves ovate, acuminated, serrulated, shining; prickles twin, one recurved; pedicels solitary, 1-flowered. ♄. H. Native of Persia. Rhámnus heterogèneus, Burm. fl. ind. p. 61.—Pluk. alm. t. 312. f. 4. Flowers yellowish. Fruit eatable, pleasant.

Heterogeneous Jujube. Shrub.

6 Z. spìna-Chrísti (Willd. spec. 1. p. 1105.) leaves ovate, toothed, smooth, or pubescent beneath; prickles twin, spreading, one of which is straightish, the other somewhat incurved; peduncles corymbose, villously downy; drupe ovate-globose. ♄. H. Native of the north of Africa, in Palestine, and Ethiopia, also in date plantations, near Tozer, and in Egypt. Rhámnus spìna-Chrísti, Lin. spec. 282. Desf. fl. atl. 1. p. 201. Rhámnus Nabèca, Forsk. ægyp. 204. but not of Lin. Z. Africàna, Mill. dict. no. 4. Z. Napèca, Lam. dict. 3. p. 320. Nabca, Alp. eg. 2. t. 4. p. 10. Œnòplia spinòsa, Bauh. pin. 477. Ger. emac. append. t. 1605. Branches whitish. Flowers yellowish-green. Fruit oblong, about the size of a sloe, with a pleasant taste, furnishing a very pleasant food to the inhabitants of Egypt and Arabia. Hasselquist thinks this is the tree which afforded the crown of thorns put on the head of Christ, as it is common in the East, and is very fit for the purpose, being furnished with many sharp spines well adapted to give pain. The crown might be made of the round pliant branches, and what seems to be the greatest proof is, that the leaves much resemble those of ivy. But notwithstanding what Hasselquist says, we are still of opinion that the *Paliùrus aculeàtus* is the true Christ's-thorn.

Var. β, inérmis (D. C. prod. 2. p. 20.) prickles wanting; leaves large, very blunt. ♄. H.—Clus. hist. 1. p. 27.

Christ's-thorn. Fl. Aug. Sept. Clt. 1759. Shrub 8 feet.

7 Z. parvifòlia (Del. voy. à Meroe a fleuve blanc, paris 1826,

part. bot.) prickles twin, one of which is longer than the other and recurved; leaves entire, on short petioles, ovate, acute. ♄ . H. Native of Egypt, on the banks of the White river.

Small-leaved Jujube. Shrub.

8 Z. Nape'ca (Willd. spec. 1. p. 1104.) climbing; leaves obliquely cordate, bluntish, serrate, downy beneath; prickles twin, exceedingly sharp, one recurved, the other straight; corymbs axillary, many-flowered; flowers digynous. ♄ . ◡ . S. Native of Ceylon and other parts of the East Indies. Rhámnus Napèca, Lin. spec. 282.—Pluk. phyt. t. 216. f. 2.—Rumph. amb. 2. t. 42. Flowers yellowish. Fruit size of a pea, smooth, shining, black, marked round the base with a circular scar. They are eaten by the natives. The taste is very acid and astringent. Rumphius says that three berries are a strong purgative. It is seldom eaten but with salt meat, or as a sauce to fish and other food. A decoction of the bark of the root is said to promote the healing of fresh wounds. The tree is to be found in Prince of Wales' Island. At Silhet it is very common. The name is derived from *nabq* or *nabka*, the Arabic name of one of the species.

Napeca Jujube. Clt. 1816. Shrub cl.

9 Z. Bacle'i (D. C. prod. 2. p. 20.) leaves broad-ovate, acuminated, crenulated, smooth, or somewhat downy on the nerves and petioles; prickles usually twin, one of them recurved; corymbs axillary, smooth; drupe ovate-globose. ♄ . S. Native of Senegal. Flowers greenish-yellow. This is probably the *Lotos* which Mr. Mungo Park saw at the Gambia. Fruit eatable.

Bacle's Jujube. Shrub 8 feet.

10 Z. incu'rva (Roxb. fl. ind. 2. p. 364.) leaves oval, smooth, serrulate, obtusely-acuminated, oblique at the base; prickles twin, one straight, the other recurved; peduncles axillary, few or many-flowered; flowers semidigynous; petioles and nerves of leaves somewhat pubescent. ♄ . H. Native of Upper Nipaul at Suemba. Z. paniculàta, Hamilt. mss. Flowers yellowish-green. Fruit small, round, dark-purple.

Incurved-spined Jujube. Fl. Aug. Sep. Clt. 1823. Tree 20 ft.

11 Z. Javane'nsis (Blum. bijdr. 1142.) climbing; prickles solitary, recurved; leaves 5-nerved, elliptic-oblong, bluntish, doubly serrulated, smooth; corymbs axillary, dichotomous, and are, as well as the petioles, pubescent. ♄ . S. Native of Java, where it is called *Aroy Kokuhoelang*.

Java Jujube. Shrub cl.

12 Z. Timorie'nsis (D. C. prod. 2. p. 20.) leaves ovate-oblong, acuminated, oblique at the base, smooth on both surfaces, crenately-serrulated, 3-nerved; branches unarmed; corymbs axillary, about the length of the petioles. ♄ . S. Native of the island of Timor. Stigmas 2. Fruit unknown.

Timor Jujube. Tree.

13 Z. trine'rvia (Roxb. fl. ind. 2. p. 351.) unarmed; leaves ovate-oblong, 3-nerved, bluntly serrated, glossy; flowers in axillary fascicles; stigma 2-cleft; drupe spherical. ♄ . S. Native of Mysore, in the East Indies. Flowers numerous, small, greenish-yellow. Drupes spherical, size of a cherry, polished, of a lively yellow colour, with a soft, gelatinous, sweet pulp. This is the same as *Z. soròria*, Rœm. et Schult. syst. 5. p. 337. and trinérvia var. glabràta, Roth. nov. spec. 5. p. 337.

Three-nerved-leaved Jujube. Clt. 1821. Tree 20 feet.

14 Z. panicula'ta (Roth. nov. spec. 161.) leaves oblong-oval, somewhat acuminated, serrulated, scabrous, hairy beneath at the nerves; prickles twin, recurved; branches rising as it were beneath the leaves; panicle terminal, elongated, dichotomous; nut 1-seeded. ♄ . S. Native of the East Indies.

Panicled-flowered Jujube. Tree.

15 Z. ni'tida (Roxb. fl. ind. 2. p. 358.) leaves obliquely ovate-oblong, 3-nerved, obtusely-serrated, smooth; prickles twin, one recurved, the other straight; drupes subcylindrical; flowers few, collected on a common peduncle. ♄ . G. Native of China. Flowers yellow, semidigynous. Drupe oblong, pendulous, and smooth, about an inch long; when ripe, pale-yellow; they are eaten, but to the taste they are rather insipid. Innumerable suckers usually rise from the root, which run to a great distance from the parent tree, and make it a troublesome plant in a garden.

Shining-leaved Jujube. Clt. 1822. Shrub 8 feet.

16 Z. elli'ptica (Roxb. fl. ind. 2. p. 359.) leaves elliptical-ovate, 3-nerved, pale beneath, smooth; prickles twin, the upper one rather incurved, the under one recurved; corymbs axillary, dichotomous; flowers usually trigynous. ♄ . S. Native of the East Indies, at Travancore. Flowers greenish-yellow. Young shoots slightly villous and flexuous.

Elliptical-leaved Jujube. Fl. May, June. Tree 20 feet.

17 Z. gla'bra (Roxb. fl. ind. 2. p. 364.) climbing, smooth; leaves ovate, cordate, long, obtuse, pointed, serrulated, smooth, strongly marked with 3 nerves; prickles solitary, recurved; drupes oval. ♄ . G. Native of Chittagong, in the East Indies. Fruit about the size of a gooseberry.

Smooth Jujube. Shrub cl.

18 Z. flexuòsa (Wall. in fl. ind. 2. p. 365.) a smooth shrub, with spiny flexuous branches, and unarmed straight branchlets; prickles twin, one very long and straight, the other recurved; leaves lanceolate, obtuse, crenate, smooth; flowers axillary, usually solitary; style deeply bifid. ♄ . H. Native of Nipaul, at Gosaingsthan. An elegant shrub, with mahogany-coloured prickles. Flowers solitary or few in a fascicle, yellowish, rather large.

Zigzag-branched Jujube. Clt. 1820. Shrub 8 feet.

19 Z. Caracu'tta (Hamilt. ex Wall. in fl. ind. 2. p. 361.) leaves round, serrulated, 3-nerved, adult ones smooth, but rather villous when young; prickles twin, the under one recurved; peduncles axillary, many-flowered, very short; style 3-cleft; drupe oval, with a 3-celled nut. ♄ . S. Native of the East Indies, in the southern parts of Mysore, where it is called *Karakutta* by the natives. Young branches villous. Flowers greenish-yellow. Fruit the size of a large cherry, depressed a little at both ends, smooth, dark-brown; fleshy part tough, firm, and yellowish.

Karakutta Jujube. Fl. April. Clt. 1823. Tree 16 feet.

* * *Leaves downy beneath.*

20 Z. reticula'ta (D. C. prod. 2. p. 20.) leaves oval, somewhat toothletted, netted with veins, and downy beneath; prickles twin, straight; stigma usually 3-toothed; drupe globose. ♄ . S. Native of South America. Paliùrus reticulàtus, Vahl. eclog. amer. 3. p. 6. t. 23. Flowers greenish-yellow. Fruit eatable.

Netted-leaved Jujube. Shrub.

21 Z. rugòsa (Lam. dict. 3. p. 319.) leaves broad-oval, wrinkled, serrulated, sometimes smooth, sometimes downy beneath; prickles usually twin, recurved; corymbs stalked, dichotomous, downy. ♄ . S. Native of the East Indies.—Pluk. alm. t. 29. f. 7. This species is said to come very near *Z. xylocárpa*.

Wrinkled-leaved Jujube. Shrub 6 feet.

22 Z. hórrida (Roth. nov. spec. 159.) leaves ovate, blunt, crenulate, pubescent beneath at the ribs; prickles twin or solitary, recurved; corymbs dichotomous, axillary, and lateral. ♄ . S. Native of the East Indies.

Horrid Jujube. Shrub.

23 Z. celtidifòlia (D. C. prod. 2. p. 20.) leaves ovate, oblique at the base, upper ones acuminated, almost entire, 3-nerved, lateral nerves bifid at the base, and are, as well as the petioles and branchlets, pubescent; prickles usually solitary, recurved, quite smooth; corymbs axillary. ♄ . S. Native of the island of Timor. This is very like *Z. Œnóplia*, and is perhaps the *Z. glabràta* of Heyne and Roth. nov. spec. 158?

Nettle-tree-leaved Jujube. Tree.

§ 2. *Leaves silky or downy beneath.*

24 Z. Œnóplia (Mill. dict. no. 3.) leaves unequally ovate-cordate, entire, acute, 3-nerved, covered with rusty down beneath; prickles solitary, recurved; branchlets pubescent; flowers crowded in the axils of the leaves. ♄. G. Native of various parts of India. Rhámnus Œnóplia, Lin. spec. 282.—Burm. zeyl. t. 61. Flowers minute, greenish-yellow. Fruit small, black, ovate-globose, juicy.

Vinous Jujube. Clt.? Shrub 6 feet.

25 Z. tomentòsa (Roxb. fl. ind. 2. p. 360.) leaves unequally ovate-cordate, 3-nerved, obtuse, minutely-serrulated, hairy above, and downy beneath; panicles lateral; prickles solitary, scarcely curved. ♄. G. Native of Chittagong, in the East Indies, where it is used for fences.

Downy Jujube. Shrub 8 feet.

26 Z. xylo'pyrus (Willd. spec. 2. p. 11.) leaves obliquely-cordate, 3-nerved, serrated, clothed with hoary down beneath, as well as the branchlets and petioles; prickles stipular when present, the one recurved, the other straight; corymbs axillary, many-flowered, downy. ♄. S. Native on the coast of Coromandel, common in every forest. Rhámnus xylópyrus, Retz. obs. 2. p. 11. Flowers greenish-yellow. Fruit the size of a large cherry, greenish, and downy, marked round the base with the remains of the nectary, containing a 3-celled, 3-valved, 3-seeded nut. Cattle eat the leaves, young shoots, and fruit. The kernels taste like filberts, and are eaten by the natives. The wood of the largest trees is much esteemed by them, being yellowish or orange-coloured, very hard, and durable, and at the same time not very heavy.

Pear-wood Jujube. Clt. 1824. Tree 20 feet?

27 Z. a'lbens (Roxb. fl. ind. 2. p. 356.) leaves obliquely-oval, serrulated, downy beneath; corymbs axillary, on long peduncles; corolla wanting; style 2-cleft; fruit drooping, smooth, white; prickles solitary, recurved. ♄. G. Native of China. Drupe the size of a small cherry. The pulp rather mealy and sweet.

White-fruited Jujube. Fl. year. Tree 20 feet.

28 Z. latifòlia (Roxb. fl. ind. 2. p. 355.) leaves oval, serrated, 3-nerved, downy beneath, unequal at the base; prickles solitary, short, thick, recurved; corymbs panicled, terminal; corolla wanting; drupe turbinate; nut 1-2-celled. ♄. S. Native of the East Indies, in the mountainous tracts of the Circars. Dr. Wallich found a tree so closely allied to this in Nipaul at Noakote and Silhet that he dare not separate them; he ascertained that Roth's *Z. obliqua* is this very species, and *Z. paniculàta* of the same individual to be hardly distinct. Drupe yellow, size of a small cherry, usually 1-celled and 1-seeded. Those of the Nipaul plant are eaten by the natives.

Broad-leaved Jujube. Shrub 12 feet.

29 Z. Ju'juba (Lam. dict. 3. p. 318.) leaves obliquely-ovate, serrated, downy below, as well as the young branches, hoary; prickles twin, the one recurved, the other straight; corymbs axillary, almost sessile. ♄. G. Native of India, and cultivated in China and Cochin-china. Rhámnus Jùjuba, Lin. spec. 282.—Rumph. amb. 2. t. 36.—Rheed. mal. 4. t. 41. Flowers greenish-yellow. Drupe globular, size of a large cherry, smooth, yellow when ripe, containing a 2-celled, 1-seeded nut. There is a variety of this, or a new species, in the East Indies, which produces an excellent fruit of a long form, about the size of a hen's egg, known by the name of *Narikellekool* in Bengal. The fruit of both varieties is eaten by all classes of persons. It is sweet and mealy. The bark of the tree is said to be used in the Moluccas in diarrhœa, and to fortify the stomach, which seems to confirm the astringent properties of the bark of most of the plants of this order.

Jujube-tree. Fl. April, May. Clt. 1759. Tree 16 feet.

30 Z. soròria (Schult. syst. 5. p. 337.) leaves roundish-ovate, obtuse, mucronate, serrulated, downy beneath; prickles wanting; corymbs axillary, divaricating, dichotomous; stigma simple. ♄. S. Native of the East Indies. Z. trinérvia, var. *α*, Roth, nov. spec. 5. p. 337. Allied to *Z. Jùjuba*. Fruit eatable.

Sister Jujube. Fl.? Clt. 1821. Tree 16 feet.

31 Z. microphy'lla (Roxb. fl. ind. 2. p. 362.) leaves roundish-ovate, 3-nerved, serrulated, woolly beneath; prickles twin, one straight, the other recurved; branchlets bifarious, flexuous; flowers fascicled; stigma 2-cleft. ♄. S. Native on the coast of Coromandel, as well as of Ceylon. Z. rotundifòlia, Lam. dict. 3. p. 319. Z. nummulàrius, Gmel. syst. 401?—Pluk. alm. 199. t. 197. f. 2.—Rhámnus nummulària, Burm. ind. 61. Flowers greenish-yellow.

Small-leaved Jujube. Shrub 4 feet.

32 Z. orthaca'ntha (D. C. prod. 2. p. 21.) leaves ovate, almost entire, obtuse, covered with short hoary down beneath, as well as branchlets and petioles; prickles twin, straight; corymbs axillary, downy. ♄. S. Native of Senegal. Flowers greenish-yellow. Drupe reddish, round, about the size of a filbert, and is eaten by the natives of Senegal, as well as made into a sort of drink by them, resembling that made from *Z. Lòtus*, which see, no. 3.

Straight-prickled Jujube. Tree 16 feet.

33 Z. orbicula'ris (Schult. syst. 5. p. 338.) leaves cordate, orbicular, or somewhat ovate, obtuse, mucronate, downy, equally and bluntly serrulated; prickles solitary, recurved; corymbs axillary, conglomerated, dichotomous; fruit downy, containing a 3-celled nut. ♄. S. Native of the East Indies. Z. rotundifòlia, Roth. nov. spec. 160. but not of Lam. Flowers greenish-yellow.

Orbicular-leaved Jujube. Tree?

34 Z. Poire'tti; leaves ovate-roundish, sharply serrulated, downy beneath, as well as the branches, petioles, and flowers; prickles twin, one recurved, the other straight; corymbs axillary; fruit subglobose, smooth. ♄. S. Native of St. Domingo. Z. tomentòsa, Poir. suppl. 3. p. 192. but not of Roxb.

Poirett's Jujube. Tree?

35 Z. rotunda'ta (D. C. prod. 2. p. 21.) leaves ovate, obtuse, rather oblique at the base, somewhat crenulated, clothed beneath with greyish-velvety down, as well as the petioles, branchlets, and flowers; prickles twin, the one recurved, the other straight; corymbs axillary; fruit ovate, blunt, smooth. ♄. S. Native of the Mauritius, in woods. Rhámnus Mauritiànus, Willem. herb. Maur. p. 20? Flowers yellowish.

Rounded-fruited Jujube. Tree 12 feet?

36 Z. Mauritia'na (Lam. dict. 3. p. 319.) leaves oval, roundish, obtuse, almost entire, clothed beneath with dense white or somewhat rusty down, as well as the petioles, branchlets, and flowers; prickles twin, one recurved, the other straight; corymbs axillary; fruit oblong, acuminated. ♄. S. Native of the Mauritius. Flowers yellowish. Resembling *Z. Jùjuba*.

Mauritian Jujube. Fl. May. Clt. 1820. Tree 16 feet?

37 Z. oxyca'rpa (D. C. prod. 2. p. 21.) leaves ovate, somewhat acute, tapering to the base, and oblique, sharply serrulated, hoary-velvety beneath, as well as the petioles and branchlets; prickles twin, the one recurved, the other straight; corymbs axillary; fruit oblong, acuminated. ♄. S. Native of the East Indies, and in the Indian Archipelago. (Labill.) This species resembles *Z. Œnóplia* in the leaves, but *Z. Mauritiàna* in the fruit.

Sharp-fruited Jujube. Shrub 12 feet?

38 Z. e'legans (Wall. in fl. ind. 2. p. 360.) erect, nearly unarmed, with filiform pubescent branches, and bifarious, lanceolate, serrulated, bluntly-acuminated leaves, which are smooth above, and pubescent beneath. ♄. S. Native of Singapore. The fruit and flowers of this elegant shrub are unknown.

Elegant Jujube. Shrub 6 feet?

39 Z. EXSE'RTA (D. C. prod. 2. p. 21.) leaves ovate, serrulated, downy beneath; prickles wanting; corymbs axillary; calyx with 10 glands on the inside; stamens twice or thrice longer than the petals. ♄. S. Native of the island of Luzon, near Manilla. Rhámnus trinérvis, Cav. icon. t. 505. f. 1. but not of Roth. Z. trinérvis, Poir. suppl. 3. p. 192. Stigmas 2, thickened. Berry ovate, 1-celled, 1-seeded.

Protruding-stamened Jujube. Shrub or Tree.

† *Species not sufficiently known.*

40 Z. ANGULA'TA (Lam. dict. 3. p. 320.) leaves roundish-oval, a little toothed, smooth on both surfaces; prickles twin, straight; branches tetragonal, with prominent angles. ♄. S. Native of? Flowers, as well as fruit, unknown.

Angular-stemmed Jujube. Shrub?

41 Z. HAVANE'NSIS (H. B. et Kunth, nov. gen. amer. 7. p. 57.) branches 5-angled, twisted, flexuous, smooth; spines stipular, straight; leaves roundish-ovate, unequal-sided, somewhat cordate, 3-nerved, obsoletely-crenulated, coriaceous, smooth; calyxes clothed with rusty down. ♄. S. Native of the island of Cuba, near Havannah. Anthers behind. The tree has the habit of *Z. angulàta*, and will probably with it form a distinct genus, or form a section of *Ceanòthus*.

Havannah Jujube. Tree 20 feet.

42 Z. AGRE'STIS (Schult. syst. 5. p. 341.) leaves oblong, quite entire, smooth; prickles twin, straight, short; flowers racemose, apetalous; drupe globose, containing a 3-celled nut. ♄. G. Native of Cochin-china. Rhámnus agréstis, Lour. fl. coch. 158. Stamens surrounded by hairs. Drupe globose, red, eatable.

Field Jujube. Shrub 8 feet.

43 Z. SOPORÍFERA (Schult. syst. 5. p. 340.) leaves lanceolate, nerveless, quite entire; prickles scattered, straight; flowers axillary, solitary; drupe roundish, 1-seeded. ♄. G. Native of the north of China. Rhámnus sopórifer, Lour. fl. coch. 158. According to Loureiro it comes very near to the figure in Rumph. amb. 2. t. 37. which has been considered *Z. Napèca* by Linnæus. Flowers reddish. Drupe small, red. The kernel of the nut, steeped a few days, is hypnotic and paregoric, causes gentle sleep, and mitigates pain.

Sleepy Jujube. Shrub.

44 Z. CAPE'NSIS (Poir. suppl. 3. p. 193.) leaves ovate-oblong, smooth; prickles twin, straight; flowers digynous; stem shrubby. ♄. G. Native of the Cape of Good Hope.

Cape Jujube. Shrub 4 feet.

Cult. The hardy kinds will grow in any common garden soil; they are well adapted for shrubberies, and are easily increased by ripened cuttings, planted in a good soil, with a hand-glass placed over them, or by slips of the roots, planted in the same manner. The greenhouse and stove species will grow well in a mixture of loam, peat, and sand, and ripened cuttings will root, planted in a pot of sand, with a hand-glass placed over them, but those of the stove species will require to be placed in heat.

III. SPHÆROCA'RYA (from σφαιρα, *sphaira*, a sphere, and καρυον, *caryon*, a nut; nuts round). Wall. fl. ind. 2. p. 371.

LIN. SYST. *Pentándria, Monogýnia.* Calyx 5-parted. Petals 5, alternating with the stamens, inserted in the calyx, and with 5 fringed scales between the stamens and opposite the calycine segments. Stamens 5, inserted in the calyx. Disk none. Drupe pear-shaped, containing a smooth round nut.—A large tree, with alternate, ovate, entire, smooth, exstipulate leaves, and axillary and terminal villous racemes of small greenish, inodorous flowers.

1 S. EDU'LIS (Wall. l. c.). ♄. G. Native of Nipaul in the forests, about the valley. The flesh of the fruit is pale-brown, and the inhabitants of Nipaul are very fond of it, which, however, to a European palate, holds out but little temptation.

Edible-fruited Sphærocarya. Tree 40 feet.

Cult. For culture and propagation see greenhouse species of *Zizyphus*.

IV. CONDA'LIA (in honour of Anthony Condal, M. D. companion of Lœfling in his voyages). Cav. icon. 6. p. 16. t. 525. D. C. prod. 2. p. 28. Brogn. mem. Rham. p. 48.

LIN. SYST. *Pentándria, Monogýnia.* Calyx spreading, 5-cleft (f. 4. C. *a.*), adhering to the ovary; segments deciduous, but with the base permanent. Petals wanting. Anthers bilocular (f. 4. C. *e.*). Stamens alternating with the sepals (f. 4. C. *e.*). Style 1. Disk flat, expanded (f. 4. C. *c.*), pentagonal. Ovary girded by the disk, free, 2-celled (f. 4. C. *d.*). Stigma small, entire. Fruit drupaceous, ovate, containing a 1-celled, 1-seeded nut (probably from abortion?). Seed ovate, destitute of a furrow.—Much branched, smooth shrubs, with spiny branchlets, alternate, almost sessile, obovate-oblong, entire leaves, and axillary flowers. This genus differs from *Zizyphus*, to which it is nearly allied, in being destitute of petals, as well as in the style and stigma being simple.

1 C. MICROPHY'LLA (Cav. l. c.) leaves alternate, almost sessile, obovate-oblong, mucronate. ♄. G. Native of Chili. Zízyphus myrtoìdes, Ort. dec. 9. p. 119. Branches spreading, spiny at the apex. Flowers on short pèdicels, greenish-yellow.

Small-leaved Condalia. Clt. 1824. Shrub 3 feet.

2? C.? PARADÓXA (Spreng. syst. 1. p. 825.) leaves opposite, connate, thick, decurrent, stiff, pungent; peduncles lateral, crowded. ♄. S. Native of Monte Video.

Paradoxical Condalia. Shrub 4 feet.

Cult. These shrubs will grow well in a mixture of loam, peat, and sand, and ripened cuttings will root freely, planted in a pot of sand, with a hand-glass placed over them.

V. BERCHE'MIA (Berchem, probably the name of some botanist). Neck. elem. 2. p. 122. D. C. prod. 2. p. 22. Brogn. mem. Rham. 49.—Œnóplia, Hedw. f. gen. 1. p. 151.—Œnóplia, Schult. syst. 5. p. 962.

LIN. SYST. *Pentándria, Monogýnia.* Calyx with a hemispherical tube, and 5 erect segments (f. 4. E. *a.*). Petals 5, convolute (f. 4. E. *c. d.*). Stamens inclosed within the petals (f. 4. E. *c.*). Anthers ovate, 2-celled. Disk annular (f. 4. E. *f.*), rather flat. Ovary half immersed in the disk, 2-celled (f. 4. E. *e.*). Style simple, short, bifid at apex. Fruit dry, indehiscent, 2-celled (f. 4. E. *g.*). Seeds adhering to the testa of the pericarp.—Erect or climbing shrubs, with alternate, many-nerved, entire leaves, and with the flowers subumbellate in the axillæ of the upper leaves, or disposed in terminal panicles.

* *Climbing shrubs.*

1 B. VOLU'BILIS (D. C. prod. 2. p. 22.) branches smooth, a little twining; leaves oval, mucronate, a little wavy; racemes axillary and terminal; drupe oblong, violaceous. ♄. ◡. H. Native of Carolina and Virginia. Rhámnus volùbilis, Lin. fil. suppl. 132. Jacq. icon. rar. t. 336. Zízyphus volùbilis, Willd. spec. 1. p. 1102. Œnóplia volùbilis, Schult. syst. 5. p. 332. Flowers greenish-yellow. Authors attribute to the roots antisyphilitic properties.

Twining Berchemia. Fl. June, July. Clt. 1714. Shrub cl.

2 B. FLORIBU'NDA (Brogn. in mem. rhamn. p. 50.) unarmed, smooth, with rambling branches; leaves ovate, acute, quite entire, retuse at the base, glaucous beneath; panicle large, terminal; flowers racemose; drupe somewhat cylindrical. ♄. S. Native of Nipaul, at Thankote and Sankoo, and on Chundrugiri.

Zízyphus floribúndus, Wall. fl. ind. 2. p. 368. Flowers small, white.

Bundle-flowered Berchemia. Fl. May, July. Shrub rambl.

3 B. FLAVE′SCENS (Brogn. in mem. rhamn. p. 50.) unarmed, smooth, climbing; leaves oblong-ovate, acute, glaucous, quite entire; racemes terminal, simple; flowers fascicled. ♄. ◡. G. Native of Nipaul, about Gosainsthan. *Zízyphus flavéscens*, Wall. fl. ind. 2. p. 367. Flowers white.

Yellowish Berchemia. Fl. July. Shrub cl.

4 B. CALOPHY′LLA; climbing; armed with solitary, short, recurved prickles; leaves ovate-oblong, smooth, glossy, 3-nerved, veinless, minutely crenulated; corymbs terminal, panicled. ♄. ◡. S. Native of Pulo-Pinang. *Zízyphus calophýlla*, Wall. fl. ind. 2. p. 367.

Beautiful-leaved Berchemia. Fl. Jan. Shrub cl.

* * *Stems erect.*

5 B. LINEA′TA (D. C. prod. 2. p. 23.) branches downy, unarmed; leaves ovate, repand, netted beneath; flowers hermaphrodite. ♄. G. Native of China. Rhámnus lineàtus. Lin. amœn. 4. p. 308.—Osb. it. 219. t. 7. Leaves of a beautiful yellowish-green colour beneath, with red veins. Flowers whitish.

Lined-leaved Berchemia. Fl. June, July. Clt. 1804. Sh. 8 ft.

6 B.? POIRETTIA′NA (D. C. prod. 2. p. 23.) branches pubescent; stipulas small, spiny; leaves ovate, netted; flowers solitary; fruit roundish. ♄. S. Native of the East Indies. Rhámnus lineàtus, Poir. dict. 4. p. 473.—Pluk. alm. 1. p. 122. f. 4.

Poirett's Berchemia. Shrub 6 feet.

7 B. LOUREIRIA′NA (D. C. prod. 2. p. 23.) branches smooth, procumbent, with scattered prickles; leaves ovate, somewhat crenated, flat; flowers 10-petalled, pentandrous; drupes oblong-ovate, scabrous, 2-celled. ♄. G. Native of Cochin-china, in hedges and among bushes. Rhámnus lineàtus, Lour. fl. coch. 159. but not of Lin. Flowers white, numerous on the peduncles. Drupe small, red. A decoction of the root is deobstruent and diuretic.

Loureiro's Berchemia. Shrub 8 feet, trailing.

N.B. *B. Burmanniàna*, D. C. prod. 2. p. 23., *Rhámnus*, &c. Burm. zeyl. p. 198. t. 88. belongs to *Euphorbiàceæ* not far from *Andráchne*.

Cult. *B. volùbilis* will grow in any common soil, and is well adapted for bowers or trellis-work. It may be increased by ripened cuttings, and slips of the root, planted under a hand-glass, or by laying down the young shoots. The other species will grow freely in a mixture of loam and peat, and ripened cuttings will strike root in a pot of sand, under a hand-glass.

VI. VENTILA′GO (from *ventilo*, to be exposed to wind, and *ago*, to drive away; in allusion to the fruit being winged, which causes them to be scattered away by the wind). Gært. fruct. 1. p. 223. t. 49. Brogn. mem. Rhamn. p. 50. D. C. prod. 1. p. 38.

LIN. SYST. *Pentándria, Monogýnia.* Calyx spreading, 5-cleft (f. 4. D. *c*.). Petals 5, obovate, convolute (f. 4. D. *a*.). Stamens exserted (f. 4. D. *b*.). Anthers ovate, 2-celled. Disk fleshy, flat. Ovary immersed in the disk, 2-celled. Style compressed, short, bidentate (f. 4. D. *j*.). Fruit indehiscent, woody (f. 4. D. *h*.), 1-celled, 1-seeded, with the upper part drawn out into a wing (f. 4. D. *k*.).—Large, climbing shrubs, with stiff smooth branches, alternate, short-stalked, coriaceous, smooth, serrulated leaves, which are oblique at the base, and with the flowers disposed in long axillary racemes, which are either solitary, twin, or in threes.

1 V. MADRASPATA′NA (Gært. l. c.) leaves bifarious, ovate-oblong, serrulated; racemes disposed in terminal panicles. ♄. ◡. S. Native of the East Indies, in forests and other uncultivated places, amongst the mountains, very common in the north of Bengal. Roxb. cor. 1. t. 76. Flowers numerous, small, greenish-white. This plant is generally dioecious. The smell of the flowers is very offensive, not unlike that of *Stercùlia fœ′tida*. While young the stem and flexuous branches are striped with white lines, which elegantly contrast with the smooth green bark, not unlike what is observed in *A′cer striàtum*. This is most probably the *Fùnis viminàlis* of Rumph. amb. 3. t. 2.

Var. β, *denticulàta* (Willd. in nov. act. berl. 3. p. 417.) leaves crenulated, pubescent beneath. ♄. ◡. S. Native of the East Indies near Samulcotta.

Var. γ, *bracteàta* (Heyne, mss.) floral leaves long, villous. ♄. ◡. S. Native of Silhet in the East Indies.

Madras Ventilago. Fl. June, July. Clt. 1822. Shrub cl.

2 V. CINERA′SCENS; leaves full of parallel veins, oval, acute, quite entire, smooth, cinereous beneath; racemes terminal; pedicels in fascicles. ♄. ◡. S. Native of Java. Rhámnus cineráscens? Blum. bijdr. 1141.

Cinereous Ventilago. Shrub cl.

3 V. OBLONGIFÒLIA (Blum. bijdr. 1144.) leaves oblong, acuminated, obliquely rounded at the base, serrated, tomentose in the axils of the veins beneath; racemes interrupted, leafy. ♄. ◡. S. Native of Java.

Oblong-leaved Ventilago. Shrub cl.

Cult. See *Berchèmia* for culture and propagation.

VII. SEGERE′TIA (named in honour of M. Segeret, member of the Royal Agricultural Society of Paris, a vegetable physiologist). Brogn. mem. Rhamn. p. 52.

LIN. SYST. *Pentándria, Monogýnia.* Calyx pitcher-shaped, 5-cleft (f. 4. F. *a*.). Petals 5, convolute or cucullate (f. 4. F. *c*.). Stamens bearing ovate, 2-celled anthers (f. 4. F. c.). Disk fleshy, cup-shaped, girding the ovary. Ovary almost immersed in the disk, 3-celled (f. 4. F. *d*.). Style short, thick (f. 4. F. *g*.). Fruit unknown. Stigmas 3, sessile, or 3-lobed.—Shrubs with slender branches, which are usually spinescent. Leaves nearly opposite, on short petioles, lanceolate, or oblong, serrated, feather-nerved. Flowers small, solitary, or glomerated, disposed in simple or branched, interrupted, stiff, spreading, axillary, or terminal spikes.

* *Spiny.*

1 S. THEE′SANS (Brogn. in mem. rhamn. p. 53.) branches divaricate, spiny at the apex; leaves ovate, smooth, serrulated; flowers somewhat panicled, glomerated, in terminal spikes. ♄. G. Native of China. Rhámnus theèsans, Lin. mant. 207. R. thèa, Osb. itin. 232. Flowers greenish? The poor in China make use of the leaves of this plant instead of the true tea, probably from its astringency and perfume. They call it *Tia*.

Var. β, *intègra;* leaves entire, mucronate. ♄. G. Dum. Cours. bot. cult. 6. p. 258.

Tea Segeretia. Fl. May, June. Clt.? Shrub 4 feet.

2 S. SPICA′TA (Brogn. in mem. rhamn. p. 53.) branches cylindrical, smooth, lateral ones spiny; leaves lanceolate, acuminated, serrulated, quite smooth, with 2 stipulas at the base of each; spikes simple, stiff, divaricate, axillary, and terminal. ♄. S. Native of Peru.

Spicate-flowered Segeretia. Shrub 4 feet.

3 S. BLU′MII; leaves veiny, nearly opposite, ovate-lanceolate, acuminated, rather cordate at the base, serrulated, shining above, young ones furfuraceous beneath; spikes axillary, filiform, hardly longer than the leaves, and terminal, panicled. ♄. S. Native of the East Indies and Java. Rhámnus filifórmis, Roth. nov. spec. 153.? Blum. bijdr. 1140.

Blume's branched Segeretia. Shrub 6 feet.

4 S. OPPOSITIFÒLIA (Brogn. mem. rhamn. p. 53.) branches round, climbing; leaves and branches truly opposite, and with short straight thorns, which grow out into branches; leaves ovate-lanceolate, serrulated, acuminated, somewhat retuse at the base; racemes axillary and terminal, short, villous, the whole forming a pretty large brachiate panicle; flowers fascicled. ♄. ◡. G. Native of Nipaul at Cokurna in the valley. Zízyphus oppositifòlia, Wall. fl. ind. 2. p. 370. Flowers greenish.

Opposite-leaved Segeretia. Fl. Aug. Sept. Shrub cl.

5 S. AFFI'NIS; leaves veiny, nearly opposite, ovate-oblong, long-acuminated, rounded at the base, serrulated, smooth; spikes panicled, axillary, and terminal, shorter than the leaves. ♄. S. Native of Java. Rhámnus affinis, Blum. bijdr. 1141.

Allied Segeretia. Shrub 8 feet.

6 S. HAMÒSA (Brogn. mem. rhamn. p. 53.) branches round, climbing, opposite; spines hooked; leaves oblong, acuminated, serrulated, villous at the origin of the nerves; flowers fascicled, disposed in short, panicled, villous, terminal racemes. ♄. ◡. G. Native of Nipaul, at Chundrugiri, where it climbs over trees and shrubs to a great extent. Zízyphus hamòsa, Wall. fl. ind. 2. p. 369. Thorns slightly curved. Flowers greenish.

Hooked-thorned Segeretia. Fl. Aug. Shrub cl.

7 S. TRI'GYNA; climbing; branches round; leaves ovate, acuminated, smooth, shining, serrulated, retuse at the base; flowers glomerate, disposed in spikes, forming a terminal panicle; petioles and branchlets pubescent; styles 3. ♄. ◡. G. Native of Nipaul, in mountain woods. Rhámnus trígynus and terminàlis, Hamilt. in D. Don, prod. fl. nep. p. 190. Shrub spinose.

Trigynous Segeretia. Fl. Aug. Sept. Shrub cl.

8 S. GUAYAQUILE'NSIS (Brogn. mem. rhamn. p. 53.) much branched; branches quadrangular; spines scattered, awl-shaped; leaves elliptical, mucronate, hoary beneath; flowers sessile, scattered on the spikes; stigmas 3. ♄. S. Native on the shore of the Pacific ocean, near Guayaquil. Rhámnus Guayaquilénsis, H. B. et Kunth, nov. gen. amer. 7. p. 54.

Guayaquil Segeretia. Shrub 6 feet.

9 S. SENTICÒSUS (Brogn. mem. rhamn. p. 53.) shrub very spiny, almost leafless; branches round; spines decussately-opposite, very long; leaves ovate, somewhat quintuple, nerved; flowers rising above the base of the spines in glomerated fascicles; stigma trifid. ♄. S. Native of Peru, in hot places, near Contumasay. Collètia spicàta, Willd. in Schult. syst. 5. p. 513. Rhámnus senticòsus, H. B. et Kunth, nov. gen. amer. 7. p. 54. Fruit globose, 1-3-seeded. Flowers green.

Thorny Segeretia. Shrub 6 feet.

10 S. DECUSSA'TA; branches angular, elongated; leaves ovate-oblong, acute, quite entire, somewhat coriaceous, quite smooth; spines axillary, decussate, spreading, stiff; flowers disposed on long spikes; spikes conjugate at the base of the spines, and are 3-times longer than them. ♄. S. Native of Peru. Rhámnus decussàta, herb. Pav. This is probably the same as the preceding species.

Decussate-spined Segeretia. Shrub 6 feet.

* * *Unarmed.*

11 S. E'LEGANS (Brogn. mem. rhamn. p. 53.) lower leaves truly opposite, ovate-oblong, acuminated, rounded at the base, serrulated, smooth, shining; panicles axillary and terminal, simple; flowers glomerate, spiked; stigmas 3, sessile. ♄. S. Native of South America, but in what place is unknown. This plant is probably spiny? Rhámnus élegans, Kunth.

Elegant Segeretia. Shrub.

12 S. SPLE'NDENS; climbing; leaves veiny, ovate, bluntly acuminated, somewhat cordate at the base, crenulated; cymes axillary, bifid, shorter than the petioles. ♄. ◡. S. Native of Java. Rhámnus spléndens, Blum. bijdr. 1140.

Splendid Segeretia. Shrub cl.

13 S. LANCEOLA'TA; arborescent; leaves lanceolate, serrulated, acute at both ends and pubescent beneath. ♄. H. Native of North America, in Tennessee, on the sides of hills. Rhámnus lanceolàtus, Pursh, fl. bor. amer. 1. p. 166. Berries black.

Lanceolate-leaved Segeretia. Tree 16 feet.

14 S. MICHA'UXII (Brogn. mem. rhamn. p. 53.) leaves oval, serrulated; flowers very minute, dioecious, disposed in spikes, sessile; style trifid; berry 3-seeded. ♄. H. Native of Carolina and Florida, on the sea coast. Rhámnus minutiflòrus, Michx. fl. bor. amer. 1. p. 154. Flowers white.

Michaux's Segeretia. Shrub 6 feet.

15 S. FILIFÓRMIS; leaves ovate-lanceolate, serrulated, shining, with the ribs beneath, as well as the petioles, pubescent; flowers hermaphrodite, disposed in filiform spikes, the whole forming a panicle. ♄. S. Native of the East Indies. Rhámnus filifórmis, Roth. nov. spec. 153.

Filiform-spiked Segeretia. Shrub.

16 S. PARVIFLÒRA; leaves somewhat coriaceous, shining, serrated, ovate, acuminated; flowers disposed in loose spikes, the whole forming a panicle. ♄. S. Native of the East Indies. Rhámnus parviflòrus, Klein. et Willd. in Schult. syst. 5. p. 294.

Small-flowered Segeretia. Shrub.

17 S.? CORYMBÒSA; leaves coriaceous, elliptical, a little serrated; flowers corymbose, on peduncles. ♄. S. Native of the East Indies. Rhámnus corymbòsus, Vahl.

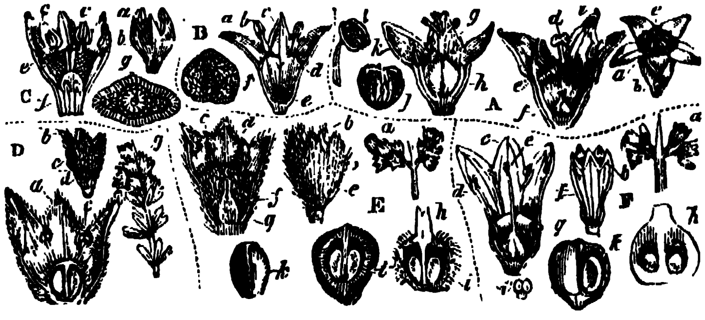
Corymbose-flowered Segeretia. Shrub.

18 S. LEPRÒSA; climbing, adult branches spiny; leaves veiny, nearly opposite, ovate, somewhat cordate, obtuse, serrated, smooth; young ones densely furfuraceous; pedicels 1-flowered, axillary, solitary. ♄. ◡. S. Native of Java. Rhámnus lepròsus, Blum. bijdr. 1139.

Leprous Segeretia. Shrub cl.

Cult. The hardy kinds of this genus are well fitted for shrubberies; they are increased by ripened cuttings or slips of the roots, planted under a hand-glass, but they are generally propagated by laying the branches. For the culture and propagation of the stove and greenhouse species see *Berchèmia*, p. 28.

FIG. 5.



VIII. RHA'MNUS (from the Celtic word *ram*, signifying a tuft of branches, which the Greeks have changed to ῥάμνος, and the Latins to *ramus*). Lam. dict. 4. p. 461. ill. t. 128. Gært. fruct. 2. p. 106. D. C. prod. 2. p. 23. Brogn. mem. rhamn. p. 53.

LIN. SYST. *Pentándria, Monogýnia.* Calyx urceolate, 4-5-cleft (f. 5. C. *b.* A. *a.*). Petals wanting or emarginate (f. 5. *C. c.*). Stamens bearing ovate 2-celled anthers (f. 5. A. *d.* B. *b.*). Disk thin, covering the tube of the calyx (f. 5. B. *d.* A. *e.* C. *e.*). Ovary free, 3-4-celled (f. 5. A. *h. f.*). Styles 3-4 (f. 5. A. *g.*), connected or free. Fruit baccate, containing 3-4-indehiscent nuts (f. 5. A. *j.* B. *f.*), rarely only 2 from abortion.—Small trees, or shrubs, with alternate, stipulate, short, stalked, entire or toothed, usually smooth leaves, which are permanent and coriaceous, or caducous, with feather nerves; in those with the permanent leaves the nerves are either vaguely branched, or in others approximating. Plants possessing strong purgative qualities.

Sect. I. Marcore'lla. Neck. elem. 2. p. 122. Rhámnus and Alatérnus of Tourn. Flowers usually dioecious, and 4-cleft. Seeds deeply furrowed with the raphe in the bottom of the furrow. Embryo curved. Leaves usually permanent, vaguely veined.

§ 1. *Alatérnus* (from *alternus*, alternate; leaves). *Tourn. inst. t.* 366. *Flowers racemose, 5-cleft* (f. 5. A. *a. e.*). *Evergreen shrubs.*

1 R. ALATE'RNUS (Lin. spec. 281.) leaves ovate-elliptical or lanceolate, coriaceous, quite smooth, serrated; flowers dioecious, disposed in short racemes. ♄. H. Native of the south of Europe and the north of Africa. Duh. ed. nov. 3. p. 42. t. 14. Alatérnus Phýlica, Mill. dict. no. 1. fig. t. 16. f. 1. Flowers green, without any corolla.

Var. α, Baleáricus (Hort. par.) leaves roundish; stipulas awl-shaped, and are, as well as the branchlets, somewhat spiny. Rh. rotundifòlius, Dum. Cours. 6. p. 260.

Var. β, Hispánicus (Hort. par.) leaves ovate, a little toothed.

Var. γ, vulgàris (D. C. prod. 2. p. 23.) leaves ovate, serrated.

Var. δ, angustifòlius (Mill. fig. t. 16. f. 2.) leaves almost linear-lanceolate. ♄. H. Rh. Clùsii, Willd. enum. 1. p. 250. —Clust. hist. 1. p. 50. Lob. icon. 2. t. 134.

There are several other varieties, as 1. The *Smooth* Alaternus. 2. The *Entire-leaved* Alaternus. 3. The *Spotted-leaved* Alaternus. 4. The *Gold-striped-leaved* Alaternus. 5. The *Silver striped-leaved* Alaternus.

The flowers of *Alatérnus* are said not to be perfectly dioecious. The fresh shoots and leaves will dye wool yellow. The honey breathing blossoms, says Evelyn, afford an early and marvellous relief to the bees, as they open in April. Clusius reports that the fishermen in Portugal dye their nets red with a decoction of the bark; and that dyers there use small pieces of the wood to strike a blackish-blue colour. The *Alatérnus* was much more in request formerly than at present, having been planted against walls in court-yards to cover them, as also to form evergreen hedges in gardens, for which purpose it is very improper, for the branches shoot too vigorously, and are easily broken, and displaced by the wind. It is still, however, used in towns for covering walls, but chiefly to make a variety in ornamental plantations.

Alaternus. Fl. April, June. Clt. 1629. Shrub 20 feet.

2 R. HY'BRIDUS (Lher. sert. t. 5.) leaves oblong, acuminated, serrated, smooth, shining, hardly permanent, rather coriaceous; flowers andrógynous. ♄. H. This plant has been raised in the gardens from *R. alatérnus* and *R. alpìnus*. R. Burgundiacus, Hort. par. R. sempervìrens, Hortulan. Flowers green.

Hybrid Alaternus. Fl. April, June. Clt. 1629. Shrub 12 ft.

3 R. GLANDULÒSUS (Ait. hort. kew. 1. p. 265.) leaves ovate, bluntly-serrated, smooth beneath, in the axillæ of the lower veins glandular; flowers hermaphrodite, racemose. ♄. G. Native of the Canary islands, in woods on the mountains. Vent. malm. t. 34. Flowers green.

Glandular-leaved Alaternus. Fl. Ju. Jul. Clt. 1785. Sh. 15 ft.

4 R. INTEGRIFÒLIUS (D. C. cat. hort. monsp. p. 136. exclusive of the country,) leaves elliptical-oblong, mucronate, quite entire; flowers hermaphrodite, racemose. ♄. G. Native of Teneriffe, on the highest peak. R. coriàceus, Nees hort. phys. p. 114. t. 22. Brouss. in Rœm. et Schult. syst. 5. p. 291. Young leaves flat, adult ones boat-shaped. Flowers green, apetalous.

Entire-leaved Alaternus. Clt. 1822. Shrub 2 feet

5 R. INCA'NUS (Roxb. fl. ind. 2. p. 350.) leaves ovate-lanceolate, entire, smooth above, hoary beneath; corymbs on small axillary branchlets; flowers hermaphrodite; style 3-cleft. ♄. S. Native of the Moluccas. Flowers very numerous, small, greenish-yellow. Calyx villous on the outside.

Hoary Buck-thorn. Shrub 10 feet.

§ 2. *Rhámnus* (see genus for derivation). *Flowers in fascicles, 5-cleft.*

6 R. LONGIFÒLIUS (Link. enum. 1. p. 228. Dum. Cours. bot. cult. 6. p. 260.) leaves oval-oblong, acute at both ends, serrated, smooth, shining, pilose in the axillæ of the veins beneath. ♄. H. Native of? R. Willdenoviànus, Rœm. et Schult. syst. 5. p. 295. Flowers green.

Long-leaved Buck-thorn. Fl.? Clt. 1822. Shrub 8 feet.

7 R. PRINOÌDES (Lher. sert. 6. t. 9.) leaves ovate-lanceolate, acuminated, serrated, shining; flowers on pedicels, axillary, usually twin, polygamous. ♄. G. Native of the Cape of Good Hope. Zizyphus lùcidus, Mœnch. suppl. 101. Drupe black. Stigmas 3. Flowers green or white.

Prinos-like Buck-thorn. Fl. Aug. Sept. Clt. 1778. Sh. 10 ft.

8 R. CELTIDIFÒLIUS (Thunb. fl. cap. 2. p. 72.) leaves ovate, serrated, smooth; flowers on pedicels, axillary, solitary, apetalous. ♄. G. Native of the Cape of Good Hope.—Burm. afr. t. 88. Flowers green.

Celtis-leaved Buck-thorn. Fl. April, June. Clt.? Shrub.

§ 3 *Flowers* 4-*cleft* (f. 5. B. *a. c.*), in fascicles.

* *Branchlets terminating in a thorn.*

9 R. CATHA'RTICUS (Lin. spec. 280.) erect; leaves ovate, toothed; flowers in fascicles, polygamo-dioecious, berries 4-seeded, rather globose. ♄. H. Native of Europe, in hedges and groves; plentiful in England. Smith, engl. bot. t. 1629. Woodv. med. bot. t. 114. Oed. fl. dan. t. 850. Duh. ed. nov. 3. t. 10. This is the white-thorn of the modern Greeks. It is a rigid bush; its branches terminating in strong thorns. There is a variety of it with 5-cleft flowers, and unarmed branches. The flowers yellowish-green, with very narrow petals, and a deep 4-cleft style. Berries globular, blueish-black when ripe, size of a pea. The juice of the unripe berries has the colour of saffron, and is used for staining maps or paper; these are sold under the name of French berries. The juice of the ripe berries mixed with alum is the sap-green of the painters; but if the berries be gathered late in the autumn the juice is purple. The bark affords a beautiful yellow dye. The inner bark or liber, as well as the berries, like that of elder, is said to be a strong cathartic, and to excite vomiting. The berries are nauseous, and violently purgative, occasioning thirst and dryness in the mouth and throat, accompanied usually with severe griping of the bowels, unless some diluting liquor be taken plentifully with them. The juice made into a syrup is the officinal preparation called Buck-thorn. About an ounce of this is a moderate dose, and it was formerly employed as a hydrogogue; but it is now falling into disuse, and is rarely prescribed except in conjunction with other medicines of this class. It is said even that the flesh of birds which feed upon these berries is purgative.

Var. β, Hydriénsis (Jacq. carn. 2. t. 2.) larger leaves tapering to the base. ♄. H. Native about Hydria.

Purging Buck-thorn. Fl. May. Britain. Shrub 12 feet.

10 R. VIRGA'TUS (Roxb. fl. ind. 2. p. 351.) erect; branchlets terminating in a spine; leaves nearly opposite, oblong, ventricose, serrated; flowers around the base of the young shoots, and axillary, tern; stigmas 2-3-cleft. ♄. H. Native of Nipaul, and the Nelligery mountains. R. cathárticus, Hamilt. mss.

Leaves usually alternate. Flowers very small, yellow. Calyx seldom 5-cleft. Berries 2-3-seeded. Branches twiggy, the lateral branchlets terminated in a thorn.

Twiggy Buck-thorn. Fl. Ju. Jul. Clt. 1820. Shrub 12 ft.

11 R. TINCTÒRIUS (Walds. et Kit. pl. rar. hung. 3. p. 255.) erect; leaves ovate, crenate-serrated; petioles villous; flowers crowded, dioecious; berries obcordate, 3-4-seeded. ♄. H. Native of Hungary, in hedges. R. cardiospérmus, Willd. herb. Flowers greenish-yellow. The berries are used for dying as well as the inner bark.

Dyers' Buck-thorn. Fl. May, June. Clt. 1820. Sh. 8 feet.

12 R. INFECTÒRIUS (Lin. mant. 49.) procumbent or diffuse; leaves ovate-lanceolate, serrulated, smoothish; flowers dioecious, bearing petals in both sexes. ♄. H. Native of the south of Europe, in rough places, and in the fissures of rocks.—Clus. hist. 1. p. 111. with a figure.—Ardu. mem. 78. t. 14. Flowers greenish-yellow, with two reflexed stigmas. The unripe berries are much used for dyeing, and are imported in great quantities into England under the name of *Grain d'Avignon* or *Avignon berries.* They are what give the yellow colour to Turkey leather or yellow Morocco.

Dyers' or Avignon-berry. Fl. June, July. Clt. 1683. Shrub procumbent.

13 R. SAXA'TILIS (Lin. spec. 1671.) procumbent or erectish; leaves ovate-lanceolate, serrulated, smoothish; flowers dioecious, female ones destitute of petals. ♄. H. Native of the south of Europe, among rocks, in Austria, Switzerland, Italy, and Greece. Jacq. austr. t. 53. R. longifòlius, Mill. dict. Flowers greenish-yellow. Berries black, containing 3 whitish seeds, each inclosed in a dry whitish membrane, separating into two parts with elastic force. The unripe berries of the species are also supposed to be Avignon berries. See R. infectòrius. Branches with a few long thorns.

Rock Buck-thorn. Fl. June, July. Clt. 1752. Shrub procumbent.

14 R. OLEOÌDES (Lin. spec. 279.) diffuse or somewhat erect; leaves oblong, obtuse, entire, coriaceous, smooth, with netted veins beneath. ♄. H. Native of Sicily, Mauritania, Spain, and Greece, in the fissures of rocks. Desf. atl. 1. p. 197. Flowers greenish-yellow. Berry juiceless, 2-celled, 2-seeded.

Olive-like Buck-thorn. Fl. Ju. July. Clt. 1752. Shrub 3 ft.

15 R. BUXIFÒLIUS (Poir. dict. 4. p. 463.) diffuse; leaves ovate, quite entire, mucronate, smooth, coriaceous, green on both surfaces. ♄. H. Native of Numidia. Flowers greenish-yellow. According to Desf. this is only a variety of the preceding. Perhaps this is R. buxifòlius, Brot. fl. lus. 1. p. 301.

Box-leaved Buck-thorn. Fl. June, July. Clt. 1820. Sh. 3 ft.

16 R. PUBE'SCENS (Poir. dict. 4. p. 464.) diffuse; leaves ovate, quite entire, coriaceous, pubescent. ♄. H. Native of the south of France, and of the Levant. R. oleoìdes, Lam. fl. fr. 2. p. 545. ed. 3. no. 4075. This is probably only a variety R. oleoìdes.

Pubescent Buck-thorn. Fl. Ju. July. Clt. 1817. Shrub 3 feet.

17 R. AMYGDALÌNUS (Desf. atl. 1. p. 198.) diffuse; leaves permanent, lanceolate, obtuse, almost entire, coriaceous, smooth, not netted beneath. ♄. H. Native of the north of Africa, and the islands of the Archipelago, in the fissures of rocks. Flowers greenish-yellow. The Avignon berries or yellow berries are also obtained from this shrub, as well as from *R. infectòrius, tinctòrius, saxátilis, oleoìdes, buxifòlius,* and *pubéscens.*

Almond-like Buck-thorn. Fl. June, July. Clt. Shrub 3 feet.

18 R. PERSICIFÒLIUS (Moris. stirp. sard. 4to. fasc. 2.) erect; branches spiny at the apex; leaves oblong-lanceolate, crenated, obtuse, reticulately-veined, and pilose beneath. ♄. H. Native of Sardinia.

Peach-leaved Buck-thorn. Shrub.

19 R. CRENULA'TUS (Ait. hort. kew. 1. p. 263.) erect; leaves oblong, somewhat serrated, permanent, smooth, netted with veins beneath. ♄. G. Native of Teneriffe, on the mountains. Flowers greenish-yellow.

Crenulate-leaved Buck-thorn. Fl. March. Clt. 1778. Sh. 6 ft.

20 R. PRUNIFÒLIUS (Smith, prod. fl. græc. 1. p. 157. Rees' cycl. no. 6.) plant depressed or procumbent; leaves obovate, obtuse, crenated, naked; flowers dioecious or polygamous. ♄. H. Native of Crete, on the highest mountains. The female flowers have usually the rudiments of stamens. Flowers greenish-yellow.

Plum-leaved Buck-thorn. Shrub depressed.

21 R. LYCIOÌDES (Lin. spec. 279.) erect; leaves linear, quite entire, obtuse, smooth; flowers hermaphrodite. ♄. H. Native of Spain, frequent on the limestone hills of Valentia. Cav. icon. 2. t. 182. Flowers greenish-yellow. Berries black, round, 2-3-seeded.

Var. β, Arragonénsis (Asso, syn. arr. p. 27.) leaves yellowish above.

Lycium-like Buck-thorn. Fl. Sept. Dec. Clt. 1752. Shrub 4 feet.

22 R. ERYTHRÓXYLON (Pall. fl. ross. 2. t. 62. itin. French edit. t. 90.) erect; leaves linear-lanceolate, quite entire or serrated, smooth; flowers hermaphrodite; berries oblong. ♄. H. Native of Siberia, on rocks. Berries about the size of a pea, 3-seeded. Flowers greenish. This shrub when cultivated becomes destitute of spines. The wood is orange or almost red.

Var. β, angustissimus (D. C. prod. 2. p. 25.) leaves linear, narrow, very finely serrulated. ♄. H. Native of Caucasus. R. lycioìdes, Pall. fl. ros. t. 63. This is perhaps a distinct species.

Red-wooded Buck-thorn. Fl. July, Aug. Clt. 1823. Sh. 6 ft.

* * *Branchlets not terminated by spines.*

23 R. RUPE'STRIS (Vill. dauph. 2. p. 531.) procumbent, branched; leaves ovate, quite entire, smooth; flowers dioecious. ♄. H. Native of Dauphiny, on rocks. R. pùmilus β, rupéstris, D. C. prod. 25. Flowers greenish-yellow. Stigma 3-cleft.

Rock Buck-thorn. Fl. June, July. Clt. 1752. Sh. proc.

24 R. VALENTI'NUS (Willd. spec. 1. p. 1096.) procumbent; leaves roundish, elliptical, minutely-crenate, and nearly sessile; flowers 4-cleft, hermaphrodite. ♄. H. Native of Spain, on the mountains of Mecca and Palomera, in the kingdom of Valentia. R. pùmilus, Cav. icon. 2. t. 181. Style deeply 3-parted. Drupe dry, 3-celled.

Valentia Buck-thorn. Fl. June, July. Clt. 1816. Sh. proc.

25 R. WULFE'NII (Spreng. syst. 1. p. 762.) erectish; leaves orbicular, with cartilaginous crenate margins, veiny, silky beneath at the nerves; stigma simple; flowers hermaphrodite. ♄. H. Native of Austria. R. pùmilus, Wulf. in Jacq. coll. 2. p. 141. t. 11. Flowers greenish-yellow.

Wulfen's Buck-thorn. Fl. June, July. Clt. 1752. Sh. 2 ft.

26 R. PUSI'LLUS (Ten. prod. 16.) procumbent; leaves obovate, acute, crenulated, and mucronate at the apex; flowers hermaphrodite; stigma 3-parted. ♄. H. Native of Naples.

Small Buck-thorn. Fl. Ju. July. Clt. 1823. Shrub proc.

27 R. SIBTHORPIA'NUS (Schult. syst. 6. p. 286.) diffuse; leaves obovately-rhomboid, almost entire, lined, villous; flowers dioecious, usually digynous. ♄. H. Native of Mount Parnassus. Allied to *R. alpinus* and *R. frángula.* R. pubéscens, Sibth. fl. græc. t. 239. Flowers green.

Sibthorp's Buck-thorn. Shrub diffuse.

28 R. DAHU'RICUS (Pall. fl. ross. 2. t. 61.) erect; leaves oblong-ovate, serrated, smooth, veiny; flowers dioecious, female ones with bifid stigmas. ♄. H. Native of Dahuria, on the banks of the river Argun. Flowers greenish-yellow. Berries

about the size of a pea, sometimes twin. Very like *R. cathárticus*, but without thorns. The wood is red, and is called sandal wood by the Russians.

Dahurian Buck-thorn. Fl. May, Ju. Clt. 1817. Shrub 5 feet.

29 R. ALNIFÒLIUS (Lher. sert. p. 5.) erect; leaves obovate or ovate, serrulated, obliquely-lined, with lateral nerves, acuminated or obtuse, smoothish beneath, except the nerves; flowers hermaphrodite or dioecious; pedicels 1-flowered, aggregate; calyxes acute; fruit turbinate. ♄. H. Native of North America.

Alder-leaved Buck-thorn. Fl. Ju. July. Clt. 1778. Sh. 8 feet.

30 R. FRANGULOÌDES (Michx. fl. bor. amer. 1. p. 153.) leaves oval, serrated, pubescent on the nerves beneath; flowers hermaphrodite; pedicels 1-flowered. ♄. H. Native of North America, from Canada to Carolina, on dry hills, near rivers. Flowers green. Berries black. Leaves small.

Frangula-like Buck-thorn. Fl. Ju. Jul. Clt. 1810. Sh. 8 feet.

31 R. PURSHIA'NUS (D. C. prod. 2. p. 25.) erect; leaves oval, toothletted, short-acuminated, with a small cordate recess at the base, pubescent on the nerves beneath; peduncles twice bifid; berries depressed, globose. ♄. H. Native of North America, on the banks of the Kooskoosky. R. alnifòlius, Pursh, fl. sept. amer. 1. p. 166. but not of Lher. Berries purple, very highly esteemed among the natives.

Pursh's Buck-thorn. Fl. May, June. Shrub 6 feet.

32 R. SERRULA'TUS (H. B. et Kunth, nov. sp. amer. 7. p. 51. t. 617.) shrubby; branches villously hairy; leaves oblong, acute at both ends, sharply serrated, smooth, clammy; peduncles axillary, solitary, single-fruited. ♄. G. Native of Mexico, in the plains near St. Augustin de las Guevas. Flowers greenish-yellow.

Serrulated-leaved Buck-thorn. Shrub 6 feet.

33 R. CALIFÓRNICUS (Eschscholtz, mem. acad. scienc. peterb. 10. p. 281.) unarmed; flowers hermaphrodite, monogynous, in fascicled umbels; berry 2-seeded; leaves oval, serrulated. ♄. H. Native of California.

Californian Buck-thorn. Shrub.

34 R. MICROPHY'LLUS (Willd. in Schult. syst. 5. p. 295.) shrubby, procumbent, much branched; branches twisted; branchlets hairy; leaves linear-lanceolate, obtuse, almost entire, smooth; peduncles solitary, axillary; flowers 5-cleft, hermaphrodite, monogynous. ♄. G. Native of Mexico. Flowers greenish-yellow. This shrub has the habit of *R. oleoìdes*, but with the flowers 5 or 6-cleft, and the style simple, and 2-lobed at the apex. H. B. et Kunth, nov. gen. amer. 7. p. 51. t. 616.

Small-leaved Buck-thorn. Clt. 1823. Shrub trailing.

35 R. ALPI'NUS (Lin. spec. 280.) erect, twisted; leaves oval-lanceolate, crenate-serrated, smooth, lined with many parallel nerves; flowers dioecious, female ones with 4-cleft stigmas. ♄. H. Native of the Alps of Switzerland, Dauphiny, Austria, and Carniola. Duh. ed. 2. vol. 3. t. 13. Hall. hist. no. 823. t. 40. Berries black. Flowers greenish.

Alpine Buck-thorn. Fl. May, June. Clt. 1752. Shrub 4 feet.

36 R. PU'MILUS (Lin. mant. 49.) plant procumbent, much branched; leaves ovate, serrated, smooth; flowers hermaphrodite. ♄. H. Native of Mount Baldo, and the Alps, and Carniola, in the fissures of rocks. Stigma 3-cleft. Flowers greenish-yellow, with the stamens white. R. rupéstris, Scop. carn. 1. t. 5.

Dwarf Buck-thorn. Fl. Ju. July. Clt. 1752. Sh. procumbent.

SECT. II. FRA'NGULA (from *frango*, to break). Tourn. inst. t. 383. D. C. prod. 2. p. 26. Brogn. mem. rhamn. p. 55. Flowers hermaphrodite, rarely dioecious, 5-cleft (f. 5. C. *a.*), sometimes 4-cleft (f. 5. C. *a.*). Seeds smooth, compressed, with the hylum white and exserted, and with the raphe lateral on the surface of the inner testa. Embryo flat. Leaves membranous, caducous, quite entire, lined with approximate parallel nerves.

37 R. CAROLINIA'NUS (Walt. car. p. 101.) erect; leaves oval-oblong, almost entire, smooth; umbels stalked; flowers hermaphrodite; berries globose. ♄. H. Native of North America, Virginia, and Carolina, in woods and swamps. Flowers greenish 4 cleft. Stigma 2-lobed. Berries black, 4-seeded.

Carolinian Buck-thorn. Fl. May, Ju. Clt. 1818. Sh. 6 feet.

38 R. FRA'NGULA (Lin. spec. 280.) leaves oval, quite entire, lined with 10 or 12 lateral nerves, and are, as well as the calyx, smooth; flowers hermaphrodite. ♄. H. Native of Europe, in woods and thickets. In England, but rare in Scotland. Flowers whitish, 5-cleft. Berries dark-purple, each containing 2 large seeds. Peduncles 1-flowered, aggregate. Smith, engl. bot. t. 250. Oed. fl. dan. t. 278. From a quarter to half an ounce of the inner bark or liber, boiled in water or beer, is violently purgative. In dropsies or constipation of the bowels in cattle it is a certain purgative. The berries gathered before they are ripe dye wool green and yellow, when ripe blue and green. The bark dyes yellow, and with preparations of iron black. The flowers are particularly grateful to bees. Goats devour the leaves voraciously, and sheep will eat them. Charcoal prepared from the wood is preferred by the makers of gunpowder. The berries are sometimes mixed by herb gatherers with those of the true Buck-thorn, *R. cathárticus*, or substituted for them, but the smaller number of seeds betrays the deception. Their qualities perhaps differ very little.

Breaking or Alder Buck-thorn, or Berry-bearing Alder. Fl. May. Britain. Shrub 3 to 10 feet.

39 R. LATIFÒLIUS (Lher. sert. 5. t. 8.) leaves elliptical, acuminated, quite entire, lined with 12 or 15 lateral nerves; younger leaves and calyxes villous; flowers hermaphrodite. ♄. G. Native of the Azores, on the mountains of St. Michael. Flowers greenish. Stigma slightly 3-cleft.

Broad-leaved Buck-thorn. Fl. July. Clt. 1778. Shrub 5 ft.

40 R. SANGUI'NEUS (Pers. ench. 1. p. 239.) leaves ovate or oblong, acuminated, quite entire, lined, and are, as well as the calyxes, smooth; flowers hermaphrodite, fascicled, axillary. ♄. H. Native of Galicia, on the banks of rivers. R. sanguíno, &c. Ort. dec. 87. Young branches red. Flowers greenish.

Bloody-branched Buck-thorn. Shrub 6 feet.

41 R. HUMBOLDTIA'NUS (Schult. syst. 5. p. 295. H. B. et Kunth, nov. gen. amer. 7. p. 52. t. 618.) branches and leaves smooth, alternate, and opposite, oblong-elliptical, obtuse, rounded at the base, quite entire, beneath as well as the calyxes beset with glandular dots; peduncles axillary, 3-6-flowered; flowers somewhat umbellate; stigmas 2-lobed. ♄. S. Native of South America, between Totonilco el Grande and Actopan, near the village of Magdalena. R. franguloides, Willd. herb. but not of Michx. Fruit 2-celled, cells 2-seeded. Flowers white. This species differs from all the others in the cells of the fruit being 2-seeded, and in the leaves being for the most part opposite.

Humboldt's Buck-thorn. Tree.

SECT. III.? ANTIRHA'MNUS (from *anti* and *rhámnus*). D. C. prod. 2. p. 20. Leaves opposite, bistipulate. Flowers axillary. Fruit 2-celled.—Unarmed species not sufficiently known. Natives of Mexico. They should perhaps be joined with *Ceanòthus* or separated into a distinct genus.

42 R. UMBELLA'TUS (Cav. icon. 6. p. 2. t. 504.) leaves ovate, acute, entire, lined with feather nerves, smoothish; peduncles axillary, bearing an umbel of 4 or 5 flowers. ♄. G. Native of Mexico. Segments of calyx each with 2 hollows inside. Flowers reddish.

Umbel-flowered Buck-thorn. Shrub 6 feet.

43 R. BINIFLÒRUS (Moç. et Sesse, fl. mex. icon. ined. D. C. prod. 2. p. 26.) leaves entire, oval, acute at both ends, lined with feather nerves; peduncles axillary, 2-flowered. ♄. G. Native of Mexico. This is perhaps sufficiently distinct from the preceding species.

Twin-flowered Buck-thorn. Shrub.

44 R. TERNIFLÒRUS (Moç. et Sesse, fl. mex. icon. ined. D. C. prod. 2. p. 26.) leaves somewhat acute, toothed, rusty beneath as well as the branchlets; pedicels 3, axillary, 1-flowered. ♄. G. Native of Mexico. Flowers greenish.

Tern-flowered Buck-thorn. Shrub.

† *Species doubtful to what genus they belong, perhaps many of them should be placed in the genus* SEGERE'TIA *and some in* SCU'TIA.

* *Unarmed. Leaves entire.*

45 R. TETRAGÒNUS (Lin. fil. suppl. 153.) leaves opposite, ovate, smooth, sessile; flowers terminal, somewhat panicled, incomplete; berries 1-celled, 1-seeded. ♄. G. Native of the Cape of Good Hope. Probably a species of *Scùtia* or *Ceanòthus.*

Tetragonal-branched Buck-thorn. Cult. 1816. Shrub 6 feet.

46 R. POLIFÒLIUS (Vahl. symb. 1. p. 768.) leaves alternate, lanceolate, downy-white beneath, as well as the branches; flowers axillary, almost sessile, usually solitary, hermaphrodite, and usually trigynous. ♄. G. Native of New Zealand. Probably a species of *Pomadérris.*

Poly-leaved Buck-thorn. Shrub.

47 R. ZIZYPHOÌDES (Spreng. syst. 1. p. 768.) leaves ovate-lanceolate, acute, hoary and downy beneath; flowers terminal, loosely panicled, hermaphrodite; capsules baccate, containing 3 nuts. ♄. G. Native of the Society Islands. Probably a species of *Segerètia.*

Zizyphus-like Buck-thorn. Shrub.

48 R. MYRTÌNUS (Burm. ind. p. 60.) leaves oblong-ovate, shining beneath. ♄. S. Native of Coromandel.

Myrtle-like Buck-thorn. Shrub.

49 R. BRASILIE'NSIS (Spreng. syst. 1. p. 768.) leaves oblong-lanceolate, tapering at both ends, coriaceous, shining above; peduncles axillary, 1-flowered, aggregate, rather hispid. ♄. S. Native of Brazil.

Brazilian Buck-thorn. Shrub.

50 R. RAMIFLÒRUS (Rich. act. soc. hist. nat. par. 107.) quite smooth; leaves lanceolate-oblong, shining; flowers minute, in scattered bunches along the branches. ♄. S. Native of Cayenne.

Branched-flowered Buck-thorn. Shrub.

* * *Unarmed. Leaves toothed or serrated.*

51 R.? CASSINOÌDES (Lam. in Poir. dict. 4. p. 474.) leaves ovate, coriaceous, glaucous, obsoletely toothed; branches angular; flowers axillary, almost sessile, 5-cleft. ♄. S. Native of St. Domingo. Probably a species of *Cassine.*

Cassine-like Buck-thorn. Shrub.

52 R. QUITE'NSIS (Humb. et Bonpl. in Schult. syst. 5. p. 295.) leaves obovate-oblong, obtuse, mucronate, serrated, quite entire at the base, coriaceous; peduncles solitary, axillary; branches angular. ♄. S. Native of Peru in the province of Quito.

Quito Buck-thorn. Shrub.

53 R. WI'HHOR (Luce in ind. hort. Dorp. 1824. p. 6.) compare with Luce topogr. von. den. ins. æsel. Riga. 1823.

Wihhor Buck-thorn. Shrub.

54 R. LANCEOLA'TUS (Pursh, fl. amer. sept. 1. p. 166.) arborescent, unarmed; leaves lanceolate, serrulated, acute at both ends, pubescent beneath. ♄. H. Native of Tenessee on the sides of hills. Berries black.

Lanceolate-leaved Buck-thorn. Clt. 1812. Shrub.

Cult. The hardy species are all proper for shrubberies, some are evergreen and some deciduous, these are usually increased by layers and seeds, which are produced in abundance. The stove and greenhouse kinds will grow in any light soil, and they are easily increased by cuttings, planted under a hand-glass.

IX. SCU'TIA (from *scutum*, a shield, form of disk). Comm. mss. Brogn. mem. rhamn. p. 55. Séntis, Comm. in herb. Ceanòthus, sect. 1. Scùtia, D. C. prod. 2. p. 29.

LIN. SYST. *Pentándria, Monogýnia.* Calyx pitcher-shaped, with an erect 5-cleft border (f. 6. A. *a.*). Petals nearly flat, emarginate (f. 6. A. *b.*). Stamens short; anthers ovate, 2-celled (f. 6. A. *b.*). Disk fleshy, covering the tube of the calyx (f. 6. A. *e.*), which closely girds the ovary, but not adnate to it. Ovary 2-3-celled (f. 6. A. *g.*). Style short, simple (f. 6. A. *k.*). Fruit tricoccous (f. 6. A. *l.*), girded at the base by the circumcised calyx (f. 6. A. *h.*).—Smooth shrubs with alternate leaves approximating by pairs, and nearly opposite, quite entire or hardly serrulated, coriaceous, feather-nerved, bistipulate; stipulas minute, deciduous. Spines wanting or arched, about equal in length to the petioles, rising from the axillæ of the lower leaves. Flowers axillary, disposed in few-flowered simple umbellets, scarcely longer than the petioles.

1 S. I'NDICA (Brogn. mem. rhamn. p. 56.) branchlets twiggy, armed with sub-opposite, recurved prickles; leaves nearly opposite, obovate, retuse, toothletted towards the apex. ♄. S. Native of the East Indies, in forests. Rhámnus circumcíssus, Lin. fil. suppl. 152. Ceanòthus circumcíssus, Gært. fruct. 2. p. 111. t. 106. Shrub dividing into many long straggling scandent branches. Umbellets solitary, axillary. Fruit containing 5 seeds when all come to maturity.

Var. β, pauciflòrus (D. C. prod. 2. p. 30.) pedicels 3-5. ♄. S. Native of the Mauritius. Ceanòthus, nov. spec. Sieb. pl. exsic. maur. no. 75.

Indian Scutia. Shrub straggling.

2 S. LU'CIDA; branches armed with short, opposite, and solitary, recurved prickles; leaves opposite, from round to oblong, emarginate, entire, polished and firm; peduncles from 2-4-flowered; berries globular, usually 2-seeded. ♄. S. Native of the Mauritius. Rhámnus lùcidus, Roxb. fl. ind. 2. p. 353. A small much branched tree, with far spreading and straggling, somewhat climbing branches.

Shining-leaved Scutia. Tree 20 feet.

3 S. COMMERSÒNII (Brogn. in mem. rhamn. p. 56.) branches spreading, stiff; leaves almost opposite, approximate, distich, elliptical, quite entire. ♄. S. Native of the Island of Bourbon, as well as on the eastern coast of Africa. Séntis, Comm. herb. Lýcium Africànum, Burm. herb. Rhámni cathártici foliis spinòsum, Herm. cat. pl. Afr. p. 16. Called *Bois-senti* in Bourbon

Commerson's Scutia. Shrub 10 feet.

4 S. CAPE'NSIS; leaves cordate or ovate, very blunt, entire, smooth; prickles solitary, recurved. ♄. G. Native of the Cape of Good Hope. Rhámnus Capénsis, Thunb. prod. 1. p. 44. fl. cap. 2. p. 73. Ceanòthus Capénsis, D. C. prod. 2. p. 30. Flowers whitish.

Cape Scutia. Fl. May, July. Clt. 1823. Shrub 4 feet.

5 S. FE'RREA (Brogn. mem. rhamn. p. 56.) leaves oblong-ovate, coriaceous, smooth, shining, quite entire; peduncles axillary, shorter than the petioles, somewhat umbellate; flowers apetalous; calyx spreading. ♄. S. Native of the Antilles. Rhámnus férreus, Vahl. symb. 3. p. 41. t. 58. Ceanòthus férreus, D. C. prod. 2. p. 30.

Iron Scutia. Shrub.

6 S. SARCOMPHA'LUS (Brogn. mem. rhamn. p. 56.) leaves ovate or oval, coriaceous, smooth, quite entire, blunt, or emar-

ginate: peduncles axillary, longer than the petioles, racemosely-corymbose. ♄. S. Native of Jamaica. Sarcomphàlus, P. Brown, Jam. 179. Rhámnus sarcomphàlus, Lin. amœn. 5. p. 395. Kunth, nov. gen. amer. 7. p. 57. in a note. Ceanòthus sarcomphàlus, D. C. prod. 2. p. 30. This differs from the other species in the petals being helmet-shaped, stamens turned outwards, and in the disk being thicker, as well as in the leaves being alternate, not approximating by pairs. This tree rises generally to a considerable height; the trunk is generally about 3 feet in diameter. The wood is hard, of a dark colour, and close grain; it is looked upon as one of the best timber woods in the island of Jamaica. The name is derived from σαρξ, σαρκος, *sarx, sarcos*, flesh, and ομφαλος, *omphalos*, a navel; resemblance in the ovary, surrounded by the disk.

Sarcomphalus Scutia. Tree 30 feet.

† *Species not sufficiently known.*

7 S. LÆVIGA'TA; leaves oblong, obtuse, quite entire, coriaceous, veinless, smooth; flowers axillary, 2-3 pedicellate, ♄. S. Native of Santa Cruz. Rhámnus lævigàtus, Vahl. symb. 3. p. 41. Ceanòthus lævigàtus, D. C. prod. 2. p. 30.

Var. β, Guadalùpæ (D. C. prod. 2. p. 30.) leaves oval, quite entire, coriaceous, with a middle nerve and a few lateral ones; flowers axillary, 3-5 pedicelled. ♄. S. Native of Guadaloupe.

Smooth Scutia. Clt. 1818. Shrub 10 feet.

8 S. SPHÆROSPE'RMA; leaves oblong, acuminated, serrated, smooth; peduncles axillary, subracemose, length of petiole; fruit pellucid, spherical; seeds trigonal. ♄. S. Native of Jamaica, among bushes. Rhámnus sphærospérmus, Swartz, fl. ind. occ. 1. p. 499. Ceanòthus? sphærocárpus, D. C. prod. 2. p. 30. Flowers yellowish-green. Berry the size of a small pepper-corn, either quite globular or obscurely 3-lobed, pellucid, pale-green, containing 1 or 3 seeds. Stigma in 2 deep, acute divisions.

Round-seeded Scutia. Clt. 1824. Shrub 10 feet.

9 S. PAUCIFLÒRA; leaves obovate-oblong, obtuse, smooth, entire, or a little toothed; racemes lateral, short, few-flowered. ♄. G. Native of Mexico. Ceanòthus pauciflòrus, Moc. et Sesse, fl. mex. icon. ined. D. C. prod. 2. p. 33. Flowers greenish-yellow!

Few-flowered Scutia. Shrub.

10 S.? PANICULA'TA; leaves roundish-oval, acuminated, serrated, pubescent; panicle terminal, with subcorymbose branches. ♄. S. Native of the East Indies. Celástrus Rothiànus, Schult. syst. 5. p. 423. Ceanòthus paniculàtus, Roth. nov. spec. 154. Flowers white.

Panicled Scutia. Shrub.

Cult. Inconspicuous shrubs not worth cultivating, except in general collections; they will grow in any light soil, and are easily increased by young cuttings, planted under a hand-glass, in a moderate heat.

X. RETANI'LLA (the name of *R. obcordàta* in Peru). Brogn. mem. rhamn. p. 57.—Molinæ'a, Comm. mss.—Collètia species, Vent. and D. C.

LIN. SYST. *Pentándria, Monogýnia.* Calyx pitcher-shaped, 5-cleft (f. 5. E. *e.*), internally fleshy. Petals 5, cucullate (f. 5. E. *d.*), sessile. Stamens inclosed; anthers kidney-shaped, 1-celled. Disk effuse, covering the whole inner surface of the calyx (f. 5. E. *f.*). Ovary free (f. 5. E. *g.*), 3-celled. Style simple, short. Stigma 3-toothed. Fruit adnate to the base of the calyx, indehiscent, containing a 3-celled woody nut (f. 5. E. *i.*). Seeds sessile (f. 5. E. *i.*).—Subshrubs with elongated, nearly simple naked branches, or with a few leaves at their base, these are opposite, quite entire, and small. Flowers small, villous on the outside (f. 5. E. *e.*), brownish, disposed in short, few-flowered, opposite spikes on the young branches (f. 5. E. *a.*).

1 R. OBCORDA'TA (Brogn. mem. rhamn. p. 58.) leaves obcordate, quite entire, 3-nerved; flowers sessile, spiked, rising from the axillæ of the scales. ♄. G. Native of Peru. Rhámnus Retanílla, Domb. herb. Collètia obcordàta, Vent. hort. cels. t. 92. Branches twiggy, flexile. Flowers white.

Obcordate-leaved Retanilla. Clt. 1822. Shrub 3 feet.

2 R. EPHE'DRA (Brogn. mem. rhamn. 58.) leaves almost wanting; flowers sessile, disposed in glomerated spikes on the naked branches. ♄. G. Native of Peru. Branches erect, spiny at the apex. Collètia Ephédra, Vent. choix. t. 16. Rhámnus Ephédra, Domb. herb. Flowers white.

Ephedra-like Retanilla. Clt. 1823. Shrub 2 feet.

Cult. These plants will thrive very well in a mixture of loam and peat; and cuttings of young wood will root freely, if planted in a pot of sand, placed under a hand-glass.

XI. COLLE'TIA (named by Commerson in honour of M. Collet, his friend and countryman; he wrote upon the plants of Brest). Kunth, nov. gen. amer. 7. p. 58. D. C. prod. 2. p. 28. Brogn. mem. rhamn. p. 58.

LIN. SYST. *Pentándria, Monogýnia.* Calyx campanulate, membranous, (f. 5. F. *f.*), coloured. Petals wanting, or very minute, linear. Stamens with ovate, 2-celled (f. 5. F. *i.*), or reniform, 1-celled anthers. Disk short, cup-shaped (f. 5. F. *g.*), adnate to the bottom of the calyx. Ovary free (f. 5. F. *h.*), 3-celled. Style simple, elongated (f. 5. F. *e.*). Stigma 3-lobed. Fruit girded at the base by the permanent tube of the calyx, tricoccous (f. 5. F. *k.*), dehiscent (f. 5. F. *k.*). Seeds sessile.—Much-branched shrubs, almost destitute of leaves, with divaricating, decussately opposite branches and spiny branchlets. Leaves, if present, very minute, quite entire, opposite. Flowers axillary, fascicled, or racemose, or when the leaves are absent they rise from beneath the base of the spines (f. 5. F. *a.*).

1 C. SERRATIFÒLIA (Vent. choix. t. 15.) leaves elliptical, sharply serrated; branches leafy; pedicels longer than the flowers; flowers usually solitary. ♄. G. Native of Peru. Rhámnus Spártium, Domb. herb. Flowers yellowish.

Saw-leaved Colletia. Fl. May, July. Clt. 1823. Sh. 3 ft.

2 C. CRUCIA'TA (Gill. et Hook, bot. misc. 1. p. 152. t. 43.) leaves very few, elliptic, quite entire; stem very prickly; spines decussate, compressed laterally, broad, ovate, acute, decurrent. ♄. G. Native of Rio de la Plata, on sandy hills near Maldonado.

Cross-spined Colletia. Clt. 1824. Shrub 4 to 5 feet.

3 C. SPINÒSA (Lam. ill. 2. p. 90. t. 129. Hook, bot. misc. 1. p. 153. t. 44. A.) leaves elliptic, quite entire; spines very strong, awl-shaped; fascicles of flowers scattered; calyx urceolate; filaments elongated, exserted. ♄. G. Native of Chili and Peru, also of Brazil. C. polyacántha, Willd.

Var. α, glàbra (Hook, l. c.) smooth. C. spinòsa, Lam. l. c. C. hórrida, Willd. spec. 1. p. 1113. C. spinosíssima, Gmel. syst.

Var. β, pubescénti-incàna (Hook, l. c.) plant clothed with hoary pubescence.

Spiny Colletia. Fl. May, July. Clt. 1823. Shrub 3 to 4 ft.

4 C. FE'ROX (Gill. et Hook. bot. misc. 1. p. 154.) spines strong, awl-shaped; fascicles of flowers scattered; calyx oblong-cylindrical; anthers nearly sessile. ♄. G. Native of Chili, about Mendoza.

Fierce Colletia. Fl. May, July. Clt. 1823. Shrub 2 to 4 ft.

5 C. ULI'CINA (Gill. et Hook, bot. misc. 1. p. 155.) spines slender, very numerous; fascicles of flowers crowded at the tops of the branches; calyx elongated, cylindrical, with the filaments inserted in the tube. ♄. G. Native of Chili.

Var. α, glàbra (Hook, l. c.) smooth.

Var. β, pubescénti-hirsùta (Hook, l. c.) plant hairy-pubescent.

Furze-like Colletia. Shrub 2 to 4 feet.

6 C. CHACA'YE; leaves somewhat obovate, serrated; flowers tern; branches very leafy. ♄. G. Native of Peru. Rhámnus Chacàye, Domb. herb. Flowers yellowish.

Chacaye Colletia. Shrub 2 feet.

7 C. TETRAGÒNA (Brogn. mem. rhamn. p. 59.) branches almost naked, leafless, smooth; branchlets distant, simple, spiny, stiff, spreading; racemes axillary, rising beneath the spines, usually 6-flowered; fruit opposite on the branchlets, sessile on the branches, racemose. ♄. G. Native of Peru. Domb. Flowers yellowish.

Tetragonal-branched Colletia. Shrub 3 feet.

† *Allied species.*

8 C. INFE'STA (Brogn. mem. rhamn. p. 59.) shrub much branched; branches almost opposite, cylindrical, ultimate ones spiny; spines simple, spreading, stiff, axillary; leaves opposite, oblong-linear, quite entire, smooth; almost nerveless; flowers axillary, solitary; peduncles slender, shorter than the leaves. ♄. S. Native of Mexico, in the plains near Gazave. Ceanòthus inféstus, H. B. et Kunth, nov. gen. amer. 7. p. 61. t. 614. D. C. prod. 2. p. 31. Rhámnus lineàris, Moc. et Sesse, in herb. Lamb. Calyx hemispherical, with a spreading limb. Petals cucullate. Anthers cordate; cells confluent at top. Disk thin, at the limit of the throat, incrusting the tube. Ovary semiadnate to the bottom of the tube of the calyx, 3-celled. Style simple, filiform, longer than the tube of the calyx. Stigma simple. Flowers white.

Troublesome Colletia. Cult. 1824. Shrub 3 feet.

9 C. MULTIFLÒRA (Moc. et Sesse, fl. mex. icon. ined. D. C. prod. 2. p. 29.) leaves entire, oblong; pedicels 1-flowered, 5-6, crowded together, length of flower; petals 5, cucullate. ♄. G. Native of Mexico. Disk extended even to the throat, and half adnate to the ovary. Branches spiny, bearing the flowers beneath the spines.

Many-flowered Colletia. Shrub 4 feet.

10 C.? DISPE'RMA (D. C. prod. 2. p. 29.) leaves entire, oblong; pedicels 1-flowered, 2 or 3 in a fascicle, length of flowers; flowers 5-petalled; berries oblong, 2-celled. ♄. G. Native of Mexico. Branches unarmed. Calyx very short in this and preceding species.

Two-seeded Colletia. Shrub 3 feet.

11 C.? VELUTÌNA (Spreng. syst. 1. p. 771.) leaves alternate, oblong, serrated, villous beneath; peduncles axillary, cymose, and downy, as well as the flowers. ♄. S. Native of Brazil.

Velvety Colletia. Shrub 2 feet.

Cult. See *Retanílla* for culture and propagation.

XII. TREVO'A (*Trevo*, the name of some Spanish botanist). Meyers, mss. Hook, bot. misc. 1. p. 158.

LIN. SYST. *Pentándria, Monogýnia.* Calyx turbinate, 5-cleft, permanent, with reflexed segments. Petals cucullate, erect, inclosing the stamens. Anthers 1-celled, bursting by a kidney-shaped chink. Disk almost wanting. Ovary superior, large, hairy, 3-celled, cells 1-seeded. Style awl-shaped, much exserted, and very hairy, crowned by an acute simple stigma. Capsule membranous, 2-valved, 1-seeded, (2 of the cells being abortive) crowned by the permanent style. Seed erect, elliptical, compressed, marked by a conspicuous longitudinal furrow. Albumen sparing, fleshy. Embryo erect, cylindrical, with an inferior radicle.—Spiny shrubs with awl-shaped short spines, cruciately disposed. Leaves in fours, marked with longitudinal nerves. Fascicles of flowers rising from tubercles in the axils of the leaves and at the base of the spines.

1 T. QUINQUENE'RVIS (Gill. et Hook, bot. misc. 1. p. 158. t. 45. B.) hairy-pubescent; leaves oblong-elliptic, entire, 5-nerved, hoary beneath. ♄. G. Native of Chili on the Andes.

Five-nerved-leaved Trevoa. Shrub 4 to 5 feet.

2 T. TRINE'RVIS (Gill. et Hook, bot. misc. 1. p. 159.) smooth; leaves elliptic, crenately-serrated, 3-nerved, green beneath. ♄. G. Native of Chili.

Three-nerved-leaved Trevoa. Clt. 1828. Shrub 4 to 6 feet.

Cult. For culture and propagation see *Retanílla*, p. 34.

XIII. DISCA'RIA (from δισκος, *diskos*, a disk; disk broad). Hook, bot. misc. 1. p. 156.

LIN. SYST. *Tetra-Pentándria, Monogýnia.* Calyx short, campanulate, 4-5-cleft, coloured. Petals 4-5, smaller than the stamens. Anthers 2-celled, bursting lengthwise. Disk girding the base of the germ, bowl-shaped, fleshy, with a narrow, elevated, nearly entire, free margin. Ovary half superior. Style short, crowned by a 3-lobed stigma.—Spiny shrubs.

1 D. AMERICA'NA (Hook, bot. misc. 1. p. 156. t. 44. D.) calyx for the most part 5-cleft, with reflexed segments. ♄. G. Native of Buenos Ayres.

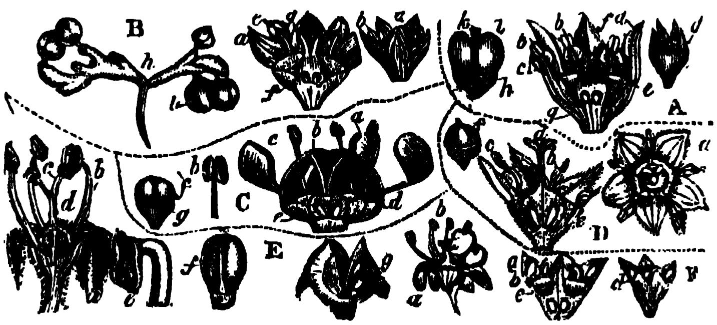
American Discaria. Shrub.

2 D. AUSTRA'LIS (Hook, l. c. p. 157. t. 45. A.) calyx 4-cleft, with erect segments. ♄. G. Native of New Holland at Cox's River to the south of Bathurst. Collètia pubéscens, Brogn. mem. rhamn. p. 59. Branches almost leafless, pubescent; branchlets simple, spiny. Leaves few, opposite, obovate, minute, quite entire, pubescent. Racemes short, many-flowered, rising from beneath the spines. Petals small, linear, convolute.

Southern Discaria. Shrub.

Cult. For culture and propagation see *Retanílla*, p. 34.

FIG. 6.



XIV. HOVE'NIA (in honour of David Hoven, a senator of Amsterdam, who contributed to the success of the travels of Thunberg by his good offices). Thunb. jap. 101. D. C. prod. 2. p. 40. Brogn. mem. rhamn. p. 60.

LIN. SYST. *Pentándria, Monogýnia.* Calyx somewhat spreading, 5-cleft (f. 6. B. *a.*). Petals 5, obovate, unguiculate (f. 6. B. *e.*), convolute. Stamens inclosed in the petals; anthers ovate, 2-celled. Disk fleshy, flat (f. 6. B. *f.*). Ovary 3-celled. Style trifid. Stigmas 3, round. Fruit free, tricoccous (f. 6. B. *l.*), seated on a thick fleshy peduncle (f. 6. B. *h.*).—Trees; with alternate, broad, cordate, serrated, 3-nerved leaves.

1 H. DU'LCIS (Thunb. jap. 101.) leaves cordate, ovate, acuminated, equal at the base, 3-nerved, smooth. ♄. G. Native of Japan, near Nagasaki, where it is called *Ken* and *Kenpokonas*. Kœmpf. amœn. ex. 2. p. 809. with a figure. Flowers small, white, in axillary and terminal dichotomous panicles. Peduncles

sub-cylindrical, reflexed, smooth, an inch long, thickening after flowering, containing a sweet red pulp, which is eaten by the Japanese, and has a taste somewhat like a pear.

Sweet Hovenia. Fl. July, Aug. Clt. 1812. Tree 12 feet.

2 H. INÆQUA'LIS (D. C. prod. 2. p. 40.) leaves cordate, acuminate, rather hairy beneath, unequal at the base, 3-nerved. ♄. G. Native of Nipaul, at Katumanda, where it is called *Munko-Khoshee*. H. acérba, Lindl. bot. reg. t. 501. H. dúlcis, D. Don, prod. 189. Wall. fl. ind. 2. p. 414. Flowers small, white, disposed in axillary, rarely in terminal, dichotomous, villous cymes. Capsule round, size of a pea, seated on an enlarged peduncle, which is soft, and contains a red sweet pulp. This does not come to maturity till after the capsules are ripe.

Unequal-leaved Hovenia. Fl. Ap. Jul. Clt. 1820. Tree 30 ft.

Cult. See *Retanílla* for culture and propagation, p. 34.

XV. COLUBRI'NA (from *coluber*, a snake, in allusion to the twisted stems). Rich. mss. Brogn. mem. rhamn. p. 61.—Rhámnus and Ceanòthus species of authors.

LIN. SYST. *Pentándria, Monogýnia*. Calyx spreading, 5-cleft (f. 6. D. *a*.). Petals 5, obovate, convolute (f. 6. D. *b*.). Stamens exserted (f. 6. D. *c*.); anthers ovate 2-celled. Disk fleshy, rather flat, pentagonal (f. 6. D. *g*.). Ovary immersed in and adnate to the disk (f. 6. D. *e*.), 3-celled. Style trifid (f. 6. D. *a*.). Stigmas 3. Fruit capsular, dehiscent, tricoccous, girded at the base by the circumcised calyx (f. 6. D. *f*.). Seeds furnished with a short stalk.—Shrubs, with alternate, quite entire or crenulated leaves, netted with distant feather nerves, smooth, but usually pubescent or rusty-villous. Flowers in axillary, short, crowded cymes, or in fascicles, with simple peduncles (f. 6. D.).

* *South American species.*

1 C. FERRUGI'NEA (Brogn. mem. rhamn. p. 62.) leaves ovate, a little acuminated, entire, covered with rusty villi beneath, as well as the branchlets and flowers; flowers axillary, cymose, aggregate. ♄. S. Native of South America, in most of the West India Islands. Rhámnus colubrìnus, Lin. syst. 195. Jacq. hort. vind. 3. t. 50. Ceanòthus colubrìnus, Lam. ill. no. 2684. Ceanòthus arboréscens, Mill.—Comm. hort. 1. t. 90. Flowers greenish. Seeds ovate, shining, black. This tree is called *Bois couleuvre* or *Snake-wood* in Martinique; hence the generic name.

Rusty Snake-wood. Fl. May, Nov. Clt. 1762. Tree 30 feet.

2 C. FERME'NTUM (Rich. ined. in Brogn. mem. rhamn. p. 62.) This species has not been described; it is therefore only known to Brogniart. It is a native of Guiana.

Fermented Snake-wood. Tree.

3 C. RECLINA'TA (Brogn. mem. rhamn. p. 62.) leaves elliptical, acute, quite entire, pubescent beneath, as well as the branches and flowers; branches flexible, pendulous; flowers axillary, aggregate, cymose. ♄. S. Native of the mountains of Jamaica, in bushy places, also in St. Domingo, where it is called *Palo-amargo*. Rhámnus ellípticus, Ait. hort. kew. 1. p. 265. Paliùrus inérmis, Hort. par. Zízyphus Domingénsis, Duham. ed. nov. 3. p. 55. ex Desf. Ceanòthus reclinàtus, Lher. sert. p. 6.—Browne, jam. t. 29. f. 2. Flowers greenish.

Reclined-branched Snake-wood. Fl. Aug. Clt. 1758. Sh. 6 ft.

4 C. GRANULÒSA (Brogn. mem. rhamn. p. 62.) leaves ovate-oblong, acuminated, somewhat serrated from the middle, smooth, shining, with the nerves at the base pubescent, as well as the petioles; peduncles axillary, short, dichotomous, umbellate. ♄. S. Native of Peru, in groves. Ceanòthus granulòsus, Ruiz et Pav. fl. per. 5. t. 228. f. *b*. Flowers white. Capsules roundish, turbinate, with prominent ribs.

Granular Snake-wood. Tree 24 feet.

5 C. TRIFLÒRA (Brogn. in mem. rhamn. p. 62.) leaves acute, crenulated, rusty beneath; peduncles axillary, 3-flowered, or pedicels 3 together, 1-flowered. ♄. G. Native of Mexico. Rhámnus triflòrus, Moc. et Sesse in herb. Lamb. Flowers greenish-white.

Three-flowered Snake-wood. Shrub.

6 C. CUBE'NSIS (Brogn. mem. rhamn. p. 62.) leaves elliptical, oblong, acutish, quite entire, greenish-velvety above, hoary and downy beneath, as well as the branchlets and flowers; peduncles axillary, corymbose, longer than the petioles. ♄. S. Native of Cuba, in bushy places, as well as of St. Domingo. Ceanòthus Cubénsis, Lam. Jacq. hort. vind. t. 49. Rhámnus Cubénsis, Lin. Flowers cream-coloured. Sepals fringed.

Cuba Snake-wood. Fl. ? Clt. 1820. Shrub 8 feet.

7 C. ALAMA'NI; leaves ovate, obtuse, serrulated, somewhat velvety and green above, hoary and downy beneath, as well as the branchlets and flowers; peduncles axillary, corymbose, length of petioles. ♄. S. Native of Mexico. Ceanòthus Alamàni, D. C. prod. 2. p. 31. Leaves both opposite and alternate in the same branch.

Alaman's Snake-wood. Shrub.

8 C.? MACROCA'RPUS; leaves ovate, somewhat cordate at the base, roundish, serrated, downy beneath, as well as the branchlets; flowers axillary, glomerate; fruit pendulous. ♄. S. Native of New Spain. Ceanòthus macrocárpus, Cav. icon. 3. t. 276. Flowers white.

Long-fruited Snake-wood. Clt. 1824. Shrub 6 feet.

9 C.? PUBE'SCENS; leaves ovate, acuminated, pubescent, acutely serrated; peduncles axillary, very short; dichotomous umbellate. ♄. S. Native of Peru, in groves. Ceanòthus pubéscens, Ruiz et Pav. fl. peru, 3. p. 6. t. 228. f. a. Flowers white. Fruit round, black.

Pubescent Snake-wood. Tree 18 feet.

10 C.? MOCINIA'NA; leaves oval, entire, 1-nerved, pubescent beneath, as well as the branchlets; peduncles lateral, dichotomous, few-flowered. ♄. G. Native of Mexico. Ceanòthus Mociniànus, D. C. prod. 2. p. 32. Ceanòthus macrocárpus, Moc. et Sesse, fl. mex. icon. ined. but not of Cav. Calyx spreading much after the time of flowering.

Mocino's Snake-wood. Clt. 1824. Shrub.

* * *Asiatic species.*

11 C. ASIA'TICA (Brogn. mem. rhamn. p. 62.) leaves ovate, acuminated, serrulated, glossy, 3-nerved at the base; peduncles axillary, branched, many-flowered, shorter than the leaves. ♄. S. Native of the East Indies, Ceylon, Mauritius, Nipaul, as well as on the western coast of equinoxial Africa. Ceanòthus Asiáticus, Lin. spec. 284. Cav. icon. t. 440. f. 1. Lam. ill. t. 129. Tubanthèra, Comm. mss.—Burm. zeyl. 111. t. 48. Rhámnus acuminàtus, Colebr. mss. Flowers small, yellowish-green, fragrant. Capsule round, obovate, about the size of a small gooseberry, 3-furrowed, 3-celled, 3-valved, 3-seeded. Seeds triangular, with a gibbous back.

Asiatic Snake-wood. Fl. July, Aug. Clt. 1691. Shrub 16 feet.

12 C. NIPAULE'NSIS; shrub erectish or rambling, with all the upper parts pubescent; leaves somewhat bifarious, oblong, acuminated, serrulated, smooth, and shining, with alternate nerves, the axillæ of which are hairy; racemes terminal, panicled, pubescent. ♄. G. Native of Nipaul. Ceanòthus Nipaulénsis, Wall. fl. ind. 2. p. 375. Branches scabrous, and have a tendency to ramble over trees. Flowers small, green, fascicled, disposed in terminal racemes on the naked branches, interspersed with a number of small, lanceolate, floral leaflets, the whole forming a branchy panicle. Petals very small, yellowish, cucullate, concealing the stamens. Ovary 3-lobed. Style trifid. Fruit about the size of a pea at first, succulent, afterwards dry, con-

taining 3 nuts. This will probably prove to be a species of *Willemétia.*

Nipaul Snake-wood. Fl. May, Ju. Clt. 1820. Sh. rambling.

13 C. ? TRI'QUETRA; leaves elliptical-ovate, finely acuminated, sharply serrulated, acute at the base, with parallel pubescent ribs, villous at their axillæ beneath; peduncles axillary, short, fascicled, 1-flowered; capsules acutely 3-cornered. ♄. G. Native of Nipaul, at Shreenugur. Ceanòthus tríquetrus, Wall. fl. ind. 2. p. 376. Leaves pubescent when young.

Triquetrous-capsuled Snake-wood. Shrub.

14 C.? PUBIFLÒRA; leaves elliptical-oblong, acute, serrated, smooth; flowers axillary, crowded, velvety, on short pedicels. ♄. S. Native of the island of Timor. Ceanòthus pubiflòrus, D. C. prod. 2. p. 30.

Downy-flowered Snake-wood. Shrub.

15 C. LESCHENAU'LTII; leaves ovate, long-acuminated, somewhat cordate at the base, crenulately-serrated, smooth above, hoary beneath from very minute down; cymes axillary, many-flowered, almost sessile, length of petioles. ♄. S. Native of Ceylon. Ceanòthus Leschenaúltii, D. C. prod. 2. p. 30. Branches minutely-pubescent at the top, as well as the calyxes.

Leschenault's Snake-wood. Shrub 10 feet.

* * * *African species.*

16 C. GUINEE'NSIS; leaves elliptical-oblong, acutish at both ends, quite entire, on short stalks; cymes corymbose, many-flowered, axillary, hoary-velvety. ♄. S. Native of Guinea. Ceanòthus? Guineénsis, D.C. prod. 2. p. 30. Rhámnus paniculàtus, Thonn.

Guinea Snake-wood. Shrub 6 feet.

17 C.? MYSTACI'NUS; leaves cordate, obtuse, quite entire, smooth above, but rather hairy beneath; branches ending in a tendril; flowers axillary, umbellate. ♄. ◡. G. Native of Abyssinia. Rhámnus mystacìnus, Ait. hort. kew. ed. 1. p. 266. Ceanòthus? mystacìnus, D. C. prod. 2. p. 31. Stem weak, climbing to a considerable extent by means of tendrils from the upper part of the branches. Flowers greenish-white. Ovary immersed in a snow-white glandular disk, filling the tube of the calyx. Stigma trifid.

Bearded Snake-wood. Fl. Nov. Clt. 1775. Shrub cl.

Cult. These plants are not worth cultivating except in general collections. A mixture of loam and peat will suit them well, and cuttings of young wood will root readily if planted in sand, and placed under a hand-glass; those of the stove species require heat.

XVI. CEANO'THUS (κεανωθος, *keanothus*, a name employed by Theophrastus to designate a spiny plant, derived from κεω, *keo*, to cleave; however the modern genus has nothing to do with the plant of Theophrastus). Brogn. mem. rhamn. p. 62.—Ceanòthus species, Lin. Juss. Lam. Ceanòthus, sect. 2. Eucea-nòthus, D. C. prod. 2. p. 31.

LIN. SYST. *Pentándria, Trigýnia.* Calyx with a sub-hemispherical tube, and 5 connivent segments (f. 6. C. *b.*). Petals 5, unguiculate, cucullate (f. 6. C. *c.*), deflexed. Stamens with ovate 2-celled anthers (f. 6. C. *b.*). Disk spongy, annular (f. 6. C. *d.*). Ovary spherical, girded by the disk (f. 6. C. *e.*), 3-celled. Styles 3, diverging, terminated by small papiliform stigmas. Fruit tricoccous (f. 6. C. *f.*), girded by the circumcised tube of the calyx (f. 6. C. *g.*). Seeds almost sessile (f. 6. C. *e.*).—Smooth or pubescent shrubs, natives of North America, with erect branches, alternate, serrated, 3-nerved leaves, and very slender, white, blue or yellow flowers, disposed in terminal panicles or in axillary racemes.

1 C. AZU'REUS (Desf. cat. 1815. p. 232.) leaves ovate-oblong, obtuse, acutely-serrated, smooth above, hoary and downy beneath; thyrse elongated, axillary, with a downy rachis; pedicels smooth. ♄. G. Native of Mexico, on the road to St. Angelo. Ker. bot. reg. t. 291. C. cærùleus, Lag. gen. et spec. 1816. p. 11. Lodd. bot. cab. t. 110 C. bícolor, Willd. in Schult. syst. 7. p. 65. ex fl. mex. icon. et descr. ined. Flowers pale-blue. The bark is febrifugal.

Azure-flowered Red-root. Fl. Ap. May. Clt. 1818. Sh. 10 ft.

2 C. TARDIFLÒRUS (Horn. hort. hafn. 230.) leaves cordate, ovate, serrated, downy beneath; thyrse elongated, axillary. ♄. H. Native of North America. Perhaps only a variety of the following. Flowers white.

Late-flowering Red-root. Fl. Sep. Nov. Clt. 1820. Sh. 6 ft.

3 C. AMERICA'NUS (Lin. spec. 284.) leaves ovate, acuminated, serrated, pubescent beneath; thyrse elongated, axillary, with a pubescent rachis. ♄. H. Native of North America, in dry woods, from Canada to Florida. Duham. arb. 1. t. 51. Mill. fig. t. 57. Sims, bot. mag. t. 1479. Flowers small, white. Fruit bluntly trigonal. In North America this shrub is commonly known by the name of *New Jersey tea*, or *Red-root*, having been actually used in the American war as a substitute for tea. The Canadians use the infusion of the root in gonorrhœa, and other authors attribute to it antisyphilitic properties. It will dye wool a fine strong nankin-cinnamon colour. A beautiful shrub when in flower.

American Red-root or New Jersey tea. Fl. June, July. Clt. 1713. Shrub 2 to 4 feet.

4 C. OVA'TUS (Desf. arb. 2. p. 381.) leaves ovate or oval, serrated, smooth on both surfaces, as well as the peduncles; thyrse short, axillary? ♄. H. Native of North America. Fruit somewhat globose, 6-ribbed. Flowers white. This plant is usually confounded in gardens with the preceding.

Ovate-leaved Red-root. Fl. Ju. July. Clt. 1818. Sh. 2 to 4 ft.

5 C. PERE'NNIS (Pursh. fl. amer. sept. 1. p. 167.) leaves oval, somewhat serrated, smooth; panicle thyrsoid, terminal, and axillary. ♃. H. Native of North America, on rocks near rivers, in Virginia and Carolina. C. herbàceus, Rafin. The stems scarcely ever remain over winter, but die down to the root. Flowers white or yellow.

Perennial Red-root. Fl. May, Ju. Clt. 1822. Pl. 2 feet.

6 C. THYRSIFLÒRUS (Eschscholtz, mem. acad. scienc. peters. 10. p. 281.) leaves oval, 3-nerved, serrulated, smooth; stem many-angled; panicle thyrsoid in the axillary branches. ♄. H. Native of New California.

Thyrse-flowered Ceanothus. Shrub.

7 C. INTERME'DIUS (Pursh, fl. sept. amer. 1. p. 167.) leaves oblong-oval, acute, mucronately-serrulated, triple-nerved, pubescent beneath; panicles axillary, on long peduncles, with loose corymbose pedicels. ♄. H. Native of North America, in the woods of Tennessee. Leaves not one-fourth the size of those of *C. Americànus.* Flowers white.

Intermediate Red-root. Fl. Ju. July. Clt. 1812. Sh. 2 to 4 ft.

8 C. SANGUI'NEUS (Pursh, fl. sept. amer. 1. p. 167.) leaves oblong-obovate, serrated, pubescent beneath; panicles axillary, thyrsoid, on very short peduncles; pedicels aggregate. ♄. H. Native of North America, near the Rocky Mountains, on the banks of the Missouri. Branches blood-red or purple. Panicles not longer than the leaves. Flowers white.

Bloody-branched Red-root. Fl. May, June. Clt. 1812. Shrub 2 to 3 feet.

9 C. MICROPHY'LLUS (Michx. fl. bor. amer. 1. p. 154.) leaves oblong, obtuse, entire, minute, sub-fascicled, smooth; branches straight, somewhat decumbent; corymbs stalked, loose, terminal. ♄. H. Native of North America, in sandy woods, from Carolina to Florida. C. hypericoìdes, Lher. mss. Leaves 3-4 lines long. Fruit almost globular. Flowers white.

Small-leaved Red-root. Fl. May, June. Clt. 1806. Sh. 2 ft.

10 C. serpyllifòlius (Nutt. gen. amer. 1. p. 154.) leaves small, elliptical-ovate, obtuse, serrulated; branches filiform, decumbent; panicles axillary, stalked, few-flowered; flowers conglomerated. ♄. H. Native of Florida, about St. Mary's. Flowers white.

Wild-thyme-leaved Red-root. Shrub decumbent.

11 C. buxifòlius (Willd. in Schult. syst. 7. p. 62. t. 615.) leaves ovate-elliptical, obtuse, glandularly-serrulated, 3-5-nerved, smooth; nerves covered with adpressed hairs on the under surface; branches round, smooth, with a few scattered spines; racemes solitary on the short branches. ♄. G. Native of Mexico, in woods, near Real del Monte. Flowers white.

Box-leaved Red-root. Shrub 6 to 8 feet.

Cult. Small neat shrubs, with large red roots; hence their English name. They will thrive well in any common garden soil, and are proper shrubs for the front of shrubberies. They are increased by layers or by seeds. The greenhouse species or those natives of Mexico only require to be protected from frosts during winter. Young cuttings of these will root if planted in a pot of sand, with a hand-glass placed over them.

XVII. WILLEME'TIA (in honour of *C. L. Willemet*, author of Herbarium Mauritianum). Brogn. mem. rhamn. p. 63.—Ceanòthus spec. Lin. and other authors.

Lin. syst. *Pentándria, Monogýnia.* Calyx urceolate (f. 6. F. *d.*), with the tube adnate to the ovary (f. 6. F. *e.*) at the base, but free at the top, with a 5-cleft limb (f. 6. F. *a.*). Petals 5, cucullate, sessile (f. 6. F. *b.*). Stamens inclosed in the petals; anthers ovate, 2-celled. Disk very thin, incrusting the tube of the calyx. Ovary half-inferior, 3-celled. Style simple, trigonal. Stigma 3-lobed. Fruit unknown.—A quite smooth shrub, with erect branches, alternate, oblong-lanceolate, serrated, feather-nerved leaves, and small white flowers, which are disposed in few-flowered, terminal or axillary panicles.

1 W. Africa'na (Brogn. l. c.) ♄. G. Native of the Cape of Good Hope. Ceanòthus Africànus, Lin. spec. 284.—Pluk. phyt. t. 126. f. 1.—Seb. thes. 1. t. 22. f. 6. Leaves shining. Branches purplish when ripe.

African Willemetia. Fl. July, Aug. Clt. 1712. Shrub 6 ft.

Cult. An elegant shrub. It will succeed well in an equal mixture of loam and peat, with a little sand, and young cuttings will root readily if planted in a pot of sand, with a hand-glass placed over them.

XVIII. POMADE'RRIS (from πωμα, *poma*, a lid, and δερρις, *derris*, a skin; in allusion to the peculiar membranous covering to the capsule). Labill. nov. holl. 1. p. 61. D. C. prod. 2. p. 33. Brogn. mem. rhamn. p. 64.—Pomatodérris, Schult. syst. 5. no. 985.—Pomatidérris, Kunth. nov. gen. amer. 7. p. 60.

Lin. syst. *Pentándria, Monogýnia.* Calyx with an adnate tube, and a 5-cleft (f. 6. E. *a.*), somewhat spreading limb. Petals 5, flat, unguiculate, somewhat cordate, or wanting. Stamens exserted (f. 6. E. *b.*); anthers ovate, 2-celled (f. 6. E. *b.*). Disk wanting. Ovary half adnate, 3-celled. Style trifid, rarely diverging (f. 6. E. *c.*). Fruit half inferior (f. 6. E. *g.*), tricoccous; coccula each with a broad perforation at the base on the inside. Seeds each furnished with a short stalk (f. 6. E. *g.*).—Erect, branched shrubs, more or less covered with starry down. Leaves entire or serrated, villous on both surfaces, or smooth on the upper surface, feather-nerved. Flowers disposed in axillary or terminal, corymbose, or in expanded corymb-like panicles, flowering from the base to the apex, for the most part yellow or cream-coloured.

* *Flowers 5-petalled, disposed in corymbose cymes.*

1 P. phyllirææoi'des (Sieb. pl. exs. nov. holl. no. 215.) cymes corymbose, crowded; calyxes and pedicels villous; leaves elliptical-oblong, quite entire, coriaceous, smooth above, clothed with hoary-velvety villi beneath. ♄. G. Native of New Holland. Leaves acutish. Flowers pale-yellow.

Phyllirœa-like Pomaderris. Fl. May, June. Clt. 1818. Shrub 2 to 6 feet.

2 P. lani'gera (Sims, bot. mag. t. 1823.) cymes somewhat panicled, woolly; leaves oblong-lanceolate, quite entire, coriaceous, velvety above, rusty and woolly beneath. ♄. G. Native of New Holland, on the eastern and southern coast. Ceanòthus laníger, Andr. bot. rep. t. 569. Pomadérris obscùra, Sieb. pl. exs. nov. holl. no. 216. Flowers pale-yellow.

Var. β; leaves smooth above. P. ferrugínea and P. viridirùfa, Sieb. pl. exsic. nov. holl. no. 214 and 209.

Wool-bearing Pomaderris. Fl. April, June. Clt. 1806. Sh. 3 to 6 feet.

3 P. elli'ptica (Labill. nov. holl. 1. p. 61. t. 86.) cymes somewhat umbellate, hoary and velvety; leaves elliptical, obtuse, smooth above, clothed with very short, white tomentum beneath. ♄. G. Native of New Holland at Cape Van Diemen. Sims, bot. mag. t. 1510. Flowers cream-coloured.

Elliptical-leaved Pomaderris. Fl. May, July. Clt. 1805. Shrub 6 feet.

4 P. di'scolor (Vent. malm. t. 58.) cymes somewhat umbellately-corymbose, many-flowered, hoary and velvety from very short, scarcely manifest hairs; leaves ovate-lanceolate, acuminated, smooth above, but clothed with short, white down beneath. ♄. G. Native of New Holland. P. acuminàta, Link. enum. 235. P. malifòlia and P. díscolor, Sieb. pl. exs. nov. holl. no. 208 and 213. Flowers whitish. An intermediate species between *P. elliptica* and *P. intérmedia*, but hardly distinct from the former.

Two-coloured-leaved Pomaderris. Fl. May, June. Clt. 1814. Shrub 8 feet.

5 P. interme'dia (Sieb. pl. exs. nov. holl. no. 210.) cymes corymbosely-panicled; calyxes and pedicels velvety-villous; leaves elliptical, acuminated at both ends, smooth above, but hoary and velvety beneath. ♄. G. Native of New Holland. Flowers pale-yellow.

Intermediate Pomaderris. Fl. May, June. Clt. 1825. Sh. 6 ft.

6 P. andromedæfòlia (Cuning. in Field's new south wales, p. 351.) leaves oval-lanceolate, smooth above, but clothed beneath with white down; corymbs terminal, crowded; flowers with petals? ♄. G. Native of New Holland, on rocky parts of the Blue Mountains. Flowers pale-yellow.

Andromeda-leaved Pomaderris. Fl. April, June. Shrub 4 ft.

7 P. ledifòlia (Cuning. l. c.) leaves oval or elliptical, smooth, silky-white beneath; corymbs few-flowered, terminal; stems twiggy. ♄. G. Native of New Holland, upon rocky hills at Cox's River. Flowers pale-yellow.

Ledum-leaved Pomaderris. Fl. May, Ju. Clt. 1824. Sh. 2 ft.

* * *Flowers 5-petalled, corymbose, or racemosely-panicled. Seeds each furnished with a smaller perforation at the base than the rest of the species. Petals scarcely unguiculate.*

8 P. globulòsa (G. Don, in Loud. hort. brit. 84.) leaves obovate, quite entire, downy beneath, as well as the flowers and branches; peduncles axillary, corymbose; capsules opening from the base to the top. ♄. G. Native of New Holland, on the eastern coast. Ceanòthus globulòsus, Labill. nov. holl. 1. p. 61. t. 85. Flowers pale-yellow.

Globular-fruited Pomaderris. Fl. April, June. Clt. 1808. Shrub 8 feet.

9 P. spathula'ta (G. Don, in Loud. hort. brit. p. 84.) leaves oblong-obovate, somewhat spatulate, obtuse, quite entire, downy beneath, as well as the branches and flowers; racemes

somewhat panicled; capsules opening from the base to the top. ♄. G. Native of New Holland, in Van Lewin's Land. Ceanòthus spatulàtus, Labill. nov. holl. 1. p. 60. t. 84. Flowers pale-yellow.

Spatulate-leaved Pomaderris. Fl. April, June. Clt. 1826. Shrub 6 feet.

10 P. Wendlandia'na (G. Don, in Loud. hort. brit. p. 84.) leaves oblong-lanceolate, acute, smooth above, clothed with rusty down beneath; panicles terminal and axillary. ♄. G. Native of New Holland? Ceanòthus Wendlandiànus, Schult. syst. 5. p. 299. Habit of *P. ellíptica.* Fruit unknown. Flowers yellowish.

Wendland's Pomaderris. Fl. April, Ju. Clt. 1810. Sh. 10 ft.

11 P.? capsula'ris (G. Don, in Loud. hort. brit. p. 84.) leaves ovate, cordate, acuminated, serrated; capsules 3-valved, dehiscent. ♄. G. Native of the island of Tait in the South Seas. Ceanòthus capsulàris, Forst. prod. 112. Flowers yellowish.

Capsular Pomaderris. Fl. April, June. Clt. 1820. Shrub 6 feet.

* * * *Flowers apetalous, panicled, or racemose.*

12 P. ape'tala (Labill. nov. holl. 1. p. 52. t. 87.) panicles racemose, many-flowered; leaves ovate-lanceolate, acuminated, irregularly serrated, smooth above, or scabrous from starry down, clothed with hoary starry down beneath, with rather prominent nerves. ♄. G. Native on the western coast of New Holland, at Cape Van Diemen. Flowers greenish-yellow.

Apetalous Pomaderris. Fl. May, Ju. Clt. 1803. Sh. 6 ft.

13 P. a'spera (Sieb. pl. exs. nov. holl. no. 211.) panicles racemose, elongated; leaves ovate-lanceolate, acuminated, irregularly serrated, and scabrous from starry down, clothed with downy, hoary, starry villi beneath. ♄. G. Native of New Holland. Flowers greenish-yellow. Very like *P. apètala* and hardly distinguishable.

Rough Pomaderris. Fl. May, Ju. Clt. 1825. Shrub 6 ft.

14 P. ligustrìna (Sieb. pl. exsic. nov. holl. no. 212.) panicles few-flowered; leaves ovate-lanceolate, smooth above, but soft, downy, and velvety beneath from simple rather silky hairs, with scarcely prominent nerves. ♄. G. Native of New Holland, on the eastern coast. Calyxes woolly. Flowers greenish-yellow.

Privet-like Pomaderris. Shrub 4 feet.

15 P. phylicifòlia (Lodd. bot. cab. t. 120. Link. enum. 1. p. 232.) panicles racemose, leafy; leaves linear, rather scabrous above, hoary and downy beneath, with the middle nerve rather prominent. ♄. G. Native of New Holland. Flowers greenish-white. Stigma 3-4-cleft. Tube of calyx pubescent, with white oval lobes.

Phylica-leaved Pomaderris. Fl. May, Ju. Clt. 1819. Sh. 2 ft.

Cult. Pomadérris is a beautiful early flowering genus of shrubs. For culture and propagation see *Willemètia*, p. 38.

XIX. CRYPTA'NDRA (from κρυπτος, *cryptos*, hidden, and ανηρ ανδρος, *aner andros*, a male; in allusion to the stamens being hidden by the petals). Smith, in Lin. trans. 4. p. 217. D. C. prod. 2. p. 38. Brogn. mem. rhamn. p. 65.

Lin. syst. *Pentándria, Monogýnia.* Calyx coloured, campanulate, 5-cleft (f. 5. D. *a. b.*). Petals small, cucullate, sessile (f. 5. D. *c.*). Stamens enclosed; anthers 2-celled. Disk wanting. Ovary half-adnate, 3-celled. Style simple. Stigma tridentate. Capsule half inferior, tricoccous, crowned by the permanent calyx. Seeds each furnished with a short fleshy stalk.—Small, heath-like, much-branched, erect shrubs, with fastigiate branches, or short spreading branches, rarely spiny. Leaves small, quite entire, smooth, scattered. Flowers aggregate at the tops of the branches or solitary, erect, or pendulous, calyculated at the base with 5 small imbricate scales (f. 5. D. *d.*).

1 C. pyramida'lis (Brogn. mem. l. c.) branchlets pubescent, erect, pyramidal; leaves obovate-oblong, quite entire, smooth; stipulas setaceous; flowers solitary, erect; fruit oblong, rather pendulous. ♄. G. Native of New Holland. Flowers white.

Pyramidal Cryptandra. Fl. May, July. Shrub 1½ foot.

2 C. ericifòlia (Smith, in Rees' cycl. Rudge, in Lin. trans. soc. 10. p. 294. t. 18.) stem somewhat silky at the apex; leaves linear, rather remote, acute, smooth; heads of flowers terminal; bracteas silky, toothed; style pilose. ♄. G. Native of New Holland, about Port Jackson. C. capitàta, Sieb. pl. exs. nov. holl. no. 66. Flowers white, silky on the outside. Leaves 2-3 lines long.

Heath-leaved Cryptandra. Fl. May, Jul. Clt. 1821. Sh. 2 ft.

3 C. ama'ra (Smith, in Rees' cycl. Rudge, in Lin. trans. 10. p. 295. t. 18. f. 2.) stem rather hoary at the apex; leaves dense, spatulate, obtuse; heads of flowers terminal; bracteas entire, and are as well as the style smooth. ♄. G. Native of New Holland, about Port Jackson. C. ericæfòlia, Sieb. pl. exs. nov. holl. no. 67. Flowers white.

Bitter Cryptandra. Fl. May, June. Clt. 1821. Shrub 2 ft.

4 C. spine'scens (Sieb. pl. exs. nov. holl. no. 68.) smooth; branches spiny; leaves oblong, obtuse, tapering a little to the base; flowers usually solitary; bracteas brown, scarious, a little toothed, short; calyx covered with pressed, hoary-pubescence on the outside. ♄. G. Native of New Holland. Flowers white. Habit of *Condàlia.*

Spiny Cryptandra. Fl. May, June. Clt. 1824. Sh. 1 to 2 ft.

Cult. See *Willemètia* for culture and propagation, p. 38.

XX. BARTLI'NGIA (in honour of C. Bartling, who, with Wendland, wrote an ingenious dissertation on *Diósma*). Brogn. in mem. rhamn. p. 66.

Lin. syst. *Pentándria, Monogýnia.* Calyx furnished with 2 bracteas at the base, with a subhemispherical tube, and a 5-cleft limb; segments twice as long as the tube, oblong, obtuse, villous inside, imbricate in the bud. Petals 5, roundish, small, scale-formed, flat, inserted in the base of the calyx (perigynous or hypogynous). Stamens 10, 5 opposite the petals, and 5 opposite the segments of the calyx, these last are longest; filaments filiform, short; anthers ovate-roundish, 2-celled; cells opening laterally by a longitudinal chink. Disk wanting. Ovary compressed, furrowed on one side, somewhat lanceolate, 1-celled, 1-seeded (or 2-seeded?); ovula fixed to the furrowed side. Style short, awl-shaped. Stigma small, simple. This genus should probably be removed to *Rosàceæ* after *Chrysobálanus.*

1 B. obova'ta (Brogn. l. c.). ♄. G. Native of New Holland. Cryptándra obovàta, Sieb. pl. exs. nov. holl. no. 129. Stem smooth; leaves alternate, stalked, obovate, thickish, smooth; heads few-flowered; bracteas entire. Calyx smooth. Flowers white.

Obovate-leaved Bartlingia. Fl. May, Ju. Clt. 1825. Sh. 2 ft.

Cult. See *Willemètia* for culture and propagation, p. 38.

XXI. SOLENA'NTHA (from σωλην, *solen*, a tube, and ανθος, *anthos*, a flower; in allusion to the petals converging into a tube).

Lin. syst. *Pentándria, Monogýnia.* Calyx permanent, 5-cleft. Petals 5, conniving into a tube, deciduous. Disk? Anthers 5, 2-celled, each inserted under a scale. Ovary 2-lobed. —A stiff-branched spiny shrub with oblong-lanceolate, somewhat serrated leaves, scattered, and in fascicles. Flowers axillary and lateral, white.

1 S. spinòsa. ♄. G. Native of New Holland, on rocky

hills, Cox's River. Cryptándra spinòsa, Cuning. in Field's new south wales, p. 352.

Spiny Solenantha. Fl. Ap. Ju. Clt. 1826. Shrub 1 to 2 feet.

Cult. See *Cryptándra* for culture and propagation.

XXII. TETRAPA'SMA (from τετρας, *tetras*, four, and σκεπασμα, *skepasma*, a veil or hood; in allusion to the four hooded petals veiling the stamens).

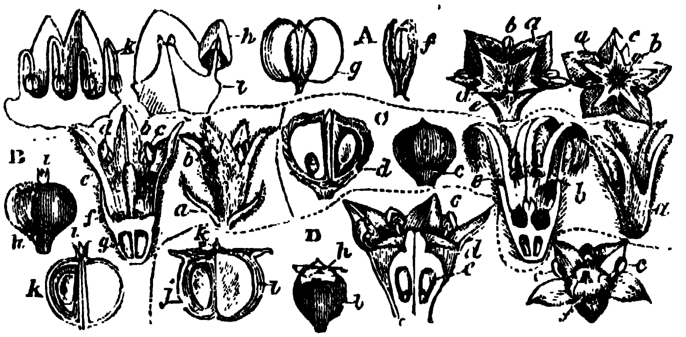
Lin. syst. *Tetrándria, Monogýnia.* Calyx 4-cleft. Petals 4, cucullate, inserted between the segments of the calyx. Anthers 4, inclosed within the petals. Stigma 3-lobed. Ovary 3-celled. —A rushy, shrubby plant, with brachiate strong thorns.

1 ju'ncea. ♄. G. Native of New Holland, at Cox's River, Bathurst, and on the banks of the Macquarie. Flowers probably white.

Rushy Tetrapasma. Shrub.

Cult. See *Willemètia* for culture and propagation, p. 38.

FIG. 7.



XXIII. TRICOCE'PHALUS (from θριξ τριχος, *thrix trichos*, hair, and κεφαλε, *kephale*, a head; in allusion to the hairy heads of flowers). Brogn. mem. rhamn. p. 67.—Phýlica, species of authors.

Lin. syst. *Pentándria, Monogýnia.* Calyx with a short urceolate tube (f. 7. E. *a*.), adnate to the ovary at the base, but free at the apex, having 5 long, bristle-like segments (f. 7. C. *b*.). Petals wanting or bristle-like. Stamens 5. Anthers kidney-shaped, 1-celled. Disk hardly distinct, covering the tube and segments of the calyx. Ovary inferior, 3-celled (f. 7. C. *d*.). Style simple, short. Stigma rather 3-lobed. Fruit half-inferior, tricoccous (f. 7. C. *c*.). Seed propped by a short fleshy stalk (f. 7. C. *d*.).—Small, heath-like shrubs, natives of the Cape of Good Hope, with fastigiate downy branches. Lower surface of leaves villous, upper surface smooth, with convolute edges, on short petioles, stipulate or exstipulate. Flowers capitate; heads elongated (in *T. spicàta*) or spherical, as in *T. stipulàris*, very downy.

1 T. stipula'ris (Brogn. l. c.) leaves alternate, lanceolate-linear, acutish, smooth above, hoary-velvety beneath, with revolute edges; stipulas awl-shaped; heads of flowers terminal, sessile. ♄. G. Native of the Cape of Good Hope, on sandy hills. Phýlica stipulàris, Lin. mant. 208. Wendl. coll. t. 32. Spreng. berl. mag. 8. p. 104. t. 8. f. 3. Young branches hoary-velvety. Bracteas short, naked, usually bifid. Flowers white.

Var. β; leaves broader, somewhat cordate at the base. Flowers white.

Stipular Tricocephalus. Fl. May, Sept. Clt. 1786. Sh. 3 ft.

2 T. spica'tus (Brogn. mem. rhamn. l. c.) leaves cordate, oblong, acuminated, erect, smooth above, hoary beneath; spikes ovate-cylindrical, downy. ♄. G. Native of the Cape of Good Hope. Phýlica spicàta, Lin. fil. suppl. 153. Lam. ill. t. 127. f. 3. P. pínea, Thunb. fl. cap.? Flowers white.

Spiked Tricocephalus. Fl. Nov. Dec. Clt. 1774. Sh. 2 ft.

3 T.? elli'ptica; leaves opposite, elliptical, or somewhat ovate, thick, hard, hoary-villous beneath, concave; stipulas ovate, concave; peduncles axillary; heads of flowers hoary and velvety. ♄. G. Native of St. Helena, on the tops of the mountains, where it is called *Wild-olive.* Phýlica ellíptica, Roxb. in Beats. app. 316. Flowers white.

Elliptical-leaved Tricocephalus. Shrub 4 feet.

4 T. ramosíssima; leaves alternate, lanceolate, acute, shining above, hoary villous beneath, with revolute edges; stipulas awl-shaped; flowers axillary, almost sessile. ♄. G. Native of St. Helena, on the middle mountains, where it is called *Wild-rosemary.* Phýlica rosmarinifòlia, Roxb. in Beats. app. 316. but not of Lam. P. ramosíssima, D. C. prod. 2. p. 34. Flowers white.

Much-branched Tricocephalus. Clt. 1810. Tree 12 feet.

Cult. These shrubs will grow well in sandy peat, and young cuttings will strike root freely in a pot of sand, with a hand-glass placed over them.

XXIV. PHY'LICA (from φυλλικος, *phyllicos*, leafy; in allusion to the curious evergreen foliage). Lin. gen. no. 266. Lam. ill. t. 127. Gært. fruct. 1. t. 24. D. C. prod. 2. p. 34. Brogn. mem. rhamn. p. 68.

Lin. syst. *Pentándria, Monogýnia.* Calyx with a subcylindrical tube, adnate to the ovary below, but free at the apex, 5-cleft (f. 7. B. *b*.). Petals 5, cucullate (f. 7. B. *c. d*.). Stamens inclosed (f. 7. B. *c*.). Anthers ovate or kidney-shaped, 2-celled or 1-celled. Disk hardly distinct (f. 7. B. *f*.), covering the tube and segments of the calyx. Ovary inferior (f. 7. B. *g*.), 3-celled. Style simple. Stigma 3-lobed or 3-toothed (f. 7. B. *i*.), in some entire. Fruit inferior (f. 7. B. *k*.), crowned by the whole of the small permanent calyx (f. 7. B. *i*.), tricoccous (f. 7. B. *h*.). Seeds propped by a short fleshy stalk (f. 7. B. *k*.). —Much branched, heath-like shrubs, with erect, fastigiate branches, scattered, linear, exstipulate leaves with revolute edges, having the lower surface villous, and the upper smooth or pubescent. Flowers capitate or spicately-capitate, girded by short, villous, or longer feathery-pilose bracteas (f. 7. B. *a*.).

Sect. I. Ericoìdes (plants with the habit of *Erìca*). Brogn. mem. rhamn. l. c. Segments of the calyx ovate, acute, erect, or spreading a little, rather woolly on the outside. Petals roundish, concave, arched, cucullate. Anthers kidney-shaped, with confluent cells, or 1-celled, 2-valved. Stigma usually 3-lobed or 3-toothed. Leaves shining above, short, needle-shaped. Flowers crowded, in dense spherical heads.

1 P. parviflòra (Lin. mant. 209.) leaves awl-shaped, acute, scabrous, somewhat pilose; branches panicled; heads of flowers small, downy. ♄. G. Native of the Cape of Good Hope, in sandy places. Petals white.

Small-flowered Phylica. Fl. April, Jul. Clt. 1790. Sh. 2 ft.

2 P. ericoìdes (Lin. spec. 283.) leaves linear-lanceolate, bluntish, spreading, smooth, downy beneath; branches somewhat umbellate; heads of flowers hemispherical. ♄. G. Native of the Cape of Good Hope, in sandy fields. Comm. hort. amster. 2. t. 1. Sims. bot. mag. t. 224. Spreng. in berl. mag. 8. p. 103. t. 8. f. 1. Flowers pure white.

Heath-like Phylica. Fl. April, Sept. Clt. 1731. Sh. 3 ft.

3 P. glabra'ta (Thunb. fl. cap. 2. p. 77.) leaves lanceolate, acute, spreading, somewhat scabrous above but downy beneath; branches smoothish; heads of flowers globose, woolly. ♄. G. Native of the Cape of Good Hope. Flowers white.

Smoothed Phylica. Fl. May, June. Clt. 1817. Shrub 3 ft.

4 P. aceròsa (Willd. enum. 252.) leaves linear, acute, downy-villous beneath; branches in whorls; heads downy, few-

flowered. ♄. G. Native of the Cape of Good Hope. Pluk. alm. t. 445. f. 1. ex Spreng. berl. mag. 8. p. 103. t. 8. f. 2. Hoffman's verz. 1824. p. 182. Flowers white.

Acerose-leaved Phylica. Fl. May, June. Clt. 1820. Sh. 3 ft.

5 P. **nítida** (Lam. ill. no. 2613.) leaves linear, acutish, spreading, smooth above, and shining, but downy beneath, floral ones as well as branches woolly; heads of flowers ovate, woolly. ♄. G. Native of the Cape of Good Hope. Flowers white.

Var. β, erióphora (Berg. cap. 52.) leaves rather hairy, lanceolate. ♄. G. Native of the Cape of Good Hope. This is probably identical with *P. nítida.*

Shining Phylica. Fl. Nov. Clt. 1774. Shrub 3 feet.

6 P. **secu'nda** (Thunb. fl. cap. p. 82.) leaves linear, mucronate, erectly spreading, smooth above, but downy beneath; heads of flowers hairy. ♄. G. Native of the Cape of Good Hope. Flowers white.

Secund Phylica. Fl. May, June. Clt. 1817. Shrub 3 feet.

7 P. **austra'lis** (Link. enum. 1. p. 230.) leaves lanceolate-linear, smooth above, but hoary-tomentose beneath; branches hairy; heads of flowers downy, small. ♄. G. Native of New Holland? Segments of calyx downy on the outside, ovate, very blunt. Flowers white. According to Sprengel this is the same as *P. parviflòra*, and therefore a native of the Cape of Good Hope.

Southern Phylica. Fl. April, June. Clt. 1818. Shrub 3 ft.

8 P. **pu'mila** (Wendl. in Willd. enum. 1. p. 252.) leaves linear-lanceolate, spreading, strigosely-villous, white beneath; flowers axillary, subcapitate; segments of calyx lanceolate, reflexed, spreading. ♄. G. Native of the Cape of Good Hope. Flowers white.

Dwarf Phylica. Fl. May, June. Clt. 1823. Shrub 1 foot.

9 P. **exce'lsa** (Wendl. coll. 3. p. 3. t. 4.) leaves lanceolate, villous, lower ones spreading, upper ones erect, somewhat imbricate; floral ones short, villous, erect; flowers spiked. ♄. G. Native of the Cape of Good Hope. Segments of calyx obtuse. Flowers yellowish-green.

Tall Phylica. Fl. May, July. Clt. 1823. Shrub 6 feet.

10 P. **callòsa** (Lin. fil. suppl. 153.) leaves cordate, oblong, acutish, coriaceous, hoary beneath, young ones pilose, adult ones smooth, floral ones hairy, spreading, longer than the heads of flowers. ♄. G. Native of the Cape of Good Hope. P. refléxa, Lam. ill. t. 127. f. 3. P. pínea, Thunb. fl. cap. Flowers yellowish-green.

Callous Phylica. Fl. Mar. April. Clt. 1774. Sh. 3 feet.

† *Species doubtful whether they belong to this section.*

11 P. **elonga'ta** (Willd. in Schult. syst. 5. p. 449.) leaves lanceolate, smooth; heads of flowers terminal, downy. ♄. G. Native of the Cape of Good Hope. Flowers white.

Elongated Phylica. Shrub 3 feet.

12 P. **squamòsa** (Willd. in Schult. syst. 5. p. 491.) leaves oblong, obtuse, close-pressed; heads of flowers terminal. ♄. G. Native of the Cape of Good Hope. Flowers white.

Scaly-leaved Phylica. Shrub 2 feet.

13 P. **ru'bra** (Willd. in Schult. syst. 5. p. 491.) leaves lanceolate, acute, downy beneath; heads of flowers terminal. ♄. G. Native of the Cape of Good Hope.

Red Phylica. Shrub 3 feet.

14 P. **microce'phala** (Willd. in Schult. syst. 5. p. 491.) leaves linear, spreading, with revolute edges; heads of flowers terminal. ♄. G. Native of the Cape of Good Hope.

Small-headed Phylica. Shrub 3 feet.

Sect. II. Strigòsa (from *strigosus*, strigose). Brogn. mem. rhamn. p. 69. Calyx with a long tube, and erect, acute, awl-shaped segments, which are hairy on the outside. Petals oblong, complicately-cucullate. Anthers oblong, 2-celled; cells parallel, opening lengthwise by distinct chinks. Stigma awl-shaped or clavated, entire. Leaves pubescent, hairy, strigose or villous, linear. Flowers spiked or capitate, usually involucrated, with very long, villous, or feathery bracteas.

15 P. **bícolor** (Lin. mant. 208.) leaves linear, acutish, and erectish, pubescent, downy beneath; branches rather villous; heads of flowers ovate, dense, woolly. ♄. G. Native of the Cape of Good Hope, in sandy places. P. strigòsa, Thunb. fl. cap. 2. p. 80. Adult leaves and branches naked. Flowers white.

Two-coloured Phylica. Fl. April, July. Clt. 1817. Sh. 3 ft.

16 P. **pi'nea** (Thunb. fl. cap. 2. p. 83.) leaves lanceolate, mucronate, smooth above, downy beneath, upper ones smallest; flowers in racemose spikes. ♄. G. Native of the Cape of Good Hope. Flowers white.

Pine-like Phylica. Fl. Nov. Dec. Clt. 1774. Shrub 3 ft.

17 P. **rosmarinifòlia** (Lam. ill. no. 2614.) leaves linear, erect, somewhat revolute, and imbricate, rather pilose above, hoary beneath; floral leaves somewhat ovate, shorter than the others; spikes of flowers ovate, dense. ♄. G. Native of the Cape of Good Hope. Lodd. bot. cab. t. 849. Flowers white.

Rosmary-leaved Phylica. Fl. April, Jul. Clt. 1815. Sh. 3 ft.

18 P. **villòsa** (Thunb. fl. cap. 2. p. 83.) leaves linear, spreading, lower ones smooth, rather scabrous, upper ones smaller; flowers in racemose spikes. ♄. G. Native of the Cape of Good Hope. Flowers white.

Villous Phylica. Fl. May, June. Clt. 1790. Shrub 3 feet.

19 P. **horizonta'lis** (Vent. malm. no. 57. obs. 3.) leaves linear, villous, hoary beneath; floral leaves longer than the others, and are as well as the branches spreading horizontally; heads of flowers small; flowers spreading. ♄. G. Native of the Cape of Good Hope. P. plumòsa, Spreng. berl. mag. 8. p. 105. f. 7. Lam. ill. t. 127. f. 4. but not of Lin.

Horizontal Phylica. Fl. May, June. Clt. 1820. Sh. 3 ft.

20 P. **plumòsa** (Lin. spec. 283.) leaves linear, awl-shaped, smooth above, hoary beneath, upper ones hairy; heads of flowers small, woolly. ♄. G. Native of the Cape of Good Hope. Lodd. bot. cab. 253.—Pluk. mant. 342. f. 3. Flowers white.

Feathery Phylica. Fl. Mar. June. Clt. 1759. Shrub 3 ft.

21 P. **squarròsa** (Vent. malm. no. 57. obs. 3.) leaves linear-lanceolate, spreading, villous and hoary beneath, lower ones rather smooth; floral ones longer than the rest, spreading; heads of flowers roundish; calycine segments erect, acute. ♄. G. Native of the Cape of Good Hope. Lodd. bot. cab. t. 36. Flowers white.

Squarrose Phylica. Fl. Aug. Nov. Clt. 1800. Shrub 2 ft.

22 P. **capita'ta** (Thunb. fl. cap. 2. p. 86.) leaves linear-lanceolate, somewhat villous, lower ones reflexed, smooth, coriaceous; floral ones very villous, spreading a little; heads of flowers roundish. ♄. G. Native of the Cape of Good Hope. Wendl. coll. 2. t. 50. Ker. bot. reg. t. 711. P. pubéscens, Ait. hort. kew. 1. p. 268.—Burm. afr. t. 44. f. 3. Heads of flowers the size of a chesnut. Flowers white.

Headed Phylica. Fl. May, Aug. Clt. 1800. Shrub 2 feet.

23 P. **Commelìni** (Spreng. berl. mag. 8. p. 104. t. 8. f. 6.) leaves linear-lanceolate, acute, spreading, villous, and hoary beneath; floral ones longer, also spreading; heads of flowers roundish. ♄. G. Native of the Cape of Good Hope. P. pubéscens, Willd. enum. 252. but not of Aiton. Segments of calyx erect, ovate, acute. Flowers white.

Commeline's Phylica. Fl. May, June. Clt. 1800. Sh. 3 ft.

24 P. **lanceola'ta** (Thunb. fl. cap. 2. p. 79.) leaves linear-lanceolate, erectly-spreading, smooth above, downy beneath; heads of flowers roundish, hairy, involucrated with bracteas.

♄. G. Native of the Cape of Good Hope, on hills. Flowers white.

Lanceolate-leaved Phylica. Fl. April, May. Clt. 1790. Sh. 3 ft.

25 P. VILLÒSA (Thunb. fl. cap. 2. p. 83.) leaves linear, spreading, lower ones smooth, rather rough, upper ones smaller; flowers in racemose spikes. ♄. G. Native of the Cape of Good Hope. Flowers white.

Villous Phylica. Fl. May, July. Clt. 1790. Shrub 2 feet.

26 P. CYLI'NDRICA (Wendl. coll. 1. t. 7.) leaves linear-lanceolate, strigosely-villous, white beneath, erect, but at length spreading, floral ones erect, imbricate, very villous; flowers in spikes. ♄. G. Native of the Cape of Good Hope. Spreng. berl. mag. 8. p. 104. t. 8. f. 5. P. pubéscens, Lam. ill. t. 127. f. 2. Flowers greenish-yellow.

Cylindrical-headed Phylica. Fl. April, Aug. Clt. ? Sh. 2 ft.

† *Species doubtful whether they belong to this section.*

27 P. IMBE'RBIS (Lin. mant. 209.) leaves linear, blunt, scabrous, downy beneath; heads of flowers pubescent. ♄. G. Native of the Cape of Good Hope.—Seb. mus. 2. t. 49. P. brunioìdes, Lam. ill. no. 2620. Flowers white.

Beardless Phylica. Shrub 2 feet.

28 P. PAPILLÒSA (Wendl. coll. 3. p. 5. t. 71.) leaves linear, acerose, erect, papillose, hairy, floral ones downy; flowers disposed in terminal spikes. ♄. G. Native of the Cape of Good Hope. Flowers white.

Papillose-leaved Phylica. Fl. May, Jul. Clt. 1820. Sh. 2 ft.

29 P. DIVARICA'TA (Vent. malm. no. 57. obs. 2.) leaves lanceolate, scattered, flat, somewhat villous above, but velvety and cloth-like beneath; branches slender, elongated, decumbent. ♄. G. Native of the Cape of Good Hope. Flowers white. Probably identical with the following.

Divaricated-branched Phylica. Shrub decumbent.

30 P. LEDIFÒLIA (Desf. cat. hort. par. 1804. p. 203.) leaves scattered, oblong, acuminated at both ends, flat, spreading, shining above, covered with hoary down beneath, as well as the branchlets. ♄. G. Native of the Cape of Good Hope. The spikes of flowers are terminal and involucrated with bracteas, according to Lher.

Ledum-leaved Phylica. Fl. May, Jul. Clt. 1820. Sh. 2 ft.

31 P. TRICHÓTOMA (Thunb. fl. cap. 2. p. 82.) leaves trigonal, obtuse, smooth; stem trichotomous, hairy; heads of flowers terminal, hairy, about the size of a pea. ♄. G. Native of the Cape of Good Hope, in fields, but rare.

Trichotomous-stemmed Phylica. Clt. 1818. Shrub 3 feet.

32 P. GLOBÒSA (Thunb. fl. cap. 2. p. 87.) leaves ovate, concave above, smooth, imbricate; heads of flowers terminal, globose, about the size of a pea. ♄. G. Native of the Cape of Good Hope.

Globose-headed Phylica. Shrub 2 feet.

33 P. ATRA'TA (Licht. in Schult. syst. 5. p. 490.) leaves cordate, linear-lanceolate, with revolute edges, smoothish, but downy beneath; heads terminal, villous, woolly. ♄. G. Native of the Cape of Good Hope, on mountains. Flowers white. Branchlets clothed with dark villi.

Dark-branched Phylica. Fl. May, July. Shrub 3 feet.

Cult. Handsome shrubs, requiring the same treatment and culture as that recommended for *Trichocéphalus*, p. 40.

XXV. SOULA'NGIA (in honour of Soulange Bodin, a nurseryman near Paris). Brogn. mem. rhamn. p. 70.—Phýlica, species of authors.

LIN. SYST. *Pentándria, Monogýnia.* Calyx with an obconical tube adnate to the ovary (f. 7. D. *f.*), 5-cleft. Petals 5, cucullate (f. 7. D. *c.*). Stamens inclosed in the petals (f. 7. D. *c.*); anthers kidney-shaped, 1-celled. Disk epigynous (f. 7. D. *d.*), pentagonal, fleshy. Ovary adnate to the tube of the calyx (f. 7. D. *e.*), and equal in length to it, 3-celled. Style simple, short, rather conical, rarely trifid at the apex, crowned by a 3-toothed stigma or by 3 stigmas. Fruit inferior (f. 7. D. *i.*), marked above by a large areola (f. 7. D. *h. k.*), tricoccous. Seeds propped by a short, thick, fleshy stalk (f. 7. D. *e. j.*).—Much branched shrubs, with alternate, exstipulate, quite entire, short stalked, ovate, cordate, or lanceolate, rarely linear leaves, which are usually smooth above and villous beneath. Flowers in the axillæ of the leaves or bracteas, solitary, spiked, or panicled, clothed with short down.

1 S. AXILLA'RIS (Brogn. mem. rhamn. p. 71.) leaves linear-lanceolate, spreading, with revolute edges, smooth above, hoary beneath; flowers in the axillæ of the upper leaves, on short pedicels, the whole constituting a leafy spike. ♄. G. Native of the Cape of Good Hope. Phýlica axillàris, Lam. ill. no. 2615. Spreng. berl. mag. 8. p. 104. t. 8. f. 4. P. rosmarinifòlia, Willd. enum. 253. but not of Lam. Flowers white.

Axillary-flowered Soulangia. Fl. May, June. Clt 1812. Shrub 3 feet.

2 S. OLEÆFÒLIA (Brogn. mem. rhamn. p. 71.) leaves ovate-oblong, mucronate, acute, coriaceous, flat, spreading, covered with hoary down beneath, but smooth above or pubescent; flowers in loose racemes at the tops of the branches, intermixed with bracteas. ♄. G. Native of the Cape of Good Hope. P. oleæfòlia, Vent. malm. no. 4. obs. 2. P. spicàta, Lodd. bot. cab. t. 323. P. oleoìdes, D. C. prod. 2. p. 36. Flowers white.

Olive-leaved Soulangia. Fl. May, July. Clt. 1800. Sh. 3 ft.

3 S. THYMIFÒLIA (Brogn. mem. rhamn. p. 71.) leaves lanceolate, acuminated, spreading, smooth above, but hoary beneath, with rather revolute edges; flowers sessile, disposed in heads at the tops of the branches. ♄. G. Native of the islands in the Antarctic sea. Phýlica thymifòlia, Vent. malm. t. 57. Flowers white.

Thyme-leaved Soulangia. Fl. May, Jul. Clt. 1820. Sh. 3 ft.

4 S. PANICULA'TA (Brogn. mem. rhamn. p. 71.) leaves ovate-lanceolate, acuminated, spreading, shining above, downy white beneath; flowers disposed in leafy, terminal, panicled racemes. ♄. G. Native of the Cape of Good Hope. Phýlica paniculàta, Willd. spec. 1. p. 1112. Phýlica myrtifòlia, Poir. dict. 5. p. 293. Flowers white.

Panicled-flowered Soulangia. Fl. May, July. Clt. 1817. Shrub 2 to 3 feet.

5 S. BUXIFÒLIA (Brogn. mem. rhamn. p. 36.) leaves ovate, coriaceous, spreading, smooth above, but covered with hoary down beneath; flowers in heads at the tops of the branches. ♄. G. Native of the Cape of Good Hope. Phýlica buxifòlia, Lin. spec. 283. Wendl. coll. 1. t. 26. Lodd. bot. cab. t. 848.—Burm. afr. 119. t. 44. f. 1. Flowers greenish.

Box-leaved Soulangia. Fl. May, Sept. Clt. 1759. Sh. 6 ft.

6 S. CORDA'TA (Brogn. mem. rhamn. p. 71.) leaves cordate, ovate, coriaceous, acute, mucronate, smooth above, but covered with hoary down beneath; heads of flowers small, axillary, stalked. ♄. G. Native of the Cape of Good Hope. Phýlica cordàta, Lin. spec. 283.—Comm. præl. p. 62. t. 12. Flowers white.

Cordate-leaved Soulangia. Fl. May, Ju. Clt. 1789. Sh. 6 ft.

7 S. PEDICELLA'TA; leaves linear-lanceolate, rather erect, pubescent above and hoary beneath with revolute edges, especially when dried; flowers on pedicels in the axillæ of the leaves, the whole forming a terminal leafy corymb. ♄. G. Native of the Cape of Good Hope. Phýlica pedicellàta, D. C. prod. 2. p. 36. Flowers white.

Pedicellate-flowered Soulangia. Shrub 4 feet.

8 S. RECLINA'TA; leaves lanceolate, reclinate, silky, white beneath, bearded at the apex; flowers stalked in the axillæ of

the upper leaves, the whole forming a kind of umbel. ♄. G. Native of the Cape of Good Hope. Phýlica reclinàta, Wendl. coll. 2. p. 49. t. 56. Flowers white.

Reclinate-leaved Soulangia. Fl. May, Jul. Clt. 1823. Sh. 3 ft.

9 S.? ARBÒREA; leaves ovate-lanceolate, crowded, veinless, downy beneath, bearded at the apex; heads of flowers axillary. ♄. G. Native of the island of Tristan d'Acunha. Phýlica arbòrea, Pet. Thouars. fl. trist. d'acun. p. 45. Carm. fl. in Lin. trans. p. 23. Trunk covered with a grey bark. Leaves half an inch long. Flowers white.

Tree Soulangia. Clt. 1817. Tree 12 feet.

10 S. ORIENTA'LIS; leaves ovate-lanceolate, smooth above but clothed with hoary down beneath; flowers in racemose panicles. ♄. G. Native of? Phýlica orientàlis, Lois. herb. amat. t. 283. Flowers white.

Eastern Soulangia. Fl. May, July. Clt. 1820. Shrub 4 ft.

11 S.? DIOI'CA; leaves cordate; flowers dioecious; scales of calyx hairy. ♄. G. Native of the Cape of Good Hope. Allied to *S. buxifòlia* and *cordàta.* Phýlica dioíca, Lin. mant. 342.

Dioecious Soulangia. Fl. Aug. Sept. Clt. 1817. Shrub 6 ft.

Cult. See *Trichocéphalus* for culture and propagation, p. 40.

XXVI. GOUA'NIA (in honour of Anthony Gouan, once Professor of Botany at Montpelier, author of Hortus Monspeliensis, &c.). Jacq. amer. 264. Lin. gen. no. 1167. Lam. ill. t. 845. D. C. prod. 2. p. 38. Brogn. mem. rhamn. p. 71.—Retinària, Gært. fruct. 2. p. 187. t. 120. f. 4.

LIN. SYST. *Pentándria, Monogýnia.* Calyx with an adhering tube and a somewhat spreading, 5-cleft limb (f. 7. A. *a.*). Petals convolute (f. 7. A. *h.*) or cucullate (f. 7. A. *f.*). Stamens enclosed (f. 7. A. *h.*). Anthers ovate, 2-celled (f. 7. A. *k.*). Disk epigynous (f. 7. A. *e.*), pentagonal or stellate (f. 7. A. *c.*). Ovary adnate to the tube of the calyx (f. 7. A. *c.*), 3-celled. Style trifid. Fruit inferior, trigonal, or 3-winged (f. 7. A. g.), tricoccous; coccula not joined, indehiscent, coriaceous. Seeds sessile.—Usually climbing shrubs, with the branchlets often naked from abortion and tendrilled. Leaves alternate, feather-nerved, lower nerves largest and arched, somewhat triple-nerved, toothed, rather pubescent, stipulate at the base. Flowers usually polygamous from abortion, disposed in glomerated spikes on the naked branchlets, rarely in the axillæ of the bractea-like leaves, as in *G. smilacìna.*

* *American species. Disk starry; flowers hermaphrodite.*

1 G. INTEGRIFÒLIA (Lam. dict. 3. p. 5.) leaves quite entire, oval, smoothish, membranous. ♄. ◡. S. Native of? Branchlets and petioles pubescent. Flowers greenish-white. There are two varieties of this plant, the one with acute, the other with obtuse leaves.

Entire-leaved Gouania. Clt. 1800. Shrub cl.

2 G. DOMINGE'NSIS (Lin. spec. ed. 2. p. 1663.) leaves ovate, acuminated, smoothish, serrated. ♄. ◡. S. Native of St. Domingo, Jamaica, and Guadaloupe. G. glàbra, Jacq. amer. t. 179. f. 40. Banistèria lupuloides, Lin. spec. ed. 1. p. 427.—Pluk. alm. t. 162. f. 3. and t. 201. f. 4. Fruit 3-winged. Flowers greenish-yellow?

St. Domingo Gouania. Clt. 1739. Shrub cl.

3 G. STRIA'TA (Rich. act. soc. hist. nat. 1. p. 113.) leaves ovate, smooth, nerved, crenate, emarginate; branches and rachis striated. ♄. ◡. S. Native of Guiana, in woods. G. Domingénsis, Aubl. guian. 2. p. 934. Flowers greenish-yellow.

Striated-stemmed Gouania. Shrub cl.

4 G. CANE'SCENS (Rich. ex Poir. suppl. 2. p. 820.) leaves oval-lanceolate, acute, hoary beneath; racemes axillary and terminal. ♄. ◡. S. Native of Guiana. Flowers greenish-yellow.

Hoary Gouania. Shrub cl.

5 G. PUBE'SCENS (Lam. ill. t. 845. f. 1. ex Poir. suppl. 2. p. 820.) leaves ovate, crenated, rather pubescent; racemes simple, terminal, disposed in a panicle, lower racemes axillary. ♄. S. Native of St. Domingo. Flowers greenish-yellow.

Var. β, *Martinicénsis* (Poir. l. c.) leaves almost smooth; branches tendrilled at the apex; racemes lateral. ♄. ◡. S. Native of Martinique. Probably a proper species.

Pubescent Gouania. Shrub erect.

6 G.? PANICULA'TA (Spreng. new. entd. 3. p. 49.) leaves ovate, coarsely toothed, smooth; racemes panicled, axillary, and terminal. ♄. S. Native of St. Domingo. This and the preceding species are erect and destitute of tendrils, therefore it is doubtful whether they belong to *Gouània* or not.

Panicled Gouania. Shrub erect.

7 G. CRENA'TA (Lam. dict. 3. p. 5.) leaves ovate, crenated, rather villous, on short petioles; tendrils terminal and axillary. ♄. ◡. S. Native of South America. Leaves 4 inches long and 2 broad. Flowers greenish-yellow.

Var. β, *cordifòlia* (D. C. prod. 2. p. 39.) leaves cordate at the base, coarsely dentate-crenated. ♄. ◡. S. Native of St. Domingo.

Crenate-leaved Gouania. Shrub cl.

8 G. TOMENTÒSA (Jacq. amer. 263.) leaves roundish-ovate, acuminated, bluntly serrated, downy beneath; racemes terminal and axillary; fruit 3-winged. ♄. ◡. S. Native of the Caribbee islands. Gært. fruct. 3. t. 183. f. 1. Fruit with rounded thin wings. Flowers greenish-yellow.

Downy Gouania. Clt. 1823. Shrub cl.

9 G. STIPULA'RIS (Moc. et Sesse, fl. mex. icon. ined. D. C. prod. 2. p. 39.) leaves ovate, smoothish, serrated, acuminated, somewhat cordate at the base; stipulas large, half-sagittate; fruit 3-winged. ♄. ◡. S. Native of Mexico. Stipulas truly distinct. Flowers greenish-yellow?

Large-stipuled Gouania. Shrub cl.

10 G. CYCLOCA'RPA (Smith in Rees' cycl. no. 3.) leaves elliptical-oblong, acute, obsoletely serrated; younger ones silky and rusty, adult ones naked; fruit with narrow orbicular wings. ♄. ◡. S. Native of the West Indies?

Circle-fruited Gouania. Shrub cl.

11 G. A'PTERA (D. C. prod. 2. p. 39.) leaves ovate, acutish, somewhat cordate at the base, coarsely serrate-toothed, and are as well as the branches covered with soft villi. ♄. ◡. S. Native of South America. Tendrils on the tops of the branchlets as well as along the peduncles.

Wingless-fruited Gouania. Shrub cl.

* * *Brasiliàna* (natives of Brazil). *Segments of calyx with membranous edges, plaited in the bud, forming 5 crests. Disk not stellate but pentagonal, not extended beyond the throat of the calyx. Flowers umbellate or racemose in the axillæ of the upper leaves, sometimes terminal.*

12 G. SMILACÌNA (Smith, in Rees' cycl. 16. no. 8.) leaves cordate, acute, minutely serrated, sometimes pilose; stipulas awl-shaped; peduncles umbellate, hardly the length of the leaves. ♄. ◡. S. Native of Brazil. Branches flexuous. Leaves small. Flowers yellowish.

Smilax-like Gouania. Shrub cl.

13 G. CORYLIFÒLIA (Raddi. mem. pl. bras. add. p. 16.) leaves roundish or somewhat ovate-cordate, with glandular toothlets, pubescent beneath; racemes axillary and terminal, very long. ♄. ◡. S. Native of Brazil, on Mount Cercovado, near Rio Janeiro. Capsules 3-winged, netted. Flowers yellowish?

Hazel-leaved Gouania. Shrub cl.

14 G. CORDIFÒLIA (Raddi. mem. pl. bras. l. c.) leaves cordate, ovate, serrulated, rather hairy; flowers axillary and terminal, capitate, hairy. ♄ . ◡. S. Native of Brazil; common about Rio Janeiro. Stipulas minute, almost linear. Flowers minute, yellow.

Heart-leaved Gouania. Clt. 1820. Shrub cl.

* * * *Asiaticæ* (natives of Asia). *Disk starry. Flowers polygamous.*

15 G. DENTICULA'TA (Smith, in Rees' cycl. 16. no. 4.) leaves ovate, entire, acuminated at the apex, with the acumen finely toothed, hairy beneath; racemes axillary; tendrils terminal. ♄ . ◡. S. Native of the East Indies, in the island of Honimao. Flowers yellowish.

Toothletted-leaved Gouania. Shrub cl.

16 G. MAURITIA'NA (Lam. dict. 3. p. 4.) leaves ovate, acuminated, somewhat cordate at the base, subserrated, covered with silky down on both surfaces; racemes axillary, shorter than the leaves; tendrils and branches clothed with rusty villi. ♄ . ◡. S. Native of the Mauritius. G. Domingénsis, var. Mauritiàna, Aubl. Wings of fruit rounded, thin, membranous. Flowers yellowish.

Mauritian Gouania. Clt. 1823. Shrub cl.

17 G. RETINA'RIA (D.C. prod. 2. p. 40.) leaves ovate, acutish, a little serrated, young ones rather pubescent, adult ones smooth; racemes terminal and axillary, much longer than the leaves; fruit winged, triquetrous. ♄ . ◡. S. Native of the Mauritius. Retinària scándens, Gært. fruct. 2. p. 187. t. 120. f. 4. Lam. ill. t. 845. f. 3. Flowers yellowish.

Resinous Gouania. Shrub cl.

18 G. TILIÆFÒLIA (Lam. dict. 3. p. 5.) leaves cordate, ovate, acuminated, smoothish, with glandular serratures; racemes axillary and terminal, pubescent; fruit rather ovate, wingless. ♄ . ◡. S. Native of the Island of Bourbon. G. Stadtmánni, Willem. herb. maur. 58. Flowers greenish-yellow.

Lime-tree-leaved Gouania. Fl. May, Jul. Clt. 1810. Sh. cl.

19 G. LEPTOSTA'CHYA (D. C. prod. 2. p. 40.) leaves ovate, acuminated, rather cordate, coarsely crenated, and are as well as the branchlets smooth; racemes axillary and terminal, very slender, elongated; flowers on very short pedicels, smoothish; fruit bluntly triquetrous, wingless. ♄ . ◡. S. Native of the East Indies, on mountains, in many places. G. tiliæfòlia, Roxb. cor. 1. p. 67. t. 98. exclusive of the synonyms. Flowers greenish-yellow.

Slender-spiked Gouania. Fl. May, July. Clt. 1810. Sh. cl.

20 G. MICROCA'RPA (D. C. prod. 2. p. 40) leaves elliptical, acute, almost entire, and are as well as the branchlets smooth, upper ones oblong; racemes terminal, elongated; fruit triquetrous, winged. ♄ . ◡. S. Native of the East Indies. G. tiliæfòlia, Rottl. in herb. Puer. This species has the fruit of *G. retinària*, but one half smaller. Leaves with oblique nerves.

Small-fruited Gouania. Shrub cl.

21 G. OBTUSIFÒLIA (Vent. mss. in herb. Brogn. mem. rhamn. p. 72.) shrub erect, rusty-villous; leaves elliptical or ovate, obtuse, crenated, villous beneath, somewhat pubescent above; flowers in long simple spikes, emitting from their base one simple tendril, disposed in interrupted bundles, each propped by a bristle-like bractea; fruit with three semicircular wings. ♄ . S. Native of Java. Flowers greenish-yellow.

Blunt-leaved Gouania. Shrub erect.

22 G. NIPAULE'NSIS (Wall in fl. ind. 2. p. 417.) leaves oval, finely acuminated, rounded, or acute at the base, seldom subcordate, villous and strongly ribbed beneath; stipulas membranous, lanceolate, falcate; racemes very long, villous, terminal, or from the upper axillæ of the leaves. ♄ . ◡. G. Native of Nipaul, on the high mountains of Sheopore, Chundrugiri, &c. Tendrils simple, terminal, or from the base of the racemes. Petioles furnished with a couple of evanescent glands at their base. Flowers greenish-yellow.

Nipaul Gouania. Fl. June, Oct. Shrub cl.

Cult. *Gouània* is a genus of insignificant shrubs, not worth cultivating, except in general collections. They will all grow freely in a mixture of loam and peat; and ripened cuttings will soon strike root if planted in a pot of sand plunged in heat, with a hand-glass placed over them.

XXVII. CRUMENA'RIA (from *crumèna*, a purse; in allusion to the thin, papery capsule). Mart. nov. gen. bras. 2. p. 68. t. 160. Brogn. mem. rhamn. p. 73.

LIN. SYST. *Pentándria, Monogýnia.* Calyx campanulate, 5-cleft, coloured above, with the tube connate to the ovary below. Petals hood-formed. Stamens with inclosed, 2-lobed anthers. Style 1. Stigmas 3. Capsule covered by the adnate calyx, papyraceous, tricoccous; coccula with winged margins, 1-seeded, fixed to the central, 3-parted, filiform receptacle.—A small, annual plant, with decumbent branches, alternate, stalked, cordate, quite entire leaves, furnished with twin stipulas at their base. Peduncles axillary, jointed, solitary, or twin. Flowers small, white.

1 C. DECU'MBENS (Mart. l. c. t. 160.). ⊙. S. Native of Brazil, in grassy places by the sides of woods. This genus does not differ from *Gouània*, unless in the calyx being campanulate, and in its tube being free at the apex, as well as in the disk being defective. However, it differs from every plant in the present order in the stems being annual.

Decumbent Crumenaria. Pl. decumbent.

Cult. This plant is not worth cultivating, unless in the gardens of the curious. The seeds should be sown in a pot of mould about the beginning of April, and placed in a hot bed, and when the plants are of sufficient size, some may be planted in separate pots, others may be planted in the open border, where they will probably ripen their seed.

† *Genera allied to Rhámneæ, but are not sufficiently known.*

XXVIII. COU'PIA (*Couepi* is the Guiana name of one of the species). Aubl. guian. 1. p. 296. D. C. prod. 2. p. 29.—Cùpia, Jaum. exp.—Glossopétalum, Schreb. gen. no. 526.

LIN. SYST. *Pentándria, Tetra-Pentagýnia.* Calyx small, 5-toothed, permanent, adhering to the base of the ovary. Petals 5, oblong, appendiculate inside. Stamens 5, very short. Ovary roundish, crowned by 4 or 5 sessile stigmas. Berry pea-shaped, 4-5-celled, 4-5-seeded.—Trees with alternate, feather-nerved, somewhat unequal stipulate leaves, axillary peduncles, bearing numerous, umbellate pedicels and small flowers. This genus should probably be placed in *Rutàceæ*.

1 G. GLA'BRA (Aubl. guian. 1. t. 116.) leaves quite smooth. ♄ . S. Native of Guiana, in the woods of Sinemari. Glossopétalum glàbrum, Willd. spec. 2. p. 1521. Flowers yellow. Berries black. The natives of Guiana make canoes of the trunk of this tree.

Smooth Coupia. Tree 60 feet.

2 G. TOMENTÒSA (Aubl. l. c.) leaves hairy on both surfaces. ♄ . S. Native of Guiana, in woods. Glossopétalum tomentòsum, Willd. spec. 2. p. 1521. The bark and leaves are bitter. The latter are used by the inhabitants of Guiana against inflammation of the eyes.

Downy Coupia. Tree 25 feet.

Cult. Loam, peat, and sand is a good mixture for this genus, and ripened cuttings will root if planted in sand under a hand-glass, in heat.

XXIX. CARPODE'TUS (from καρπος, *carpos*, a fruit, and δετος, *detos*, tied; there is a ring round the middle of the fruit resembling a tie). Forst. gen. t. 17. D. C. prod. 2. p. 29.

Lin. syst. *Pentándria, Monogýnia.* Calyx with a turbinate tube, adnate to the ovary, and a 5-cleft limb; lobes deciduous. Petals 5, small, inserted in the calyx. Stamens very short; anthers almost sessile. Style 1, filiform. Stigma depressed, capitate. Berry dry, globose, 5-celled, 5-seeded, girded by the tube of the calyx.

1 C. serra'tus (Forst. nov. gen. t. 17. Spreng. pug. 1. p. 20.) ♄. G. Native of New Zealand. Leaves oblong, with glandular serratures, puberulous above, pale, smooth, and netted beneath. Peduncles opposite the leaves. This plant is very little known.

Serrate-leaved Carpodetus. Shrub 12 feet.

Cult. See *Willemètia* for culture and propagation, p. 38.

XXX. SCHÆFFE'RIA (in honour of James Christian Schæffer, a German botanist, author of Botanica Expeditior in 1762). Jacq. amer. 259. D. C. prod. 2. p. 40.

Lin. syst. *Diœ'cia, Tetrándria.* Flowers dioecious from abortion. Calyx 4-parted, blunt, permanent under the fruit, perhaps altogether free. Petals 4, alternating with the sepals. Stamens 4, opposite the petals. Ovary 2-celled. Style short or wanting. Stigmas 2. Berry dry, 2-parted, rarely 1-celled, usually 2-celled; cells 1-seeded. Seeds erect. Albumen fleshy. Embryo central, straight, flat.—Shrubs, with alternate, entire leaves, and numerous small, axillary, stalked flowers.

1 S. frute'scens (Jacq. amer. 259.) style slender, 2-lobed at the apex; petals blunt; leaves elliptical, acuminated at both ends, and are, as well as the branches, smooth. ♄. S. Native of St. Domingo, Jamaica, Carthagena, and New Spain, in bushy places. S. complèta, Swartz, fl. ind. occ. 1. p. 327. t. 7. f. *a.* Flowers white. Berries the size of a small pea, of a yellowish-red colour.

Var. β, buxifòlia (D. C. prod. 2. p. 41.) leaves broad, ovate, mucronate. ♄. S. Native of Jamaica. Sloan. hist. 2. p. 209. f. 1.

Shrubby Schæfferia. Clt. 1793. Shrub 6 feet.

† *Doubtful species.*

2 S. panicula'ta (Spreng. neue. entd. 3. p. 49.) petals concave; flowers panicled; leaves spatulate, coriaceous, pubescent beneath, as well as the branches. ♄. S. Native of Brazil. Flowers whitish.

Panicled Schæfferia. Shrub.

3 S. viride'scens (Moc. et Sesse, fl. mex. icon. ined. D. C. prod. 2. p. 41.) style none; stigmas 2, thick, sessile; petals acute. ♄. S. Native of Mexico. Leaves almost like those of *S. frutéscens*, but more blunt. Fruit globose. Younger petals greenish on the outside, but of a dirty-white on the inside.

Greenish-flowered Schæfferia. Shrub 6 feet.

4 S. racemo'sa (Moc. et Sesse, fl. mex. icon. ined. D. C. prod. 2. p. 41.) style wanting; stigmas 3, thick, sessile; petals obtuse. ♄. S. Native of Mexico. Racemes lateral, many-flowered. Scales 4 between the stamens, or alternating with the petals. Fruit globose. This will probably form a distinct genus.

Racemose-flowered Schæfferia. Shrub.

Cult. This is a genus of insignificant shrubs; for the culture and propagation see *Goúpia*, p. 44.

XXXI. OLI'NIA (the name of a town in Spain). Thunb. in Rœm. arch. 2. p. 1. and p. 4. D. C. prod. 2. p. 41.

Lin. syst. *Penta-Hexándria, Monogýnia.* Calyx with a campanulate tube, and 5 or 6 blunt teeth. Petals 5, inserted in the calyx, alternating with the teeth, linear-lanceolate, permanent, furnished with rather concave scales on the inside at the base. Stamens 5 or 6, very short, inserted in the calyx; anthers concealed under the scales. Ovary free? Style very short. Stigma thickened, pentagonal. Fruit crowned by the calyx, 5-angled, 5-seeded.—A smooth, much branched shrub. Branches tetragonal. Leaves ovate, opposite. Flowers white, in axillary panicles.

1 O. cymòsa (Thunb. l. c. and fl. cap. 194.) ♄. G. Native of the Cape of Good Hope, on the western side of the Table Mountain. Sideróxylum cymòsum, Lin. fil. suppl. 1. p. 152. Flowers white, sweet-scented.

Cymose-flowered Olinia. Shrub 4 feet.

Cult. This shrub will grow in a mixture of loam and sandy peat, and ripened cuttings will root if planted in a pot of sand, with a hand-glass placed over them.

XXXII. DAPHNIPHY'LLUM (from δαφνε, *daphne*, the Greek name for the laurel, and φυλλον, *phyllon*, a leaf; in allusion to the leaves resembling the laurel). Blum. bijdr. 1152.

Lin. syst. *Diœ'cia, Hexa-Decándria.* Flowers dioecious. Calyx inferior, small, crenulated. Corolla none. Male flowers, with 6-10 short stamens, which are connate at the base. Anthers erect, tetragonal. Female flowers with a 2-celled ovary, with the cells containing 2 ovula, and a bifid sessile stigma. Drupe oval, baccate, crowned by the stigma containing a 1-seeded fibrous nut. Embryo minute, inverted in a fleshy albumen.—A tree, with scattered, oblong-lanceolate, entire, smooth, exstipulate leaves, which are glaucous beneath. Racemes axillary, simple.

1 D. glauce'scens (Blum. bijdr. 1153.) ♄. S. Native of Java, on the higher mountains of Salak and Gede.

Glaucescent-leaved Daphniphyllum. Tree.

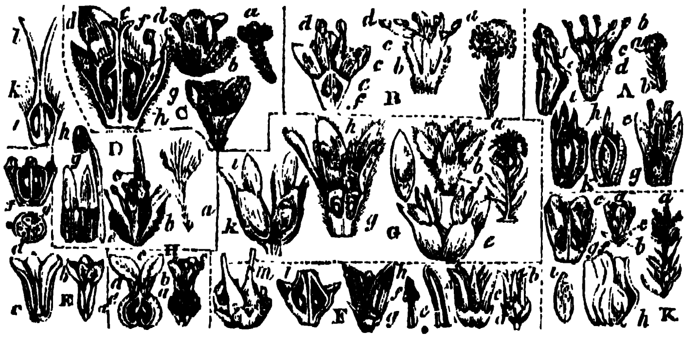
Cult. See *Coúpia* for culture and propagation, p. 44.

Order LXVIII. **BRUNIA'CEÆ** (plants agreeing with *Brùnia* in important characters). R. Br. in Lin. trans. 1818. D. C. prod. 2. p. 43. Brong. mem. brun. in ann. scienc. nat. par. august, 1826.

Calyx adhering to the ovary (f. 8. G. *g.* H. *a.*), rarely free (f. 8. C. *h.*), 5-cleft (f. 8. B. *b.* K. *c.*), or 5-toothed (f. 8. H. *b.*), imbricate in æstivation. Petals 5 (f. 8. G. *b.* C. *d.*) imbricate, inserted in the ovary, alternating with the segments of the calyx (f. 8. K. *c.* G. *b.*). Stamens 5 (f. 8. B. *d.*), alternating with the petals, epigynous; anthers fixed by the back, bursting inwards, 2-celled, opening lengthwise (f. 8. B. *d.*). Ovary half inferior (f. 8. F. *l.*), 1 (f. 8. A. *g.*) -3-celled (f. 8. E. *g.*); cells 1 (f. 8. C. *g.*) -2 (f. 8. E. *g.*) -seeded; ovula suspended from the central column of the ovary. Style simple or bifid (f. 8. D. *l.*). Stigma 1 or 2-3, small, papilliform. Fruit dry, bicoccous, or indehiscent, 1-seeded, inferior, or half inferior. Seeds with a small embryo, located in the apex of a fleshy albumen, with short cotyledons, and a long conical radicle.—Much branched, heath-like shrubs, with small, smooth, or hardly pilose leaves, which are usually callously-ustulate at the apex, stiff, quite entire, and are inserted in 5 rows, on the branches. Flowers small, capitate, or rarely panicled, spiked or terminal and solitary; heads of flowers naked or involucrated with larger leaves; flowers each furnished with 3 bracteas at their base, lower bractea larger than the rest, lateral ones opposite, smaller, or wanting. In

Lincònia, Thámnea, Audouínia, Tittmánnia, the flowers are involucrated by 4 or more bracteas.

FIG. 8.



Synopsis of the Genera.

1 **Berze'lia.** Calyx adhering to the ovary (f. 8. A. *g.*); segments unequal, gibbous (f. 8. A. *e.*). Ovary inferior, 1-celled (f. 8. K. *g.*), 1-seeded. Style simple. Fruit indehiscent.

2 **Bru'nia.** Calyx adhering to the half inferior ovary (f. 8. K. *g.*). Ovary 2-celled (f. 8. B. *e.* K. *g.*); cells 1-2-seeded. (f. 8. K. *g.* B. *f.*). Styles 2. Fruit indehiscent, 1-seeded from abortion.

3 **Staa'via.** Calyx adhering (f. 8. G. *g.*). Petals free (f. 8. G. *h. c.*). Ovary half inferior, 2-celled (f. 8. G. *k. g.*); cells 1-seeded. Style simple. Fruit 2-seeded (f. 8. G. *k. g.*).

4 **Raspa'lia.** Calyx free (f. 8. C. *h.*). Petals and stamens inserted in the free ovary (f. 8. C. *d. g.*). Ovary 2-celled (f. 8. C. *h.*); cells 1-seeded. Styles 2 (f. 8. C. *e.*).

5 **Bera'rdia.** Calyx adhering to the ovary (f. 8. D. *i.*). Petals cohering into a tube at the base. Ovary half inferior, 2-celled; cells 1-seeded. Styles 2. Fruit 2-seeded.

6 **Lincònia.** Calyx adhering to the ovary (f. 8. F. *l.*). Petals oblong, convolute (f. 8. F. *b. c.*). Stamens inclosed; cells of anthers diverging (f. 8. F. *f.*) below. Ovary half inferior, 2-celled; cells 2-seeded. Fruit 2-seeded (f. 8. F. *m.*).

7 **Audoui'nia.** Calyx adhering to the ovary (f. 8. E. *f.*), with large imbricate segments (f. 8. E. *a.*). Petals unguiculate. Ovary half inferior (f. 8. E. *f.*), 3-celled; cells 2-seeded (f. 8. E. *g.*). Style simple (f. 8. E. *b.*).

8 **Tittma'nnia.** Calyx with a spherical tube (f. 8. H. *a.*), adnate to the ovary, with erect scarious segments (f. 8. H. *b.*). Petals unguiculate (f. 8. H. *c.*). Ovary inferior, spherical (f. 8. H. *e.*), 2-celled; cells 2-seeded. Ovula fixed to the dissepiment, pendulous.

9 **Tha'mnea.** Calyx adhering to the ovary, with lanceolate segments. Ovary inferior, 1-celled, many-ovulate, covered by the fleshy disk. Ova hanging from the central column. Style simple.

I. BERZE'LIA (in honour of Berzelius, the celebrated chemist). Brogn. et Dum. mem. l. c. p. 14.—Brùnia, species of authors.

Lin. syst. *Pentándria, Monogýnia.* Calyx adhering to the ovary (f. 8. A. *g.*), with unequal gibbous segments (f. 8. A. *e. i.*). Ovary inferior, 1-celled, 1-seeded (f. 8. A. *g.*). Style simple, terminated by a small subconical stigma (f. 8. A. *c.*). Fruit indehiscent.—Small heath-like shrubs, with short, somewhat trigonal, imbricate or spreading leaves. Heads of flowers (f. 8. A. *a.*) naked, usually crowded at the tops of the branches, with three bracteas at the base of each flower.

1 B. **abrotanoìdes** (Brogn. et Dum. mem. p. 15.) leaves ovate, ustulate at the apex, smooth, spreading, on short petioles; heads of flowers the size of a filbert, terminal, crowded, subcorymbose; receptacle hairy; bracteas clavate, green, smooth, ustulate at the apex; petals spreading, spatulate. ♄. G. Native of the Cape of Good Hope.

Var. α; flowers 4-cleft, tetrandrous; petals large, spreading; stamens very long.

Var. β; flowers 5-cleft, pentandrous; petals smaller than those of the preceding, as well as the stamens shorter. Brùnia abrotanoìdes, Burm. afr. p. 266. t. 100. f. 1. Wendl. coll. t. 45. Lodd. bot. cab. t. 355. Flowers white.

Southernwood-like Berzelia. Fl. May, July. Clt. 1787. Shrub 1½ foot.

2 B. **interme'dia** (Schlecht. in Linnæa. 6. p. 188.) much branched, ultimate branches somewhat fastigiate, smoothish; leaves linear-trigonal, spreading or reflexed, callous at the tip, smoothish; heads of flowers size of a nut, forming a corymb on the lateral branches; bracteas lanceolate-spatulate, pilose, callous at the tip; calyx pilose; petals erectish, oblong, obtuse, tapering to the base. ♄. G. Native of the Cape of Good Hope.

Intermediate Berzelia. Shrub 2 to 4 feet.

3 B. **lanuginòsa** (Brogn. et Dum. mem. p. 16.) branches erect, fastigiate, young ones villous; leaves triquetrous, spreading, callose at the apex, rather pilose; heads of flowers about the size of a pea at the tops of the lateral branches, disposed in a fastigiate panicle; bracteas spatulate, smooth, callose at the apex; petals almost erect, oblong-lanceolate, blunt. ♄. G. Native of the Cape of Good Hope, and in Madagascar. Brùnia lanuginòsa, Lin. hort. cliff. p. 71. spec. 288. Wendl. coll. t. 11. Lodd. bot. cab. t. 572.—Pluk. phyt. t. 318. f. 4. Flowers white.

Woolly Berzelia. Fl. June, Aug. Clt. 1774. Shrub 1 to 2 ft.

4 B. **ru'bra** (Schlecht. l. c. p. 189.) branched; branches erect, younger ones rather villous; leaves linear-lanceolate, rather tetragonal towards the apex, with a strong middle nerve, recurvedly spreading or reflexed, callose at the tip, younger ones rather villous; heads of flowers size of a pea, terminal or axillary, solitary or aggregate; bracteas somewhat rhomboid-spatulate, pilose, callous at the tip; petals spreading, oblong, obtuse. ♄. G. Native of the Cape of Good Hope. Brùnia rùbra, Herb. Willd. ex Spreng. syst. 1. p. 782.

Red Berzelia. Shrub 2 to 4 feet.

5 B. **cordifo'lia** (Schlecht. in Linnæa. 6. p. 189.) branched; branches erect, younger ones pubescent; leaves subcordate-ovate, bluntish, somewhat marginate, flat, spreading or reflexed, smooth, callous at the tip; heads of flowers size of a nut, solitary on the tops of the lateral branches; bracteas subspatulate, pilose, callous at the apex; petals spreading, oblong-elliptic, tapering to the base, and 2-crested at the apex. ♄. G. Native of the Cape of Good Hope.

Heart-leaved Berzelia. Shrub 2 to 4 feet.

6 B. **squarro'sa** (Schlecht. in Linnæa. 6. p. 189.) leaves lanceolate, reflexed, acute, smooth, ustulate at the apex; heads of flowers terminal, hairy, smaller than a pea. ♄. G. Native of the Cape of Good Hope. Brùnia squarròsa, Thunb. fl. cap. 2. p. 92.

Squarrose Berzelia. Fl. July, Aug. Clt. 1820. Sh. 2 to 3 ft.

7 B.? **globo'sa**; leaves trigonal, incurved, acute, imbricate,

villous; heads of flowers terminal, smooth, about the size of a walnut, or larger. ♄. G. Native of the Cape of Good Hope. Brùnia globòsa, Thunb. fl. cap. 2. p. 90. Flowers white.

Globose-headed Berzelia. Fl. Ju. Aug. Clt. 1816. Sh. 1 to 2 ft.

Cult. See *Brùnia* for culture and propagation, p. 48.

II. BRU'NIA (in honour of Corneille de Bruin, better known under the name of Le Brun, a Dutch traveller; he travelled through Persia to India in 1701 to 1708, and in Asia Minor, Egypt, &c. from 1673 to 1674). Lin. gen. 274. (exclusive of Staàvia). Gært. fruct. 1. p. 152. t. 30. Thunb. fl. cap. 2. p. 89. —Brùnia and Barrèria, Adans. D. C. prod. 2. p. 43. Brogn. et Dum. mem. p. 16.

LIN. SYST. *Pentándria, Monogýnia.* Calyx adhering to the ovary (f. 8. K. *g.*). Ovary half inferior, 2-celled (f. 8. K. *g.* B. *e.*); cells 1-2-seeded. Styles 2, diverging (f. 8. B. *d.*) at the apex. Fruit indehiscent, 1-seeded from abortion (f. 8. K. *h.*). —Shrubs more or less branched, with the branches in whorls, erect or spreading. Leaves small, closely imbricate, and flowers capitate (f. 8. B. *a.*) in *B. alopecuroìdes*, *B. nodiflòra*, and *B. virgàta;* but in *B. racemòsa* and *B. pinifòlia*, the leaves are larger, fir or myrtle-like, spreading, and the flowers in panicles (f. 8. K. *a.*) Flowers furnished with 3 bracteas each, or sometimes deficient of the two lateral ones.

SECT. I. NODIFLO'RÆ (from *nodus*, a knot, and *flos*, a flower; flowers disposed in close heads or knots). Calyx hairy, with spatulate segments (f. 8. B. *b.*). Petals somewhat spatulate (f. 8. B. *c.*). Stamens exserted (f. 8. B. *d.*), unequal. Ovary 2-celled (f. 8. B. *e.*); cells 2-seeded. Fruit crowned by the permanent calyx, stamens, and petals.

1 B. NODIFLO'RA (Lin. spec. 288. mant. 343.) leaves lanceolate, awl-shaped, trigonal, acute, smooth, closely imbricate, not ustulate at the apex; heads of flowers globose, size of a cherry, on the top of the branches. ♄. G. Native of the Cape of Good Hope. Wendl. coll. t. 35.—Breyn. cent. 22. t. 10. Flowers white.

Knot-flowered Brunia. Fl. July, Aug. Clt. 1786. Sh. 1 to 2 ft.

2 B. PASSERINOÌDES (Schlecht. in Linnæa. 6. p. 190.) dichotomously branched; branches erect, slender; leaves minute, obovate-elliptical, densely-imbricated, and pressed to the stem, callous at the points, concave outside, puberulous at first, but at length becoming smooth and shining; heads minute, few-flowered, terminal, solitary. ♄. G. Native of the Cape of Good Hope.

Passerina-like Brunia. Shrub 2 to 3 feet.

SECT. II. ALOPECUROI'DEA (from *αλωπηξ*, *alopex*, a fox, and *ουρα*, *oura*, a tail; disposition of flowers like a fox tail). Calyx with scarious, smooth segments (f. 8. K. *c.*). Petals ovate (f. 8. K. *a.*), inclosing the stamens. Ovary 2-celled (f. 8. K. *g.*); cells 1 or 2-seeded. Fruit crowned by the calyx. Petals and stamens caducous.

3 B. RACEMO'SA (Brogn. et Dum. mem. p. 18.) leaves spreading, sessile, ovate, acuminated, somewhat cordate, 3-nerved, rather pilose; flowers panicled; panicle composed of dense, distant, rather leafy racemes. ♄. G. Native of the Cape of Good Hope. Phýlica racemòsa, Lin. mant. 209. D. C. prod. 2. p. 37. Béckia cordàta, Burm. prod. 12. Flowers white.

Racemose-flowered Brunia. Fl. May, Sept. Clt. 1790. Shrub 5 feet.

4 B. PINIFÒLIA (Brogn. et Dum. mem. p. 19.) leaves spreading a little, sessile, linear, blunt, 1-nerved, quite smooth, coriaceous, flat; panicle dense, composed of rather simple racemes; flowers scarious, approximate. ♄. G. Native of the Cape of Good Hope. Phýlica pinifòlia, Lin. fil. suppl. 153. Béckia Africàna, Burm. prod. 12. Flowers white.

Pine-leaved Brunia. Fl. May, Ju. Clt. 1789. Sh. 1 to 2 ft.

5 B. IMBRICA'TA; leaves imbricate, ovate, cordate, smooth or somewhat ciliated, flat; panicle composed of numerous racemes; branches hairy. ♄. G. Native of the Cape of Good Hope. Phýlica imbricàta, Thunb. fl. cap. 85. Flowers white.

Imbricate-leaved Brunia. Fl. Aug. Nov. Clt. 1801. Shrub 1 to 3 feet.

6 B. ALOPECUROÌDES (Thunb. fl. cap. 2. p. 93.) leaves awl-shaped, trigonal, acute, smooth, imbricate, incurved, ustulate at the apex; heads of flowers terminal, ovate-globose, dense naked, smaller than a pea; bracteas shorter than the flowers. ♄. G. Native of the Cape of Good Hope. Flowers white.

Fox-tail-like Brunia. Fl. Ju. Aug. Clt. 1816. Shrub 1½ foot.

7 B. VIRGA'TA (Brogn. et Dum. mem. p. 20.) branches slender in whorles; leaves closely-pressed to the stem, sessile, lanceolate-awl-shaped, acute, ustulate at the apex, channelled, quite smooth; heads of flowers terminal, about the size of a small pea, few-flowered. ♄. G. Native of the Cape of Good Hope, on the top of the mountain called Rode-sand. B. verticillàta, Thunb. fl. cap. 2. p. 92.? fil. suppl. 158.? Flowers white.

Twiggy Brunia. Shrub 1 to 2 feet.

8 B. LA'XA (Thunb. fl. cap. 2. p. 93.) leaves trigonal, blunt, closely-pressed to the stem, imbricate, smooth; branches loose, twiggy; heads of flowers spike-formed, smooth. ♄. G. Native of the Cape of Good Hope, in the interior of the country. Flowers white.

Loose-branched Brunia. Fl. June, Aug. Clt. 1805. Sh. 2 ft.

† *Species not sufficiently known, therefore doubtful to which of the Genera of Bruniàceæ they belong, but they are most probably referable to the first section of the present genus.*

9 B. LÆ'VIS (Thunb. fl. cap. 2. p. 89.) leaves linear, convex, incurved, blunt, imbricate; heads of flowers terminal, downy, about the size of a filbert. ♄. G. Native of the Cape of Good Hope. Flowers white.

Smooth Brunia. Fl. June, Aug. Clt. 1822. Shrub 2 feet.

10 B. DEU'STA (Thunb. fl. cap. 2. p. 90.) leaves trigonal, blunt, smooth, black at the apex, imbricately-spreading; heads of flowers terminal, smooth, about the size of a pea. ♄. G. Native of the Cape of Good Hope. Flowers white.

Burned-leaved Brunia. Fl. June, Aug. Clt. 1804. Sh. 2 ft.

11 B. COMÒSA (Thunb. fl. cap. 2. p. 91.) leaves trigonal, smooth, spreading, obtuse, ustulate at the apex; heads of flowers globose, terminal, and axillary, sessile, about the size of a pea. ♄. G. Native of the Cape of Good Hope. Flowers white.

Tufted Brunia. Fl. July, Aug. Clt. 1820. Shrub 1 to 3 ft.

12 B. CAPITE'LLA (Thunb. fl. cap. 2. p. 91.) leaves trigonal, smooth, spreading, ustulate at the apex; heads of flowers terminal and axillary, about the size of a pea. ♄. G. Native of the Cape of Good Hope. Flowers white.

Small-headed Brunia. Shrub 1 to 3 feet.

13 B. ARACHNOÍDEA (Wendl. coll. 2. p. 62.) leaves linear, thin, acuminated, somewhat trigonal, cobwebbed, fuscous at the apex, spreading, crowded; heads of flowers globose, small. ♄. G. Native of the Cape of Good Hope. Flowers white.

Cobwebbed Brunia. Fl. June, Aug. Clt. 1820. Sh. 1 to 3 ft.

14 B. ERICOÌDES (Wendl. coll. 2. p. 57.) leaves linear, short, acute, trigonal, pilose in the middle, brown and callose at the apex, spreading; heads of flowers globose, about the size of a cherry. ♄. G. Native of the Cape of Good Hope. Flowers white.

Heath-like Brunia. Fl. July, Aug. Clt. 1804. Sh. 1 to 3 ft.

15 B. MACROCE'PHALA (Willd. ex Spreng. syst. 1. p. 782.) leaves linear-lanceolate, crowded, hairy, erectly-spreading; heads of flowers terminal, solitary. ♄. G. Native of the Cape of Good Hope. Flowers white.

Long-headed Brunia. Fl. Ju. Aug. Clt. 1815. Sh. 1 to 3 ft.

16 B. SUPE'RBA (Donn, hort. cant. Willd. spec. 1. p. 1143.) leaves semicylindrical, spreading, incurved, pilose, ending in spacelate awns. ♄. G. Native of the Cape of Good Hope. B. speciòsa, Hortulan. Flowers unknown.

Superb Brunia. Fl. May, July. Clt. 1791. Shrub 1 to 3 ft.

† *Species only known by name, from catalogues, without any description. These are probably identical with some of those described above.*

1 *B. capitàta* (Desf.). 2 *B. élegans* (Dum. Cours). 3 *B. formòsa* (Dum. Cours).

Cult. Elegant heath-like shrubs, but with insignificant flowers. A mixture of peat and sand suits them best, and young cuttings, planted in sand with a bell-glass placed over them, will strike root.

III. STAA'VIA (in honour of Martin Staaff, a correspondent of Linnæus). Dahl. diss. Thunb. prod. 41. D. C. prod. 2. p. 45. Brogn. et Dum. mem. Brun. p. 22.– Levisànus, Schreb. gen. 377.– –Astrocòma, Neck. elem. no. 196.

LIN. SYST. *Pentándria, Monogýnia.* Calyx adhering to the bottom of the ovary (f. 8. G. *g.*) but free at the top, ending in 5 awl-shaped callose lobes (f. 8. G. *f.*). Petals free (f. 8. G. *c.*). Ovary half-inferior, 2-celled (f. 8. G. *k. g.*); cells 1-seeded. Style simple. Stigma 2-lobed. Fruit bicoccous (f. 8. G. *k.*).—Small shrubs, with linear, spreading leaves, which are callose at the apex. Flowers collected into terminal, disk-like heads (f. 8. G. *a.*), involucrated by numerous shining, whitish bracteas, which are either longer or shorter than the leaves. Receptacle of flowers villous or chaffy.

1 S. RADIA'TA (Thunb. fl. cap. 2. p. 96.) young branches and leaves pilose; leaves linear, acute, hardly keeled, spreading or deflexed, mucronate; heads of flowers corymbose; bracteas of involucre membranous, mucronate, arched, deflexed, white, a little longer than the flowers. ♄. G. Native of the Cape of Good Hope. Phýlica radiàta, Lin. spec. ed. 2. p. 283. Brùnia radiàta, Lin. mant. 209.—Pluk. mant. t. 454. f. 7.—Breyn. cent. t. 82. Flowers dusky.

Rayed-flowered Staavia. Fl. May, June. Clt. 1787. Shrub 1 to 2 feet.

2 S. GLUTINÒSA (Thunb. fl. cap. 2. p. 95.) branches and leaves quite smooth; leaves linear, trigonal, thickish, blunt, callose, ustulate, approximate, erect; heads of flowers usually solitary, terminal; bracteas of involucre erect or stiffly spreading, not arched, white, much longer than the flowers; flowers agglutinated with resinous juice. ♄. G. Native of the Cape of Good Hope, on the Table Mountain. Wendl. coll. 1. t. 22. Brùnia glutinòsa, Lin. mant. 210.—Pluck. mant. t. 431. f. 1. Flowers dusky.

Glutinous-flowered Staavia. Fl. April, May. Clt. 1793. Shrub 1 to 2 feet.

3 S. NU'DA (Brogn. et Dum. mem. p. 23.) branches fastigiate, and are as well as the leaves smooth; leaves oblong-linear, short, trigonal, erect, imbricate; heads of flowers solitary, terminal; involucre shorter, or equal in length to the leaves, and of the same colour. ♄. G. Native of the Cape of Good Hope Flowers dusky?

Naked Staavia. Shrub 1 to 2 feet.

4 S. CILIA'TA (Brogn. et Dum. mem. p. 24.) branches fastigiate, villous; leaves sessile, erect, imbricate, oblong-lanceolate, acute, smooth, keeled on the back, and ciliated with long hairs on the margins, and with callose points; heads of flowers discoid, woolly (bracteas and segments of the calyx very villous) involucre shorter than the flowers, imbricate, pilose, of the same colour as the leaves. ♄. G. Native of the Cape of Good Hope. Brùnia ciliàta? Lin. spec. 288.

Ciliated-leaved Staavia. Fl. May, Jul. Clt. 1812. Sh. 1 to 2 ft.

Cult. See *Brùnia* for culture and propagation.

IV. RASPA'LIA (in honour of M. Raspal, who has written on the structure of grasses and the formation of fecula). Brogn. et Dum. mem. brun. p. 21.

LIN. SYST. *Pentándria, Digýnia.* Calyx free, 5-cleft (f. 8. C. *c.*). Petals and stamens inserted in the free ovary (f. 8. C. *g.*). Ovary 2-celled (f. 8. C. *h.*).; cells 1-seeded. Styles 2 (f. 8. C. *e.*).—A subshrub, with twiggy, fastigiate branches, alternate, opposite, or whorled, short branchlets. Leaves small, rhomboid, keeled, closely pressed to the branchlets, quite smooth, spirally inserted. Heads of flowers solitary, twin, or tern (f. 8. C. *a.*), at the tops of the branches, downy, not involucrated. Flowers small, white, with a spreading limb and enclosed anthers.

1 R. MICROPHY'LLA (Brogn. et Dum. mem. p. 22. t. 37. f. 1.). ♄. G. Native of the Cape of Good Hope. Brùnia microphýlla? Thunb. fl. cap. 2. p. 94.

Small-leaved Raspalia. Clt. 1804. Shrub 1 to 2 feet.

Cult. For culture and propagation see *Brùnia.*

V. BERA'RDIA (in honour of M. Berard, a professor of chemistry at Montpelier). Brogn. et Dum. mem. brun. p. 24.– –Brùnia and Lincònia, species of authors.

LIN. SYST. *Pentándria, Digýnia.* Calyx adhering to the ovary at the base, but free at the apex, 5-cleft (f. 8. D. *b.*). Petals 5, cohering into a tube at the base. Stamens adhering to the petals more or less at the base. Ovary half inferior. Styles 2 (f. 8. D. *l.*). Fruit bicoccous (f. 8. D. *i.*).—Small shrubs, with erect, fastigiate, slender branches, awl-shaped, acute, close-pressed leaves, covering the stem on every side. Flowers capitate (f. 8. D. *a.*), involucrated, with awl-shaped bracteas, which are longer than the leaves, each flower is furnished or propped by 3 bracteas, the lower one is twice the length of the flower (f. 8. D. *c.*), the two lateral ones are about equal in length to the flower.

1 B. PALEA'CEA (Brogn. et Dum. mem. p. 25.) leaves awl-shaped, acute, short, closely pressed to the stem, quite smooth, ustulate; heads of flowers corymbose; lower bractea twice as long as the flower, awl-shaped, ustulate, hairy at the base; segments of calyx shorter than the petals, villous; anthers ovate. ♄. G. Native of the Cape of Good Hope. Brùnia paleàcea, Thunb. prod. p. 41. Lin. mant. 559. Wendl. coll. t. 21. Flowers white.

Chaffy Berardia. Fl. June, Aug. Clt. 1791. Sh. 1 to 2 ft.

2 B. AFFÌNIS (Brogn. et Dum. mem. p. 25.) leaves awl-shaped, acute, closely pressed to the branches, smooth, or a little fringed; lower bractea awl-shaped, smooth, longer than the flowers; segments of calyx longer than the petals, smooth; anthers linear-oblong. ♄. G. Native of the Cape of Good Hope. Lincònia capitàta, Banks. herb. Flowers white.

Allied Berardia. Shrub 1 to 2 feet.

3 B. FRAGARIOÌDES (Schlecht. in Linnæa. 6. p. 188.) leaves linear-filiform, triquetrous, smooth, closely pressed to the stem with the margins and ribs densely ciliated. ♄. G. Native of the Cape of Good Hope. Brùnia fragarioìdes, Willd. spec. 1. p. 1143.

Strawberry-like Brunia. Clt. 1794. Shrub 1 to 3 feet.

† *An allied species or a new genus.*

4 B. PHYLICOÌDES (Brogn. et Dum. mem. p. 25.) leaves ovate, obtuse, imbricate, convolute, in 5 rows, downy externally; heads

of flowers corymbose; bracteas downy, equal in length to the flowers; calyx and petals woolly on the outside. ♄. G. Native of the Cape of Good Hope. Brùnia phylicoìdes. Thunb. fl. cap. 2. p. 94. Flowers white. This species differs from the preceding two in the petals being concave and free to the base, inclosing the stamens, as well as in the form of the calyx. The habit of the plant is altogether quite distinct.

Phylica-like Berardia. Fl. Ju. Aug. Clt. 1805. Sh. 1 to 2 ft.

Cult. For culture and propagation see *Brùnia*. p. 48.

VI. LINCO'NIA (Lincon, evidently the name of some botanist). Lin. mant. p. 147. Swartz, in berl. mag. 1810. p. 85. D. C. prod. 2. p. 45. Brogn. et Dum. mem. p. 26.

Lin. syst. *Pentándria, Digýnia.* Calyx adhering to the ovary (f. 8. F. *g.*), with a 5-cleft limb; segments short, membranous (f. 8. F. *a.*), smooth. Petals oblong, convolute (f. 8. F. *a*), inclosing the stamens; cells of anthers diverging at the base (f. 8. F. *b. c.*). Ovary half inferior, 2-celled (f. 8. F. *l.*); cells 2-seeded. Styles 2 (f. 8. F. *m.*). Fruit bicoccous (f. 8. F. *m.*).—Heath-like shrubs, with numerous, erect, fastigiate branches. Leaves spirally inserted on all sides of the branches, spreading, or loosely imbricate, on very short stalks, coriaceous, quite smooth, or a little fringed on the margins, marked with a prominent nerve, ustulate at the apex. Flowers solitary, in the axillæ of the upper leaves, the whole forming a crowded leafy spike, each flower involucrated by 4 or 5 bracteas, which are about the length of the calyx.

1 L. ALOPECUROÍDEA (Lin. mant. 216.) leaves spreading a little, linear, acute, almost sessile, with one prominent stiff nerve; flowers a little longer than the leaves; bracteas membranous with pilose edges, longer than the calyx. ♄. G. Native of the Cape of Good Hope. Swartz, in berl. mag. 1810. p. 86. t. 4. Brogn. mem. l. c. t. 37. f. 3. Flowers flesh-coloured or white.

Fox-tail-like Linconia. Fl. May, Ju. Clt. 1816. Sh. 1 to 2 ft.

2 L. THYMIFÒLIA (Swartz. in berl. mag. 1811. p. 284. t. 7. f. 1.) leaves elliptical, keeled, tipped with black; bracteas naked. ♄. G. Native of the Cape of Good Hope, in the interior of the country. Diósma deústa, Thunb. phyt. blætt. p. 25. but omitted in his fl. cap. as well as the following species. Brùnia láxa, Thunb. fl. cap. 2. p. 93.? Flowers white.

Thyme-leaved Linconia. Fl. May, Ju. Clt. 1825. Sh. 2 ft.

3 L. CUSPIDA'TA (Swartz. in berl. mag. 1811. p. 284. t. 7. f. 1.) leaves spreading a little, oblong, obtuse, ustulate at the apex, keeled; flowers equal in length to the leaves; bracteas equal in length to the calyx, with fringed, pilose edges. ♄. G. Native of the Cape of Good Hope. Diósma cuspidàta, Thunb. phyt. blætt. p. 24. Flowers white.

Cuspidate-leaved Linconia. Clt. 1825. Shrub 1 to 2 feet.

4 L.? PERUVIA'NA (Lam. dict. 3. p. 527.) leaves in whorles, linear, sessile, hairy, connate at their base. ♄. G. Native of Peru. Fruit unknown. This is probably a species of *Margyricárpus.* It is certainly a very doubtful species of *Lincònia*, being a native of Peru, and the leaves are said to be connate at the base; it is more likely they are many-parted.

Peruvian Linconia. Shrub.

Cult. See *Brùnia* for culture and propagation. p. 48.

VII. AUDOUI'NIA (in honour of V. Audouin, a profound entymologist). Brogn. et Dum. p. 28.

Lin. syst. *Pentándria, Monogýnia.* Calyx adhering to the ovary (f. 8. E. *f.*), 5-cleft; segments large, imbricate (f. 8. E. *a.*). Petals with a long, 2-keeled claw, and a spreading, roundish limb (f. 8. E. *b. d.*). Ovary half-inferior (f. 8. E. *f.*), 3-celled (f. 8. E. *g.*); cells 2-seeded. Style simple, terminated by 3 small, papilliform stigmas.—A shrub with erect branches. Leaves spirally inserted, imbricate, a little keeled. Flowers purple, crowded into oblong, spike-like, terminal heads.

1 A. CAPITA'TA (Brogn. et Dum. mem. p. 28. t. 38. f. 1.). ♄. G. Native of the Cape of Good Hope. Diósma capitàta, Thunb. prod. 43. Lin. mant. 210. D. C. prod. 1. p. 717.

Capitate-flowered Audouinia. Fl. May, Ju. Clt. 1790. Shrub 1 to 2 feet.

Cult. See *Brùnia* for culture and propagation. p. 48.

VIII. TITTMA'NNIA (in honour of J. A. Tittmann, who has wrote on the structure and evolution of the embryo of plants). Brogn. et Dum. mem. p. 29. t. 38. f. 2.

Lin. syst. *Pentándria, Monogýnia.* Calyx with a spherical tube (f. 8. H. *a.*), wrinkled and glandular on the outside, adnate to the ovary, 5-cleft, with scarious, erect segments (f. 8. H. *b.*). Petals with the claws 2-keeled on the inside, and with ovate-roundish spreading lamina (f. 8. H. *c.*). Ovary inferior, spherical, 2-celled (f. 8. H. *e.*), with a membranous dissepiment, free at the edges; cells 2-seeded. Ovula pendulous, fixed to the dissepiment. Style simple, conical, crowned by a bidentate stigma.—A small shrub with subumbellate, fastigiate branches. Leaves linear, subcylindrical, wrinkled, incurved, erect, imbricate, callose at the apex. Flowers axillary, approximate towards the tops of the branches, bent to one side, and calyculated at the base by short scarious scales.

1 T. LATERIFLÒRA (Brogn. et Dum. mem. p. 30.). ♄. G. Native of the Cape of Good Hope.

Side-flowered Tittmannia. Shrub 1 to 2 feet.

Cult. See *Brùnia* for culture and propagation. p. 48.

IX. THA'MNEA (from *θαμνος, thamnos*, a shrub). Sol. mss. Brogn. et Dum. mem. p. 30. t. 38. f. 3.

Lin. syst. *Pentándria, Monogýnia.* Calyx adhering to the ovary at the base, but free at the apex, divided into 5 lanceolate, smooth, scarious, imbricate segments. Petals with 2-keeled claws, and an ovate, spreading limb. Ovary inferior, covered by a fleshy disk, 1-celled, many-seeded. Ovula hanging from the apex of the column. Style simple. Stigma entire.—A small shrub with filiform, erect, fastigiate branches: Leaves very small, somewhat rhomboidal, short, blunt, keeled, closely pressed, spirally inserted; upper ones a little longer than the rest, forming an involucre to the flower. Flowers solitary, terminal, white.

1 T. UNIFLÒRA (Sol. mss. Brogn. et Dum. mem. p. 31.). ♄. G. Native of the Cape of Good Hope.

One-flowered Thamnea. Shrub 1 to 2 feet.

Cult. The whole of the plants belonging to this natural order are worth cultivating for their neatness. All the genera require the same treatment. A mixture of peat and sand suits them best, but they will require but a moderate supply of water. Young cuttings planted in a pot of sand, will strike root freely, with a hand-glass placed over them.

Order LXIX. SAMY'DEÆ (plants agreeing with *Samýda* in important characters). Gært. fil. carp. 3. p. 238. and 242. Vent. mem. inst. 1807. p. 2. p. 142. Kunth, nov. gen. amer. 5. p. 360. D. C. prod. 2. p. 47.

Calyx permanent, of 3-7, but usually of 5 sepals (f. 9. *a.*), connected together more or less at the base into a tube (f. 9. *a.*). Lobes imbricate in æstivation, rarely valvate, usually petal-like and coloured on the inside. Petals wanting, unless that the coloured inside of the calyx should be considered the lamina of the petals adhering to it. Stamens adnate to the tube of the calyx (f. 9. *a.*), double, triple, or quadruple the number of the sepals; filaments monadelphous at the base and flat, but awl-shaped at the apex, sometimes they are all antheriferous, sometimes the alternate ones are sterile and shorter than the fertile ones, villous or fringed, the alternate ones bearing ovate, 2-celled, erect anthers inserted by their base. Style filiform. Stigma capitate or lobed. Capsule coriaceous, 1-celled, 3-5-valved, many-seeded (f. 9. *d.*); valves incompletely dehiscent, usually somewhat pulpy, and coloured inside. Seeds ovate, baccate, umbilicate, fixed to the papillose or pulpy part of the valves. Albumen fleshy. Embryo inverted, minute, with ovate, leafy, plaited cotyledons, and a blunt radicle, contrary to the external umbilicus.—Shrubs or little trees, natives of the warmer regions of the world. Leaves alternate, stipulate, usually somewhat distich, simple, quite entire or toothed, feather-nerved, permanent, usually full of pellucid dots, which are either round or oblong. Peduncles axillary, sometimes solitary, 1 or many-flowered. Sometimes aggregate, 1-flowered. This order agrees with *Bixíneæ* and *Flacourtiànceæ* in the structure of the fruit, but the situation of the stamens brings it between *Rhámneæ* and *Rosàceæ, Chrysobalàneæ* or *Chailletiàceæ*.

Synopsis of the Genera.

1 Samy'da. Stamens 10-12, all antheriferous (f. 9. *a.*). Stigma globose.

2 Casea'ria. Stamens 12-30, monadelphous at the base, alternate ones antheriferous, sterile ones awl-shaped or spatulate.

3 Chætocra'ter. Calyx 5-parted. Stamens 20, monadelphous at the base, forming a cup-shaped tube, the 10 antheriferous ones shorter than the rest, the 10 sterile ones are bristle-like and hairy. Stigmas 3.

I. SAMY'DA (σαμυδα, the Greek name of the birch, resemblance). Lin. gen. 543. Lam. ill. t. 355. D. C. prod. 2. p. 47.—Guidònia, Plum. gen. t. 24.

Lin. syst. *Decándria, Monogýnia.* Stamens 10-12, all bearing anthers. Stigma globose.

Sect. I. Eusamy'da (from εὐ, *eu*, good, and σαμυδα; genuine species). D. C. prod. 2. p. 47. Calyx tubular at the base, cleft to the middle. Stamens 10 or 12. Flowers large.

* *Flowers decandrous.*

1 S. glabra'ta (Swartz. fl. ind. occ. 2. p. 760.) peduncles axillary, solitary, 1-flowered; leaves ovate-lanceolate, obtuse, quite entire, shining. ♄. S. Native of Jamaica, on the mountains. Flowers white.

Smooth-leaved Samyda. Fl. May, Aug. Clt. 1800. Sh. 12 ft.

2 S. villòsa (Swartz. fl. ind. occ. 2. p. 758.) peduncles solitary, axillary, 1-flowered; leaves oblong, acute, a little serrated, oblique at the base, silky, villous beneath. ♄. S. Native of Jamaica on the mountains. Flowers white, downy. Pulp of seeds scarlet.

Villous-leaved Samyda. Fl. June, Aug. Clt. 1820. Sh. 6 ft.

3 S. spinulòsa (Vent. choix. t. 43.) pedicels 2-3 together, axillary; leaves oval-oblong, acuminated, serrulated, coriaceous, quite smooth, but pubescent on the nerves beneath. ♄. S. Native of the islands of St. Thomas and Porto-Rico. Flowers one half smaller than those of the preceding species, white.

Spiny Samyda. Shrub 6 feet.

4 S. macroca'rpa (Moc. et Sesse, fl. mex. icon. ined. D. C. prod. 2. p. 48.) pedicels 2-3 together, very short, axillary; leaves ovate, acute, serrated, rather downy beneath. ♄. S. Native of Mexico. Flowers greenish-white. Capsules large, blood-red inside.

Long-fruited Samyda. Shrub 6 feet.

5 S. velutìna (D. C. prod. 2. p. 48.) flowers 5-cleft; pedicels numerous, axillary, very short; leaves obovate-oblong, mucronate, acutely serrated, clothed on both surfaces with velvety villi. ♄. S. Native of St. Domingo. Flowers probably white.

Velvety Samyda. Shrub 6 feet.

6 S. affìnis (Spreng. syst. 2. p. 354.) pedicels 1-flowered, numerous, axillary; leaves oblong, tapering at both ends, almost entire, opaque, smooth. ♄. S. Native of St. Domingo. Flowers white?

Allied Samyda. Shrub.

7 S. grandiflòra (Spreng. syst. 2. p. 354.) pedicels 1-flowered, aggregate, axillary; leaves oblong, tapering to both ends, almost sessile, opaque above, but shining beneath. ♄. S. Native of Brazil. Flowers probably white.

Great-flowered Samyda. Shrub 8 feet.

8 S. decu'rrens (Spreng. syst. 2. p. 354.) cymes axillary, stalked, few-flowered; leaves oblong, tapering to both ends, running down the petioles at the base, crenulate, quite smooth, opaque. ♄. S. Native of Brazil.

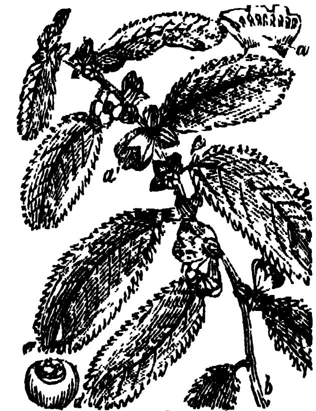
Decurrent-leaved Samyda. Clt. 1820. Shrub 4 feet.

* * *Flowers dodecandrous.*

9 S. serrula'ta (Lin. spec. 758.) peduncles solitary, axillary, 1-flowered; leaves ovate-oblong, acute, with stiff serratures, rather puberulous above, but downy beneath, and netted with nerves. ♄. S. Native of the Caribbee Islands. Plum. ed Burm. t. 146. f. 2. Jacq. coll. 2. p. 328. t. 17. f. 1. Flowers white.

Serrulate-leaved Samyda. Fl. June, Jul. Clt. 1723. Sh. 4 ft.

FIG. 9.



10 S. ròsea (Sims. bot. mag. t. 550.) flowers 5-cleft; pedicels 1-flowered, numerous, axillary, very short; leaves oblong, blunt, finely serrated, clothed with soft pubescence on both surfaces. ♄. S. Native of St. Domingo. S. serrulàta, Andr. bot. rep. t. 202. S. pubéscens, Lin. spec. 557. exclusive of the synonyms. Flowers large, rose-coloured. (f. 9.)

Rose-coloured-flowered Samyda. Fl. June, Jul. Clt. 1793. Sh. 4 ft.

11 S. ru'bra (Moc. et Sesse, fl. mex. icon. ined. D. C. prod. 2. p. 48.) pedicels numerous, axillary, very short; leaves obovate, blunt, serrate-toothed, pubescent beneath. ♄. S. Native of Mexico. Flowers red, 6-cleft. This species is probably sufficiently distinct from the preceding.

Red-flowered Samyda. Shrub 6 feet.

12 S. tinifòlia (Vent. ex Spreng. syst. 2. p. 354.) pedicels axillary, 1-flowered, longer than the petioles; leaves obovate, smooth, quite entire. ♄. S. Native of the East Indies.

Tinus-leaved Samyda. Shrub.

* * * *Flowers polygamous, male ones decandrous.*

13 S.? Sello'i (Spreng. syst. 2. p. 354.) flowers polygamous, decandrous; pedicels aggregate, axillary; leaves ovate-oblong, serrulated, unequal at the base, shining above and smooth

beneath. ♄. S. Native of Brazil. Bigelòvia Brasiliénsis, Spreng. neue entd. Flowers white.
Sello's Samyda. Shrub 6 feet?

Sect. II. Guidònia (named by Plumier in honour of Guido Crescentius Fagon, physician to Louis XIV., to whom Linnæus dedicated another genus *Fagònia*, see vol. 1. p. 770). D. C. prod. 2. p. 48. Samydæ dùbiæ, Kunth. Calyx almost divided to the base. Stamens 8, rarely 10. Flowers small. Intermediate between *Samỳda* and *Caseària*.

* *Flowers octandrous.*

14 S. multiflòra (Cav. icon. 1. p. 48. t. 67.) flowers 4-parted; pedicels axillary, aggregate; leaves oblong, tapering to both ends, toothed, downy beneath. ♄. S. Native of St. Domingo. Flowers whitish.
Many-flowered Samyda. Shrub 4 feet.

15 S.? macrophy'lla (Willd. spec. 2. p. 625.) flowers 5-cleft? revolute; corymbs terminal; leaves ovate, acute, smooth, obscurely crenated, villous in the axillæ of the veins beneath. ♄. S. Native of the East Indies. Flowers greenish. Anthers brown.
Long-leaved Samyda. Clt. 1820. Shrub 6 feet.

* * *Flowers decandrous and octandrous.*

16 S. ni'tida (Lin. spec. 557.) flowers octandrous and decandrous, 5-parted; pedicels axillary, crowded, 1-flowered; leaves cordate, smooth, somewhat serrated. ♄. S. Native of Jamaica, in the low lands. Lam. ill. t. 355. f. 2.—P. Browne, jam. 217. t. 23. f. 3. Flowers white and red. There are small teeth between the stamens, therefore it comes near to *Caseària*. P. Browne calls this shrub the *Larger Cloven-berry-bush.*
Shining-leaved Samyda. Clt. 1793. Shrub 6 feet.

17 S. spine'scens (Swartz, fl. ind. occ. 2. p. 762.) flowers decandrous and octandrous, 5-parted, almost sessile, nearly terminal; leaves lanceolate-ovate, bluntly crenated, smooth; branches spreading, spinescent. ♄. S. Native of St. Domingo, where it flowers in December and January. Flowers pale, in short, dense, downy clusters or spikes.
Spinescent Samyda. Shrub 12 feet.

18 S. pube'scens (Hamilt. prod. fl. ind. occ. p. 37.) leaves ovate-oblong, tapering to both ends, remotely-serrated above, quite entire at the base, tomentosely-pubescent; flowers subalternate, axillary. ♄. S. Native of St. Domingo.
Pubescent Samyda. Shrub.
Cult. See end of order for culture and propagation.

II. CASEA'RIA (in honour of J. Casearius, who assisted Rheede in the Hortus Malabaricus). Jacq. amer. 132. Lin. gen. no. 514. D. C. prod. 2. p. 48.—Anavínga, Lam. dict. 1. p. 147. ill. t. 355.—Iroucàna and Pitúmba, Aubl. guian.—Athenæ'a and Caseària, Schreb.—Melistaùrum, Forst. gen.—Caseària and Anavínga, Gært. fil.—Lindlèya, Kunth, malv. p. 10. but not of H. B. et Kunth, nov. gen. amer.

Lin. syst. *Hexa-Dodecándria*, *Monogýnia*. Stamens 12-30, monadelphous at the base, alternate ones bearing anthers, sterile ones awl-shaped or spatulate, usually villous or fringed. This genus ought probably to be divided into several genera, but the number of parts is not sufficient.

§ 1. *Hexanthèræ* (from ἑξ, *hex*, six, and *ανθηρα*, *anthera*, an anther). *D. C. prod. 2. p.* 48. *Fertile stamens* 6. *Sterile ones* 6. *Leaves coarsely spiny-toothed.*

1 C. ilicifòlia (Vent. choix. t. 44.) flowers 5-cleft; leaves ovate, with spiny angles, coriaceous, downy beneath. ♄. S. Native of St. Domingo.
Holly-leaved Casearia. Shrub.

2 C. comocladifòlia (Vent. l. c. in a note) flowers 5-cleft; leaves roundish, with spiny angles, quite smooth. ♄. S. Native of St. Domingo.
Comocladia-leaved Casearia. Shrub.

§ 2. *Octanthèra* (*οκτω*, *octo*, eight, and *ανθηρα*, *anthera*, an anther). *D. C. prod. 2. p.* 49. *Fertile stamens* 8. *Sterile ones* 8. *Leaves quite entire, or a little serrated.*

3 C. coria'cea (Vent. choix. t. 45.) flowers 7-8-anthered, 5-cleft; pedicels numerous, axillary, 1-flowered; leaves obovate, quite entire, coriaceous, smooth. ♄. S. Native of Batavia. Flowers small.
Coriaceous-leaved Casearia. Shrub.

4 C. glomera'ta (Roxb. hort. beng. 33.?) flowers 5-cleft; pedicels very numerous, in fascicles, 1-flowered, very short; leaves oval-oblong, acuminated, smooth, a little serrated. ♄. S. Native of Bengal. Flowers small. There is a specimen of this plant in the Lambertian Herbarium, named *C. Anavinga.*
Glomerated-flowered Casearia. Shrub.

5 C. ova'ta (Willd. spec. 2. p. 629.) flowers 6-8-anthered? 4-cleft; pedicels 1-flowered, axillary, usually solitary; leaves ovate, acuminated, a little serrated. ♄. S. Native of the East Indies. C. Anavínga, Pers. ench. 1. p. 485. Anavínga, Rheed. mal. 4. t. 49. Anavínga ovàta, Lam. dict. 1. p. 148.
Ovate-leaved Casearia. Shrub.

6 C. ramiflòra (Vahl. symb. 2. p. 50.) flowers 8-anthered, 5-cleft; pedicels 1-flowered, rising in fascicles along the branches beneath the leaves; leaves elliptical, acute, serrated, smooth on both surfaces. ♄. S. Native of the West Indies and the shores of Guiana. Iroucàna Guianénsis, Aubl. guian. 1. p. 329. t. 127. Athenæ'a, Schreb. gen. no. 661. Flowers white. Capsules green with a tinge of violet. Seed covered with a scarlet, pulpy, viscid membrane. The bark, leaves, and fruit have a sharp aromatic taste. The last is called *Caffe Diable* or *Devil's coffee*, by the creoles.
Branch-flowered Casearia. Clt. 1824. Shrub 4 feet.

7 C. nítida (Jacq. amer. 132. act. helv. 8. p. 58. with a figure) flowers 8-anthered, 5-parted; cymes stalked, axillary; leaves ovate, crenated, smooth, shining above. ♄. S. Native of Carthagena, among bushes. Samỳda crenàta, Poir. dict. 6. p. 490. Flowers whitish. Pulp of fruit scarlet or purple.
Shining-leaved Casearia. Shrub 12 feet.

8 C. corymbòsa (H. B. et Kunth, nov. gen. amer. 5. p. 366.) flowers 8-anthered, bluntly 5-cleft; corymbs axillary, solitary, stalked, many-flowered, one-half shorter than the leaves; leaves oblong, acuminated, acutish at the base, sharply toothed, smooth, full of pellucid dots. ♄. S. Native of South America, on the banks of the river Magdalena, near Mompox and Honda. Calyx white inside.
Corymbose-flowered Casearia. Shrub 10 feet.

9 C. hírta (Swartz. fl. ind. occ. 2. p. 756.) flowers 8-anthered, 4-parted; pedicels crowded, 1-flowered; leaves ovate, serrated, hairy beneath. ♄. S. Native of Jamaica, in the low lands. Samỳda tomentòsa, Swartz. prod. 98. Flowers white inside but green outside. Filaments yellow.
Hairy-leaved Casearia. Shrub 7 feet.

10 C. spinòsa (Willd. spec. 2. p. 626.) flowers 8-anthered, 5-parted; pedicels 1-flowered, crowded, axillary; leaves ovate, serrated, smooth; branches spiny. ♄. S. Native of St. Domingo and the island of Cuba, where it is called *Jia*. Samỳda spinòsa, Lin. spec. 557. C. aculeàta, Jacq. amer. 133. The spines are strong and straight, they are only abortive indurated branches, as in *Cérasus spinòsa*. Flowers white. Fruit greenish-purple.
Spiny Casearia. Shrub 7 feet.

11 C. Mariquite'nsis (H. B. et Kunth, nov. gen. amer. 5. p. 364.) leaves elliptic-oblong, acuminated, acute at the base, denticulated, smooth, full of pellucid dots; fruit solitary or twin, covered with fine tomentum. ♄. S. Native of New Granada, near Mariquita. Flowers unknown.

Mariquito Casearia. Shrub 10 feet.

12 C. argu'ta (H. B. et Kunth, nov. gen. amer. 5. p. 363.) branches finely tomentose; leaves elliptic-oblong, acuminated, rounded at the base, sharply serrated, smooth above, and pubescent on the nerves beneath, full of pellucid dots; fruit crowded, pubescent at the apex. ♄. S. Native of Mexico, near La Venta del Exido. Flowers unknown.

Sharp-notched Casearia. Tree 20 feet.

13 C. multiflòra (Spreng. syst. 2. p. 355.) flowers 8-anthered, 5-parted? panicles axillary, divaricate; leaves ovate-lanceolate, acute, quite entire, smooth; branches spinescent. ♄. S. Native of the East Indies. Flowers greenish-white. Sterile stamens cucullate. Fruit baccate, sub-4-celled.

Many-flowered Casearia. Shrub 8 feet.

§ 3. *Decanthèra* (from δεκα, *deka*, ten, and *ανθηρα*, *anthera*, an anther). *D. C. prod. 2. p. 49. Fertile stamens* 10, *with a sterile one between each. Leaves quite entire or serrated.*

14 C. parviflòra (Willd. spec. 2. p. 627.) flowers 10-anthered, 5-parted, small; pedicels 1-flowered, crowded, axillary; leaves oblong, acuminated, crenulate, smooth on both surfaces, shining, evidently full of pellucid dots. ♄. S. Native of the West Indies, in bushy places. Samỳda parviflòra, Lin. spec. 557.—Sloan. hist. 2. t. 211. f. 2. Flowers whitish. Pulp of fruit yellow.

Small-flowered Casearia. Clt. 1818. Shrub 6 feet.

15 C. sylve'stris (Swartz. fl. ind. occ. 2. p. 725.) flowers 10-anthered, 5-parted, small; pedicels 1-flowered, axillary, crowded; leaves ovate-oblong, long, and bluntly acuminated, quite entire, and smooth on both surfaces, shining, and evidently full of pellucid dots. ♄. S. Native of the West Indies, among bushes on the mountains. Flowers whitish. Fruit small, red.

Var. β? platyphýlla (D. C. prod. 2. p. 49.) leaves oval, with a short taper-point. ♄. S. Native of Perto-Rico and St. Thomas. C. integrifòlia, Vahl. ined.

Wild Casearia. Clt. 1823. Shrub 7 feet.

16 C. inæquila'tera (St. Hil. fl. bras. 2. p. 237.) branches smooth; leaves oblong or elliptic-oblong, very unequal-sided, narrowed at both ends, acuminated, serrate-toothed, full of pellucid dots, smoothish, shining; flowers smooth, umbellate; umbels nearly sessile; fertile stamens 10, exceeding the calyx; style trifid. ♄. S. Native of Brazil, in the province of Rio Janeiro.

Unequal-sided-leaved Casearia. Shrub 4 to 5 feet.

17 C. micra'ntha; branches puberulous at the apex; leaves oblong-lanceolate, narrowed at both ends, acuminated, serrulated, full of pellucid dots, smoothish, umbellate; umbels sessile; fertile stamens 10, equal with the calyx; style trifid. ♄. S. Native of Brazil, in the province of Minas Geraes, where it is called *Pioya*. C. parviflòra, St. Hil. fl. bras. 2. p. 237. Calyx white inside.

Small-flowered Casearia. Shrub 10 feet.

18 C. grandiflòra (St. Hil. fl. bras. 2. p. 232. t. 126.) branches covered with yellowish tomentum; leaves oblong-lanceolate, acute, sharply serrated, dotless, smoothish above, but clothed with yellowish tomentum beneath; flowers clothed with yellowish tomentum, glomerate, sessile; fertile stamens 10, one-half shorter than the corolla; style undivided. ♄. S. Native of Brazil, in the province of Minas Geraes.

Great-flowered Casearia. Shrub 4 to 5 feet.

19 C. sessiliflo'ra (St. Hil. fl. bras. 2. p. 234.) branches smooth below and puberulous above; leaves elliptic, short-acuminated, obsoletely serrulated, full of pellucid dots, smooth; flowers pubescent, glomerate, sessile; fertile stamens 10, 3-times shorter than the calyx; style undivided. ♄. S. Native of Brazil, in the province of Rio Janeiro. Calyx greenish-white.

Sessile-flowered Casearia. Shrub 5 to 6 feet.

20 C. ulmifo'lia (Vahl. in Vent. choix. no. 47. in a note. St. Hil. fl. bras. 2. p. 233.) flowers 10-anthered, 5-parted, umbellate; umbels on short stalks; style undivided; leaves oval-oblong, taper-pointed, acutely serrulated, puberulous, full of pellucid dots; branches smooth. ♄. S. Native of Porto-Rico and Brazil. Stamens smooth. Sterile filaments fringed, spatulate. Flowers whitish, a little larger than those of the two preceding species. In the province of Minas Geraes, in Brazil, the inhabitants employ this plant in domestic medicine. They boil the leaves, and apply them to wounds and to the bites of the most poisonous serpents.

Elm-leaved Casearia. Shrub 4 to 6 feet.

21 C. serrula'ta (Swartz. fl. ind. occ. 2. p. 754.) flowers 10-anthered, 5-parted, small, a little fringed; pedicels axillary, crowded, 1-flowered; leaves ovate-lanceolate, blunt, serrulated; branches flexuous. ♄. S. Native of the West Indies, in the island of Nevis. Samỳda Neviàna, Poir. dict. 6. p. 493. Flowers whitish.

Serrulate-leaved Casearia. Clt. 1818. Shrub 4 feet.

22 C. parvifo'lia (Willd. spec. 2. p. 628.) flowers 10-anthered, 5-parted, spreading-reflexed; pedicels crowded, lateral, 1-flowered; leaves ovate, acuminated, crenate-serrated, smooth. ♄. S. Native of Martinique, Guadaloupe, and Porto-Rico. C. decándra, Jacq. amer. t. 85. C. punctàta, Spreng. new. entd. 2. p. 154. Flowers whitish. Ovary conical, taper-pointed, hairy. Pulp of fruit yellow.

Small-leaved Casearia. Clt. 1827. Shrub 6 feet.

23 C. acumina'ta (D. C. prod. 2. p. 50.) flowers 10-anthered, 5-parted, small, quite smooth: pedicels axillary, crowded, 1-flowered; leaves ovate-lanceolate, taper-pointed, crenate-serrated, smooth, without dots. ♄. S. Native of French Guiana. Sterile filaments short, scarcely hairy. Flowers whitish.

Acuminate-leaved Casearia. Shrub 6 feet.

24 C. macrophy'lla (Vahl. ecl. 2. p. 32.) flowers 10-anthered, 5-parted, rather velvety; pedicels crowded, axillary, 1-flowered; leaves elliptical, taper-pointed, a little crenated, smooth on both surfaces. ♄. S. Native of Cayenne. Pitúmba Guianénsis, Aubl. guian. 2. app. 29. t. 385. C. Pitúmba, Poir. dict. 6. p. 492. Fertile and sterile stamens villous. Leaves 6-8 inches long. Flowers 2-3 lines long, whitish? Fruit about the size of a walnut.

Long-leaved Casearia. Shrub 8 feet.

25 C. pauciflo'ra (St. Hil. fl. bras. 2. p. 235.) branches smooth at the bottom, but pubescently tomentose at the apex; leaves oblong-lanceolate, long-acuminated, nearly entire, dotless, puberulous; flowers pubescently-tomentose, umbellate; umbels sessile; fertile stamens 10, 3-times shorter than the calyx; style undivided. ♄. S. Native of Brazil, in the province of Minas Geraes. Flowers white inside.

Few-flowered Casearia. Shrub 4 to 5 feet.

26 C. oblongifo'lia (St. Hil. fl. bras. 2. p. 234.) branches smooth; leaves oblong, acute, nearly entire, full of pellucid dots, smooth; flowers puberulous, umbellate; umbels sessile; fertile stamens 10, 3-times shorter than the calyx: style undivided. ♄. S. Native of Brazil, in the province of Rio Janeiro.

Oblong-leaved Casearia. Shrub 4 to 5 feet.

27 C. li'ngua (St. Hil. fl. bras. 2. p. 236.) branches puberulous; leaves oblong-lanceolate, roundish at the base, acumin-

ated, serrulated, full of pellucid dots, smoothish; flowers pubescent, umbellate; umbels sessile; fertile stamens 10, 3-times shorter than the calyx; style trifid. ♄. S. Native of Brazil, in the province of Minas Geraes, where it is called *Lingua de Fia*, and of the province of Goyaz, where it is called *Cha de frade*. A decoction of the leaves of this plant is used in the interior of Brazil in inflammatory diseases and malignant fevers.

Lingua Casearia. Shrub 4 to 6 feet.

28 C. Commersonia'na (St. Hil. fl. bras. 2. p. 235.) branches smooth; leaves oblong-elliptic, narrowed at the base and apex, bluntly acuminated, obsoletely crenate-serrated, smoothish, dotless; flowers pubescently-tomentose, umbellate; umbels sessile; fertile stamens 10, nearly equal in length to the calyx; style trifid. ♄. S. Native of Brazil near Rio Janeiro. Calyx white inside.

Commerson's Casearia. Shrub 4 to 6 feet.

29 C. stipula'ris (Vent. choix. t. 46.) flowers 10-anthered, 5-parted, somewhat canescent; style undivided; pedicels disposed in a stalked, axillary umbel; leaves oblong-lanceolate, taper-pointed, smooth, and shining above, but clothed with hoary tomentum beneath, sharply serrated, full of pellucid dots; branches clothed with white tomentum. ♄. S. Native of Guiana, Porto-Rico, St. Domingo, and Brazil. Samyda arbòrea, Rich. act. soc. hist. nat. par. 1792. C. incàna, Bert. ined. Stipulas linear, very long, deciduous. Flowers whitish.

Stipular Casearia. Shrub 4 to 8 feet.

30 C. zizyphoìdes (H. B. et Kunth. nov. gen. amer. 5. p. 362.) flowers 10-anthered, 5-cleft; leav [illegible]-oblong, taper-pointed, rounded at the base, crenate-ser[illegible], smooth; pedicels axillary, crowded in an umbel. ♄. S. Native of South America, between Cumana and Caraccas, near the city of New Barcelona. Calyx white inside.

Zizyphus-like Casearia. Shrub 6 to 8 feet.

31 C. celtidifòlia (H. B. et Kunth, nov. gen. et spec. amer. 5. p. 362.) flowers 10-anthered, 5-cleft; leaves oblong, taper-pointed, acute at the base, smooth, dentately-crenulate, teeth mucronate, middle nerve puberulous beneath; umbels axillary, many-flowered, on short stalks. ♄. S. Native of South America, on the banks of the river Orinoco, near Angustura and Charichana. Calyx white inside.

Celtis-leaved Casearia. Tree 20 feet.

32 C. prunifo'lia (H. B. et Kunth, nov. gen. amer. l. c.) flowers 10-anthered, 5-parted; pedicels in glomerate, axillary fascicles; leaves oblong, taper-pointed, acute at the base, obsoletely toothletted, smooth, membranous, without dots. ♄. S. Native of South America, in the province of Bracamora. Calyx white inside.

Plum-leaved Casearia. Tree 20 feet.

33 C. mòllis (H. B. et Kunth, nov. gen. amer. 5. p. 362. t. 480.) flowers 10-anthered, 5-parted; pedicels crowded in axillary umbels; leaves elliptical-oblong, taper-pointed, rounded at the base, toothed, smoothish above, but covered beneath with rusty down. ♄. S. Native of Caraccas, in shady valleys, near Araguen. Flowers whitish.

Soft Casearia. Shrub.

34 C. rufescens (St. Hil. fl. bras. 2. p. 231.) branches clothed with rufescent tomentum; leaves elliptical, short, acuminated, serrulated, smooth above, but clothed with rufescent tomentum beneath, full of pellucid dots; flowers puberulous, umbellate; umbels sessile; fertile stamens 10, one-half shorter than the calyx; style undivided. ♄. S. Native of Brazil, in the province of Minas Geraes, in that part called Minas Novas.

Rufescent Casearia. Shrub 4 to 6 feet.

35 C. hirsu'ta (Swartz. fl. ind. occ. 2. p. 755.) flowers 10-anthered, 5-parted, pubescently-villous; pedicels crowded, lateral, 1-flowered; leaves ovate, taper-pointed, serrate-toothed, hairy above and villous beneath. ♄. S. Native of Jamaica and St. Domingo, on the mountains. Flowers whitish. Fruit trigonal.

Var. β, glabràta (D. C. prod. 2. p. 50.) leaves smooth on the upper surface, but smooth on both surfaces in the adult leaves. ♄. S. Native of Porto-Rico.

Hairy-leaved Casearia. Clt. 1825. Shrub 6 feet.

36 C. fra'gilis (Vent. choix. no. 47. in a note,) flowers 10-anthered, 5-parted, smooth; pedicels axillary, few, 1-flowered; leaves ovate-lanceolate, thickish, smooth, quite entire. ♄. S. Native of the East Indies, and the Mauritius. Clàsta fràgilis, Comm. ind. Flowers whitish inside.

Brittle Casearia. Shrub 6 feet.

37 C. Guinee'nsis; flowers 5-cleft, 10-anthered; leaves ovate-lanceolate, acuminated, serrated, 3-nerved at the base, very villous, as well as the branches; peduncles many-flowered, crowded, axillary. ♄. S. Native of Guinea. Flowers small, green.

Guinea Casearia. Shrub 4 to 6 feet.

38 C. grewiæfòlia (Vent. choix. no. 48. in a note,) flowers 10-anthered; pedicels axillary, 1-flowered; leaves cordate-oblong, serrulated, downy beneath. ♄. S. Native of Java.

Grewia-leaved Casearia. Shrub.

39 C. elli'ptica (Willd. spec. 2. p. 628.) flowers 10-anthered, 5-parted; pedicels axillary, crowded, 1-flowered; leaves elliptic-lanceolate, a little serrated, bluntish, young ones pubescent beneath. ♄. S. Native of the East Indies. Anavínga lanceolàta, Lam. dict. 1. p. 146. ill. t. 355. f. 1. Flowers whitish.

Elliptical-leaved Casearia. Shrub 6 feet.

40 C. obli'qua (Spreng. syst. 2. p. 355.) flowers 10-anthered, 5-cleft, subsessile, axillary, solitary, very small; leaves oblong-lanceolate, triple-nerved, acuminated, unequal-sided, serrulated, smooth on both surfaces, shining above, and full of pellucid dots. ♄. S. Native of Brazil. Flowers whitish.

Oblique-leaved Casearia. Shrub.

41 C. Melista'urum (D. C. prod. 2. p. 51.) flowers 10-anthered, polygamous, 5-parted; lobes concave, obtuse, spreading; sterile stamens awl-shaped, pilose at the apex; style very short. ♄. G. Native of New Caledonia. Melistàurum dístichum, Forst. gen. t. 72. Samỳda polyándra, Willd. spec. 2. p. 626. The name is derived from μελι, honey, and σαυρος, a stake; the nectary bearing some resemblance to a fence of that kind.

Melistaurum Casearia. Shrub 6 feet.

42 C. Samy'da (D. C. prod. 2. p. 51.) flowers 10-anthered; sterile filaments fringed; style very short; calyxes 5-parted; capsule 3-furrowed. ♄. S. Native of Porto Rico. Anavínga Samỳda, Gært. fil. 3. p. 240. t. 224. This is probably identical with one of the Decantherous species described above.

Samyda-like Casearia. Shrub 6 feet.

§ 4. *Dodecanthèra* (from δωδεκα, *dodeca*, twelve, and ανθηρα, *anthera*, an anther). *D. C. prod.* 2. *p.* 51. *Fertile stamens* 12-15, *with an equal number of sterile ones.*

43 C. tinifòlia (Vent. choix. t. 47.) flowers 12-anthered, sterile filaments awl-shaped; calyx 5-parted, spreading; pedicels solitary, axillary, 1-flowered; leaves obovate, smooth, quite entire, evidently full of pellucid dots. ♄. S. Native of Java. Flowers the size of those of *Samỳda serrulàta*, white.

Tinus-leaved Casearia. Shrub.

44 C. adama'ntum (St. Hil. fl. bras. 2. p. 230. t. 125.) branches smooth above, but covered with rusty tomentum below; leaves obovate, short-acuminated, serrulated, full of pellucid dots; flowers umbellate; umbels sessile; fertile stamens 12, a little shorter than the calyx; style undivided. ♄. S. Native of Brazil, in the province of Minas Geraes, in that part called Distrito dos Diamantes.

Adamant Casearia. Shrub 5 feet.

45 C. Javite'nsis (H. B. et Kunth. nov. gen. amer. 5. p. 366. t. 479.) flowers 15-anthered; sterile filaments hairy; style trifid; calyx 5-parted, reflexed; pedicels axillary, umbellately-crowded, 1-flowered; leaves elliptical-oblong, acuminated, remotely-toothed, smooth, shining, without dots. ♄. S. Native of Cayenne and New Guiana. Lindlèya glàbra, Kunth. Flowers greenish-yellow. Perhaps a species of *Chætocràter*.

Javita Casearia. Tree 20 feet.

† *Species not sufficiently known.*

46 C. viridiflòra (D.C. prod. 2. p. 51.) leaves ovate-elliptical, smooth, somewhat coriaceous, rather crenulated; flowers almost sessile, fascicled, axillary. ♄. S. Native of the East Indies. Samỳda viridiflòra, Poir. dict. 6. p. 493. Flowers greenish.

Green-flowered Casearia. Clt. 1820. Shrub 6 feet.

47 C. denta'ta (Moc. et Sesse, fl. mex. icon. ined. D. C. prod. 2. p. 51.) flowers decandrous, 5-parted; pedicels axillary, very short, 1-flowered, 3 or 4 together; leaves oval, bluntish, toothed, with the petioles and nerves pubescent. ♄. S. Native of Mexico. This is probably identical with *C. hirsùta.*

Toothed-leaved Casearia. Shrub 6 feet.

48 C. du'bia (Moc. et Sesse, fl. mex. icon. ined. D. C. prod. 2. p. 51.) flowers decandrous, 5-parted; peduncles axillary, in corymbose racemes, the length of the leaves; leaves ovate-lanceolate, serrated, acute, smooth. ♄. S. Native of Mexico.

Doubtful Casearia. Shrub.

† † *Species only known by name, without any description being given.*

49 C. Vare'ca (Roxb. hort. beng. p. 33.) ♄. S. Native of Silhet, in the East Indies. Its Bengal name is *Tittachcera.*

Vareca Casearia. Shrub.

50 C. gla'bra (Roxb. l. c.) ♄. S. Native of the Moluccas.

Smooth Casearia. Shrub.

51 C. tomentòsa (Roxb. l. c.) ♄. S. Native of the East Indies, among the Circars, where it is called *Garugoodoo.*

Downy Casearia. Shrub 6 feet.

52 C. esculé'nta (Roxb. l. c.) ♄. S. Native of the East Indies, among the Circars, where it is called *Kundajungira.*

Esculent Casearia. Shrub 6 feet.

Cult. See end of order for culture and propagation.

III. CHÆTOCRA'TER (from χαιτη, *chaite*, a head of hair, and κρατηρ, *crater*, a cup; in allusion to the stamens being joined at the base into a cup-shaped tube). Ruiz et Pav. prod. fl. per. 61. t. 36. syst. p. 106. D. C. prod. 2. p. 52.—Cratèria, Pers. ench. 1. p. 485.

Lin. syst. *Monadélphia, Decándria.* Calyx 5-parted. Stamens 20, joined at the base into a cup-shaped tube, 10 of which bear anthers, and are shorter than the rest, the 10 sterile ones are bristle-formed and hairy. Stigmas 3.

1 C. fascicula'tum (Ruiz et Pav. fl. per. syst. 107.) leaves oblong, serrated, acuminated; flowers in fascicles. ♄. S. Native of Peru, in the groves of Chinchao. Cratèria fasciculàta, Pers. ench. 1. p. 485. Bark rather bitter, furnishing a cream colour.

Fascicled-flowered Chætocrater. Tree 24 feet.

2 C. capita'tum (Ruiz et Pav. fl. per. syst. 108.) leaves oblong, serrated, taper-pointed, full of dots; flowers capitate. ♄. S. Native of Peru, in the groves of Cuchero. Cratèria capitata, Pers. ench. 1. p. 485.

Headed-flowered Chætocrater. Tree 18 feet.

Cult. All the genera of this order will thrive in a mixture of loam and peat, with a little sand; and cuttings will strike root readily if planted in a pot of sand, plunged in a moderate heat, with a hand-glass placed over them. The plants of the first section of *Samỳda* are the most worthy of cultivation.

Order LXX. HOMALI'NEÆ

(plants agreeing with *Homàlium* in important characters). R. Brown. cong. p. 19. D. C. prod. 2. p. 53.

Flowers hermaphrodite. Tube of calyx short, obconical, usually, or perhaps always, adhering to the ovary; limb parted into pairs of lobes, from the number of 10 (f. 12. *a.*) to 30, outer lobes calyciform, larger than the inner ones (f. 12. *a.*), somewhat valvate in æstivation between themselves, alternate or inner ones smaller (f. 12. *a.*), petaloid, disposed in a similar mode to the outer ones in æstivation, all spreading when in flower. Petals wanting, but with sessile glands at the base (rarely in the middle) of the inner lobes of the calyx, and perhaps on the outer ones also. Stamens rising from the apex of the tube of the calyx between the glands, opposite the outer lobes of the calyx, sometimes equal in number with the lobes of the calyx, but usually 3 or 7 times that number disposed in fascicles, therefore multiple the number of the calycine lobes. Anthers 2-celled, didymous, opening by a double chink. Ovary conical, 1-celled, containing numerous ovula, usually adhering to the calyx at the base, but in part free. Styles 3-5, simple, filiform or awl-shaped. Pericarp capsular, or somewhat baccate, 1-celled. Placentas parietal, the same number as the styles, many-seeded. Seeds small, ovate, or angular. Embryo inclosed in a fleshy albumen.—Shrubs or trees, natives of the warmer regions of the world. Leaves alternate, stalked, simple, feather-nerved, toothed or quite entire. Stipulas deciduous, or probably for the most part wanting. Flowers spicate, racemose or panicled. This order agrees with *Rosàceæ* in the insertion of the stamens, but in the structure of the fruit it comes near to *Bixíneæ* and *Flacourtiàneæ*. From the absence of the petals, and the insertion of the stamens, as well as in the structure of the fruit, it comes nearest to *Samy'deæ*. Probably *Maunèia* should be referred to this order.

Synopsis of the Genera.

1 Homa'lium. Tube of calyx obconical, with a 12 (f. 12. *a.*) -14-parted limb disposed in a double series, inner lobes narrowest. Stamens in fascicles, placed in front of the outer lobes of the calyx, each fascicle containing 3-6 stamens. Styles 3, filiform.

2 Napimòga. The character the same as in *Homàlium*, but destitute of glands at the base of the inner lobes of the calyx.

3 Aza'ra. Calyx 4-5-parted. Stamens numerous, inserted in the bottom of the calyx. Styles 3, joined.

4 Pine'da. Calyx 8-10-parted, in a double series. Stamens indefinite in fascicles. Style simple. Stigma trigonal, sulcate. Berry 1-celled. Placentas 4, fleshy, adhering lengthwise to the parietes, many-seeded.

5 **Blackwe'llia.** Tube of calyx short; limb 10-30-parted, inner lobes smallest. Stamens inserted in the calyx, at the base of the glandless lobes. Ovary conical above. Styles 3-5. Capsule 1-celled, many-seeded. Seeds fixed to the parietes.

6 **Illígera.** Calyx 10-parted, in 2 series; inner segments petaloid. Stamens 5, inserted in the base of the calyx, and alternating with 5 glands. Style crowned by a peltate emarginate stigma. Ovary inferior, 1-celled, 1-ovulate.

7 **Rhinanthe'ra.** Calyx 10-parted; segments disposed in a double series. Stamens 5, inserted in the base of the calyx, alternating with 5 glands. Style crowned by a peltate emarginate stigma.

8 **Astra'nthus.** Tube of calyx short, limb 14-cleft, the 7 alternate lobes shortest. Stamens 7: anthers 3-celled. Ovary free. Styles 4. Fruit 1-seeded.

9 **Ny'sa.** Calyx turbinate, 10-12-cleft, in a double series. Stamens 5-6, opposite the inner lobes of the calyx. Ovary half adhering to the calyx. Styles 2-3. Fruit unknown.

10 **Myrianthe'ia.** Calyx campanulate, 10-cleft, the 5 inner lobes unguiculate and petaloid. Stamens inserted in the calyx, in 5 4-5 anthered fascicles. Ovary conical at the apex, inclosing 4 ovula. Styles 4. Fruit 1-seeded from abortion.

† *Genera allied to Homalineæ.*

11 **Asterope'ia.** Calyx large, 5-cleft; lobes oblong, expanded. Petals 5, deciduous, inserted in the calyx. Stamens 10, alternate ones shortest, adnate to the tube of the calyx. Ovary trigonal, 3-celled. Style short, 3-cleft. Stigmas capitate. Seeds fixed by their centre.

12 **Nei'llia.** Calyx campanulate, 5-cleft (f. 10. *b.*). Petals 5 (f. 10. *d.*), roundish, sessile, inserted in the throat of the calyx. Stamens numerous, inserted with the petals in a double series (f. 10. *e.*). Style one, obtuse. Capsule 1-celled, many-seeded. Seeds numerous, fixed to a single parietal placenta.

13 **Aristote'lia.** Calyx campanulate, 5-cleft. Petals 5, inserted in the bottom of the calyx. Stamens 15-18, in fascicles. Anthers bursting by 2 pores at the apex. Ovary free. Styles 3, connected at the base. Berry globose, 3-celled; cells 1-2-seeded. Seeds angular. Albumen fleshy. Embryo flat.

I. HOMA'LIUM (from ὁμαλος, *homalos*, equal, regular; the stamens are 21, and regularly divided into 3-stamened fascicles). Jacq. amer. 170. D. C. prod. 2. p. 53.—Acòma, Adans. fam. 2. p. 510.—Racóubea, Aubl. guian. 1. p. 590.

Lin. syst. *Polyadélphia, Polyándria.* Calyx somewhat conical, adhering to the ovary; limb disposed in a double series, 10 (f. 12. *a.*) -14-parted, inner lobes narrowest (f. 12. *a.*). Glands 6-7, placed at the base of the inner lobes of the calyx. Stamens placed in front of the outer lobes between the glands, in fascicles (f. 12. *a.*), containing 3 (f. 12. *a.*) or 6 stamens each. Ovary conical above. Styles 3, filiform.—Small trees, with oval-oblong, acuminated, serrated leaves, and with the flowers disposed in spicate racemes.

1 H. racemòsum (Jacq. amer. 170. t. 183. f. 72.) leaves membranous, serrated; racemes axillary and terminal; flowers pedicelled; fascicles triandrous. ♄. S. Native of Jamaica, Martinique, Guadaloupe, and other parts of South America. Lam. ill. t. 483. f. 2. There is a variety of this tree with 4 styles. Leaves ovate, bluntly-acuminated, with coarse deep serratures. Racemes length of leaves, perhaps always axillary. Flowers yellow? Jacq. amer. pict. t. 261. f. 43. A lofty tree, with habit and leaves of elm.

Racemose-flowered Homalium. Fl. May, July. Clt. 1816. Tree 60 ft.

2 H. Racou'bea (Swartz. fl. ind. occ. 991.) leaves coriaceous, toothed; racemes terminal; flowers almost sessile; fascicles of stamens triandrous. ♄. S. Native of Guiana. Racoúbea Guianénsis, Aubl. guian. 1. p. 590. t. 236. H. spicàtum, Lam. dict. 1. p. 62. ill. 483. f. 1. Racemes much longer than the leaves; flowers sessile, yellowish. *Racoúbea* is derived from its Guiana name.

Racoubea Homalium. Shrub 8 feet.

3 H. angustifòlium (Smith in Rees' cycl. no. 3.) leaves elliptical-lanceolate, almost entire; racemes axillary; flowers almost sessile; inner lobes of calyx obovate. ♄. S. Native of Sierra Leone. Flowers yellowish?

Narrow-leaved Homalium. Tree.

4 H. sena'rium (Moc. et Sesse, fl. mex. icon. ined. D. C. prod. 2. p. 54.) leaves ovate, coarsely-toothed; racemes axillary and terminal; flowers on pedicels; fascicles of stamens hexandrous. ♄. S. Native of Mexico.

Six-stamened Homalium. Shrub.

Cult. See end of order for culture and propagation.

II. NAPIMO'GA (its Guiana name). Aubl. guian. 1. p. 592. t. 237. D. C. prod. 2. p. 54.

Lin. syst. *Polyadélphia, Polyándria.* Character the same as *Homàlium*, but destitute of the glands at the inner lobes of the calyx.—A tree, with elliptical-oblong, serrated leaves, and axillary and terminal spikes of small greenish flowers. Stamens 18.

1 N. Guiane'nsis (Aubl. guian. l. c.) ♄. S. Native of Guiana, in woods. Homàlium Napimòga, Spreng. syst. app. p. 210.

Guiana Napimoga. Tree 20 feet.

Cult. See end of order for culture and propagation.

III. AZA'RA (in honour of Joseph Nicholas Azara, a Spanish promoter of botany). Ruiz et Pav. fl. per. et chil. prod. 1. p. 76. t. 36. syst. p. 1. p. 137. D. Don, in edinb. new. phil. journ. for Jan. 1831.

Lin. syst. *Polyándria, Monogýnia.* Perianthium 4-5-parted. Petals wanting. Stamens indefinite, inserted in the base of the calyx. Anthers round, 2-celled, bursting outwards. Styles 3, joined, crowned by 3 minute stigmas. Berry globose, 1-celled, few-seeded from abortion, opening by a fissure at the base of the styles. Placentas 3, parietal, alternating with the stigmas, with lateral branches. Seeds covered with spongy aril when mature, albuminous, having 2 covers; umbilicus basilar, perforated. Embryo straight, with reniform leafy cotyledons, and a terete radicle.—Leafy trees, with alternate, simple, stalked, stipulate leaves, which are bitter to the taste. Flowers disposed in corymbs or spikes, fragrant.

N. B. This genus has been inserted in *Bixíneæ*, p. 297. vol. 1. of this work, but since that part of the work has been printed the genus has been discovered to belong to *Homalíneæ.* We have therefore given a fresh character both of the genus and species.

Sect. I. Aza'ra (see genus for derivation). Perianthium 5-7-parted, spreading, with the segments somewhat imbricate in æstivation. Stamens indefinite, many sterile.

1 A. denta'ta (Ruiz et Pav. fl. per. et chil. syst. 1. p. 138. fl. per. 5. t. 465. f. a.) leaves ovate, serrated, scabrous, tomen-

tose beneath; corymbs sessile, few-flowered; stipulas leafy, unequal, one of which is large, and the other small. ♄. G. Native of Chili, in groves about Conception, where it is called *Corcolen*.

Toothed-leaved Azara. Fl. June, Sept. Shrub 12 feet.

2 A. serra'ta (Ruiz et Pav. fl. per. et chil. syst. 1. p. 137. gen. t. 36. fl. per. 5. t. 465. f. *b*.) leaves oblong, serrated, smooth; corymbs stalked, many-flowered. ♄. G. Native with the first. Stipulas leafy, one much longer than the other.

Serrate-leaved Azara. Shrub 12 feet.

Sect. II. Alme'ja (a word of no meaning). D. Don, in edinb. new phil. journ. Jan. 1831. Perianth with a connivent 4-cleft limb, furnished with scales on the inside, valvate in æstivation. Stamens definite, all fertile, disposed in fascicles opposite the lobes of the perianth.

3 A. integrifòlia (Ruiz et Pav. syst. fl. per. et chil. 1. p. 138. fl. per. 5. t. 466. f. *a*.) leaves obovate or oblong, entire, smooth; stipulas equal, permanent; flowers spiked. ♄. G. Native with the others, where it is also called *Corcolen*.

Entire-leaved Azara. Fl. June, Aug. Shrub 12 feet.

† *A doubtful species.*

1 A. celastri'na (D. Don, in edinb. new. phil. journ. for Jan. 1831.) leaves roundish-oval, subserrulated, smooth; stipulas small, equal; flowers axillary, in fascicled panicles. ♄. G. Native of Chili.

Celastrus-like Azara. Shrub 10 feet.

Cult. See end of order for culture and propagation.

IV. PINE'DA (in honour of Anthony Pinedo, a Spanish naturalist, who went round the world with Malespine; he died on the voyage in 1762). Ruiz et Pav. fl. per. prod. 76. t. 14. syst. 1. p. 133. D. C. prod. 2. p. 54.

Lin. syst. *Polyándria, Tetragýnia.* Perianth 8-10-parted, permanent with the segments, disposed in a double order, imbricate in æstivation, outer ones largest. Petals wanting. Throat of perianth furnished with an elevated densely pilose ring. Stamens very numerous, disposed in a multiple order, inserted in the throat of the perianth; filaments capillary, smooth; anthers roundish, 2-celled, bursting outwards lengthwise. Styles 3-4-5, joined in one, crowned by as many pruinose stigmas. Capsule or berry free, crustaceous, valveless, opening by a fissure under the styles. Placentas 4, rarely 3 or 5, narrow, parietal, with lateral branches, alternating with the stigmas. Seeds few at maturity from abortion, pedicellate, roundish-obovate, depressed at the apex, arillate, having a double covering with a little hole at the base perforated even to the embryo. Albumen fleshy, white. Embryo straight, with kidney-shaped, flat cotyledons, and a terete, thick, obtuse radicle.—An erect, branched shrub, with scattered, stalked, elliptic-oblong, or obovate, emarginate, tomentose leaves, rather serrated at the apex. Stipulas 2, small, awl-shaped. Flowers numerous, terminal, corymbose. Peduncles filiform, 1-flowered, tomentose. Perianth tomentose. Stamens yellow.

1 P. inca'na (Ruiz et Pav. fl. per. l. c.) ♄. S. Native of Peru, among stones, where it is called *Lloqui*. Leaves oblong-obovate and lanceolate, serrated at the top. Homàlium incànum, Pers. ench. 2. p. 82. A twiggy shrub.

Hoary Pineda. Shrub 12 feet.

Cult. See end of order for culture and propagation.

V. BLACKWE'LLIA (in honour of Elizabeth Blackwell, an English artist; she published in 1735 a collection of drawings, entitled Curious Herbal). Comm. mss. Juss. gen. p. 343. Lam. ill. t. 412. but not of Gært. D. C. prod. 2. p. 54.

Lin. syst. *Dodecándria, Pentagýnia.* Calyx with a short tube, adhering to the ovary more or less; limb 10-30-parted, with the lobes in pairs, the inner ones smallest, outer ones larger, bearing glands at their base, but rarely in the middle. Stamens rising from the tube of the calyx, alternating with the glands, and therefore opposite the petals. Ovary conical above. Styles 3-5. Capsule 1-celled, many-seeded. Seeds fixed to the parietes.—Small trees, with ovate-toothed leaves and simple or panicled racemes of flowers, which are probably all whitish.

* *Racemes panicled.*

1 B. integrifòlia (Lam. dict. 1. p. 428. ill. t. 412. f. 2.) leaves ovate, blunt, smooth, for the most part quite entire; panicles terminal. ♄. S. Native of the Mauritius. Flowers dodecandrous.

Entire-leaved Blackwellia. Clt. 1823. Tree.

2 B. panicula'ta (Lam. dict. 1. p. 428.) leaves ovate-roundish, toothed, smooth; panicles terminal; flowers decandrous. ♄. S. Native of the island of Bourbon, where it is called *Bois a écorce blanche* from its white bark. Vermóntea decándra, Comm. ined. ex Steud. nom. p. 111. Flowers white.

Panicled-flowered Blackwellia. Clt. 1820. Tree.

3 B. glau'ca (Vent. choix. t. 55.) leaves ovate-oblong, obtuse, a little toothed, smooth, glaucous; racemes axillary, panicled; flowers with 7-8 anthers, and 5 styles. ♄. S. Native of the Mauritius. Flowers white.

Glaucous Blackwellia. Clt. 1824. Shrub.

4 B. Nipaule'nsis (D. C. prod. 2. p. 54.) leaves oval, acuminated, serrate-toothed, smooth; racemes axillary, panicled; flowers 6-7-anthered. ♄. G. Native of Nipaul. Branches terete, grey marked with lenticular, linear-oblong, white glands. Stipulas deciduous. Leaves 3 inches long, and an inch and a half broad. Racemes branched, many-flowered, a little shorter than the leaves. Flowers small, white.

Nipaul Blackwellia. Shrub.

5 B. cerasifòlia (Vent. choix. t. 56.) leaves elliptical, acuminated, toothed, smooth, shining; racemes axillary, panicled; flowers pentandrous; glands in the middle of the lobes of the calyx; ovary free. ♄. S. Native of Madagascar. Leaves like those of the common laurel. Flowers white.

Cherry-leaved Blackwellia. Tree.

* * *Racemes simple, spike-formed.*

6 B. axilla'ris (Lam. dict. 1. p. 428. ill. t. 412. f. 1.) leaves ovate, a little crenated, smooth; spikes axillary, long, simple, nodding. ♄. S. Native of Madagascar. Flowers white.

Axillary-racemed Blackwellia. Clt. 1824. Tree.

7 B. tomentòsa (Vent. choix. t. 57.) leaves cuneiformly-obovate, toothed, downy beneath; spikes axillary and terminal, erect, very long, and simple; flowers 5-6-anthered. ♄. S. Native of Java. Flowers white.

Downy-leaved Blackwellia. Tree.

8 B. spira'lis (Wall. in asiat. resear. vol. 13.) leaves obovate, with glandular teeth, rather pubescent beneath; spikes axillary, very long, nodding; flowers usually pentandrous. ♄. S. Native of Pegu, in the East Indies. Leaves almost sessile, cuneated at the base, 6-8 inches long, 2-3 broad, with distant blunt serratures. Spikes longer than the leaves, slender, simple, perhaps nodding when fresh, but they are erect in the specimen. Flowers white.

Var. β, *glabérrima* (D. C. prod. 2. p. 55.) leaves smaller, and more coarsely crenate-serrated, smooth, coriaceous; spikes almost 3 times longer than the leaves. ♄. S. Perhaps another species.

Spiral Blackwellia. Clt. 1820. Tree 20 feet.

9 B. PADIFLÒRA (Lindl. bot. reg. 1308.) leaves oval, denticulated, smooth; flowers hexandrous and tetragynous; racemes erect, shorter than the leaves. ♄. G. Native of China. Calyx 6-cleft. Petals 6, white. Perianth 12-parted, the inner segments ciliated, resembling very much an elaborately finished shuttlecock. The shrub will grow very well in the open border in summer.

Bird-cherry-flowered Blackwellia. Fl. Aug. Clt. 1824. Sh. 6 ft.

Cult. See end of order for culture and propagation.

VI. ILLI'GERA (in honour of C. W. Illiger, a naturalist). Blum. bijdr. 1155.

LIN. SYST. *Pentándria, Monogýnia.* Calyx superior, 10-parted; segments disposed in 2 series, inner series petaloid. Stamens 5, inserted in the base of the calyx, and alternating with 5 glands. Filaments naked at the base or biauriculate. Anthers erect, bursting valvately at the sides by 2 cells, as in *Laurìneæ.* Ovary inferior, 1-ovulate. Style crowned by a peltate emarginate stigma. Fruit unknown.—Sarmentose shrubs, with alternate, ternate, entire leaves, and axillary panicles of flowers.

1 I. APPENDICULA'TA (Blum. bijdr. 1153.) leaflets oval-oblong, bluntish, veiny, smooth; panicle tomentose; stamens biauriculate at the base. ♄. S. Native of Java, on the high mountains called Burangrany.

Appendiculate-stamened Illigera. Shrub straggling.

2 I. PU'LCHRA (Blum. bijdr. 1154.) leaflets oval-oblong, acuminated, veined transversely, and are, as well as the panicles, smooth; stamens without appendages. ♄. S. Native of Java.

Fair Illigera. Shrub straggling.

Cult. See end of order for culture and propagation.

VII. RHINANTHE'RA (from ριν, *rhin*, a snout, and ανθηρα, *anthera*, an anther; in allusion to the anthers being beaked). Blum. bijdr. 1121.

LIN. SYST. *Icosándria, Monogýnia.* Calyx 8-parted, permanent, with the segments disposed in 2 series, inner series largest and biglandular at the base. Corolla wanting. Stamens numerous, unequal; anthers beaked, 2-celled. Style 1, short, crowned by an obtuse 3-4-gonal stigma. Berry globose, beaked by the permanent style, 3-4-celled; cells 2-4-seeded. Embryo perhaps exalbuminous.—A branched spiny shrub, with alternate, ovate-oblong, serrulated, coriaceous, smooth leaves, which are biglandular at the base. Racemes axillary and terminal, short, tomentose. Flowers small, sweet-scented.

1 R. ODORATI'SSIMA (Blum. bijdr. l. c.) ♄. S. Native of Batavia, in boggy places.

Sweet-scented Rhinanthera. Shrub 6 feet.

Cult. A mixture of peat and sand will probably suit this plant; and ripened cuttings will perhaps root in sand under a hand-glass, in heat.

VIII. ASTRA'NTHUS (from αστρον, *astron*, a star, and ανθος, *anthos*, a flower; lobes radiating in a stellate manner). Lour. fl. cochin. D. C. prod. 2. p. 55. Sims, bot. mag. 2659.

LIN. SYST. *Heptándria, Tetragýnia.* Calyx with a short tube, with the limb cleft into 14 parts, the 7 alternate ones shortest. Stamens 7-10; anthers 3-celled. Ovary free. Styles 4-5. Fruit 1-seeded (Lour.). This genus is considered to be the same as *Blackwéllia.*

1 A. COCHINCHINE'NSIS (Lour. l. c.) ♄. G. Native of Cochin-china. Ker, bot. reg. 894. A tree, with ovate, serrated, lanuginous leaves. Spikes long, simple, axillary. Flowers white disposed in long, simple, axillary spikes.

Cochin-china Astranthus. Fl. Ju. July. Clt. 1823. Tree 15 ft.

Cult. See end of order for culture and propagation.

IX. NI'SA (meaning unknown). Pet. Th. gen. mad. no. 81. D. C. prod. 2. p. 55.

LIN. SYST. *Penta-Hexándria, Di-Trigýnia.* Calyx turbinate, 10-12-cleft, in a double series; the inner ones are called petals by Pet. Th.; these are erect. Glands alternating with the inner lobes of the calyx. Stamens 5-6, opposite the inner lobes, alternating with the glands. Ovary half adhering to the calycine tube. Styles 2-3. Fruit unknown.—Shrubs, with sinuate-toothed leaves.

1 N. NUDIFLÒRA (D. C. prod. 2. p. 55.) flowers in naked spikes. ♄. S. Native of Madagascar.

Naked-flowered Nisa. Shrub.

2 N. INVOLUCRA'TA (D. C. prod. 2. p. 55.) flowers enveloped in a large, compressed, coloured involucre. ♄. S. Native of Madagascar.

Involucrated-flowered Nisa. Shrub.

Cult. See end of order for culture and propagation.

X. MYRIANTHE'IA (from μυριος, *myrios*, a myriad, and ανθος, *anthos*, a flower; flowers numerous). Pet. Th. gen. mad. no. 71. D. C. prod. 2. p. 55.

LIN. SYST. *Polyadélphia, Polyándria.* Calyx campanulate, 10-cleft, outer lobes oblong, connivent, calyciform, inner lobes shorter, unguiculate, petal-like. Stamens inserted in the calyx, polyadelphous, fascicles 5, containing from 4 to 5 slender filaments. Scales 5, alternating with the fascicles of the stamens. Ovary half adhering to the calyx, conical at the apex, including 4 ovula. Styles 4. Fruit 1-seeded from abortion.—Small elegant trees or shrubs, natives of Madagascar, with alternate, short, stalked, thick leaves. Flowers numerous, white, in axillary racemes. The character of this genus is taken from Pet. Th. l. c., but the species still remain unpublished.

Cult. See end of order for culture and propagation.

† *Genera allied to Homalineæ.*

XI. ASTEROPE'IA (from αστρον, *astron*, a star; in allusion to the lobes of the calyx being disposed in a stellate manner). Pet. Th. gen. afr. aust. p. 51. t. 15. gen. mad. no. 73. D. C. prod. 2. p. 55.

LIN. SYST. *Decándria, Monogýnia.* Calyx large, permanent, 5-cleft; lobes oblong, expanded. Petals 5, deciduous, inserted in the calyx, and alternating with its lobes. Stamens 10, the 5 alternate ones shortest, adnate to the urceolus of the calyx. Ovary trigonal, 3-celled. Style short, trifid. Stigmas capitate. Seeds fixed by their centre.—A middle-sized tree, with alternate, short-stalked, quite entire leaves, and numerous purplish flowers, which are disposed in divaricating panicles.—This genus is said to be allied to *Blackwéllia* by the author Petit Thouars.

1 A. MULTIFLÒRA (Pet. Th. l. c.) ♄. S. Native of Madagascar, near Foul Point.

Many-flowered Asteropeia. Tree 20 feet.

Cult. See end of order for culture and propagation.

XII. NEI'LLIA (named by Mr D. Don, in honour of his friend Patrick Neill, of Edinburgh, F.R.S.E. and F.L.S., secretary of the Wernerian and Caledonian Horticultural societies of Edinburgh). D. Don, prod. fl. nep. p. 228.

LIN. SYST. *Icosándria, Monogýnia.* Calyx campanulate (f. 10. *b.*), free, 5-cleft. Petals 5, roundish (f. 10. *d.*), sessile, inserted in the throat of the calyx. Stamens numerous, disposed in a double series (f. 10. *e.*), inserted with the petals; filaments smooth; anthers roundish, 2-celled (f. 10. *h.*), bursting lengthwise outwardly. Style terete, smooth, crowned by an obtuse stigma (f. 10. *g.*). Capsule follicular, 1-celled, opening on the inner side, many-seeded, crowned by the permanent style, free within the calyx. Seeds spherical, shining, fixed to a single parietal placenta in a double series, having a double covering. Albumen fleshy. Embryo straight, with oval flat cotyledons, and a thick obtuse radicle. Plumule inconspicuous.—Shrubs, with the habit of *Spiræ'a*, with stipulate, simple, alternate, doubly-serrated, stalked leaves. Stipulas deciduous, membranous or leafy, acute. Flowers disposed in racemes, white, terminal or lateral.

1 N. thyrsiflòra (D. Don, prod. fl. nep. 228.) leaves cordate, ovate, and 3-lobed, doubly-serrated; stipulas leafy, serrated; racemes spicate, disposed in a terminal thyrse; bracteoles toothed; calyx silky. ♄. H. Native of Nipaul. A much branched shrub, with the branches canescent, and with the leaves villous on the nerves beneath.

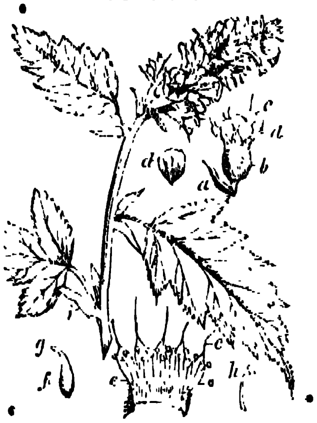
Thyrse-flowered Neillia. Shrub 6 feet.

2 N. rubiflòra (D. Don, prod. fl. nep. 229.) leaves cordate, 3-lobed, acuminated, doubly-serrated; stipulas entire, membranous; racemes terminal, solitary, many-flowered; bracteoles bluntish, entire; calyx tomentose; petals roundish. ♄. H. Native of Nipaul. Flowers twice the size of those of *N. thyrsiflòra*, and the calyx is furnished with pedicellate glands inside (f. 10.).

Bramble-flowered Neillia. Shrub 6 feet.

Cult. See end of order for culture and propagation.

FIG. 10.



XIII. ARISTOTE'LIA (named after Aristotle, the celebrated philosopher). Lher. stirp. p. 31. t. 16. D. C. prod. 2. p. 56. but not of Adans. nor Lour.

Lin. syst. *Polyadélphia, Polyándria.* Calyx campanulate, profoundly 5-cleft. Petals 5, inserted in the base of the calyx, and alternating with its lobes. Stamens 15-18, especially 3 or 4 in each bundle, placed in front of the lobes of the calyx. Anthers opening by 2 pores at the apex. Ovary free. Styles 3, somewhat connected at the base. Berry globose, 3-celled, each cell containing 1-2-ovula. Seeds angular, with fleshy albumen, and a flat embryo.—A shrub, with diffuse branches. Leaves nearly opposite, stalked, oblong, acute, smooth, shining, dentate, permanent. Stipulas deciduous. Racemes axillary. Flowers small, greenish. Some of the stamens are sterile. From the disposition of the stamens this genus agrees with *Homálium*, but from the dehiscence of the anthers it comes nearer to *Elæocárpeæ*.

1 A. Ma'cqui (Lher. l. c.) ♄. H. Native of Chili, where it is called *Macqui*. Lam. ill. t. 399. Wats. dend. brit. t. 44. A. glandulòsa, Ruiz et Pav. fl. per. syst. p. 126. Poir. suppl. 587. The berries are about the size of a pea, very dark purple, at length becoming black; they are acid and eatable. The inhabitants of Chili make a wine from them, which they give in malignant fevers. Dombey used this remedy with success in Chili against the plague in 1782.

Macqui Aristotelia. Fl. April, May. Clt. 1733. Sh. 6 ft.

Cult. The plants of this order are scarcely worth cultivating for ornament, as the flowers of all are extremely insignificant. The stove and greenhouse species will grow freely in a mixture of loam, sand, and peat; and cuttings nearly ripe will strike root if planted in a pot of sand, with a hand-glass placed over them; those of the former should be placed in a moderate heat. The *Aristotèlia Mácqui* and the species of *Neíllia* being hardy, and furnished with beautiful leaves, are worth cultivating in shrubberies, but they will require to be sheltered during winter by a mat, as the shoots are apt to be killed to the ground by frost. Any common garden soil will suit them, and ripened cuttings will root freely, planted under a hand-glass, and they may also be increased by layers.

Order LXXI. CHAILLETIA'CEÆ (plants agreeing with *Chaillètia* in important characters). D. C. prod. 2. p. 57. Chaillèteæ, R. Brown, cong. p. 23.

Calyx (perigone) permanent, 5-cleft (f. 11. *a. d.*) coloured inside, with the lobes imbricate in æstivation. Petals (or petal-like scales, or abortive stamens) rising from the bottom of the calyx and alternating with its lobes, situated almost in the same circle with the stamens (f. 11. *b.*), small, usually bifid (f. 11. *b.*), sometimes connected at the base with the stamens (f. 11. *d.*). Glands opposite, numerous. Stamens exserted from the calyx, and placed opposite its lobes (f. 11. *d.*), and therefore alternating with the petals; anthers roundish, 2-celled. Ovary free, hairy (f. 11. *h.*), 2-3-celled, each cell containing 2 ovula. Styles 2 (f. 11. *g.*), -3, short, free, or connected together. Stigmas somewhat capitate (f. 11. *g.*). Drupe (f. 11. *k. i.*), with a dry, coriaceous rind, containing a 2-3-celled nut, but usually 1-2-celled from abortion. Seeds solitary in each cell, hanging from the apex (f. 11. *i.*), destitute of albumen. Embryo thick, with a short superior radicle and fleshy cotyledons.—Shrubs with alternate, bistipulate, short, stalked, oval, acute, feather-nerved, entire leaves. Flowers axillary, white, usually with the peduncles adhering to the petioles. This order is furnished as if it were with a calyx and corolla.

Synopsis of the Genera.

1 Chaille'tia. Calyx 5-lobed (f. 11. *a.*). Petals 5, bifid (f. 11. *b.*). Stamens 5. Ovary 2-3-celled (f. 11. *f.*). Styles 2 (f. 11. *g.*) -3, free, or joined. Drupe dry, containing a 2-3-celled nut (f. 11. *i. k.*).

2 Leuco'sia. Calyx 5-cleft. Petals 5. Stamens 5. Ovary 3-seeded. Style 1. Drupe dry, containing a bony nut.

3 Tapu'ra. Calyx 5-parted; segments fringed. Petals 3, connate and connected with the filaments; they are divided. Stamens 3. Style 1, trifid.

I. CHAILLE'TIA (in honour of M. Chaillet, a Swiss botanist). D. C. ann. mus. 17. p. 153. with a figure, prod. 2. p. 57.—Patrìsia, Rohr. ined.—Mestòtes, Soland. mss. ined.

Lin. syst. *Pentándria, Mono-Trigýnia.* Calyx 5-lobed (f. 11. *a.*). Petals 5, bifid, or emarginate (f. 11. *b.*). Stamens 5. Ovary 2-3-celled, 2-3-styled (f. 11. *f.*). Styles free (f. 11. *g.*), or connected together. Shrubs with axillary cymes or racemes of flowers.

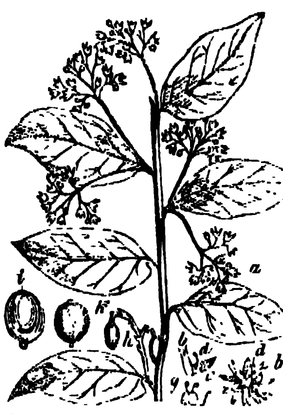
Sect. I. Mesto'tes (from μεστος, *mestos*, full). D. C. prod. 2. p. 57. Styles distinct.

1 C. peduncula'ta (D. C. l. c.) leaves ovate, obtuse, and un-

equal at the base; peduncles dichotomous, corymbose, adnate at the base to the petiole; petals bifid; styles free. ♄. S. Native of Cayenne. Flowers white (f. 11.).

Stalked-flowered Chailletia. Sh.

FIG. 11.



Sect. II. Dichape'talum (from διχα, *dicha*, double, and πεταλον, *petalon*, a petal; in allusion to the petals being emarginate). D. C. prod. 2. p. 57. Styles connected together.

2 C. Timorie'nsis (D. C. prod. 2. p. 57.) leaves oval, acuminated at both ends; peduncles dichotomously corymbose, not adhering to the petiole; petals obtuse, emarginate; styles connected together. ♄. S. Native of the island of Timor. Leaves smooth on both surfaces. Calyx and peduncles white from villi. Flowers white.

Timor Chailletia. Shrub 6 feet.

3 C. dichape'talum (R. Brown, cong. p. 24.) branches climbing, almost leafless; flowers in bundles in the axillæ of the leaves; petals bifid; styles joined. ♄. ◡. S. Native of Madagascar. Dichapétalum Madagascariénse, Pet. Th. gen. mad. no. 78. D. Thouarsiànum, Rœm. et Schult. syst. 5. p. 324. C. fasciculàta, Spreng. syst. 1. p. 931. Scales 5, at the base of the ovaries. Flowers white.

Double-petalled Chailletia. Shrub.

4 C. toxica'ria (G. Don, in edinb. phil. journ. 1824. oct. p. 348.) leaves oblong-lanceolate, acuminated, smooth, coriaceous, with wavy entire margins, on short stalks; racemes panicled, axillary, and terminal, pubescent; drupe ovate, pubescent. ♄. S. Native of the mountains of Sierra Leone, where it is called *rat-bane* by the colonists, the kernel of the fruit being used for poisoning rats. Flowers small, white. Fruit dry, the size of a plum.

Var. β, *comprêssa* (G. Don, l. c.) fruit roundish-compressed.

Poisonous Chailletia. Fl. year. Clt. 1823. Shrub 4 feet.

5 C. ere'cta (G. Don, l. c.) branches elongated, erect; leaves oblong-lanceolate, obtuse, emarginate, entire, smooth, coriaceous, stiff; flowers axillary; drupe ovate, roundish, pubescent, dry. ♄. S. Native of Sierra Leone, on the mountains. Fruit rather larger than those of the preceding species.

Erect Chailletia. Fl. Feb. Shrub 8 feet.

Cult. See end of order for culture and propagation.

II. LEUCO'SIA (from λευκος, *leucos*, white). Pet. Th. gen. mad. no. 79. D. C. prod. 2. p. 58.—Chaillètia, spec. R. Br.

Lin. syst. *Pentándria, Monogýnia.* Calyx 5-cleft. Petals 5. Stamens 5. Ovary adhering to the calyx, 3-seeded. Style 1. Fruit trigonal, containing a wrinkled bony nut.

1 L. Thouarsia'na (Rœm. et Schult. syst. 5. p. 324.). ♄. S. Native of Madagascar. A small weak shrub with few-nerved scabrous leaves, which are white from down beneath. Chaillètia Leucòsia, Spreng. syst. 1. p. 931.

Petit Thouars's Leucosia. Shrub 6 feet.

Cult. See end of the order for culture and propagation.

III. TAPU'RA (Tapura is the name of the tree in Guiana). Aubl. guian. 1. p. 126. t. 48. Rich. dict. p. 34. D. C. prod. 1. p. 58.—Róhria, Schreb. no. 63.

Lin. syst. *Triándria, Monogýnia.* Calyx 5-parted, with unequal, fringed lobes. Petals 3, connected with the filaments at the base, emulating a monopetalous corolla; the two longest are 2-parted, the third is short and 3-parted. Stamens 3. Style 1, trifid at apex. Fruit unknown.

1 T. Guiane'nsis (Aubl. guian. l. c.). ♄. S. Native of Guiana, in woods on the Serpent Mountain. Róhria petioliflòra, Willd. spec. 1. p. 186. Chaillètia sessiliflòra, D. C. ann. mus. 17. p. 153. t. 1. f. 2. Flowers yellow. The creoles call it *Bois de Golleti.*

Guiana Tapura. Shrub 8 feet.

Cult. The plants of this order are not worth cultivating but in the gardens of the curious, as neither their leaves nor flowers possess any beauty. They will grow in a mixture of loam and peat, and young cuttings will probably strike root in a pot of sand, under a hand-glass, in heat.

Order LXXII. AQUILARI'NEÆ (plants agreeing with *Aquilària* in important characters). R. Brown, congo. p. 25. D. C. prod. 2. p. 59.

Calyx or perigone, turbinate, coriaceous, 5-lobed (f. 12. *c.*); segments ovate, acute, spreading, permanent (f. 12. *h.*). Urceolus adhering to the bottom of the perigone, 5-parted, with bifid lobes (f. 12. *b. d.*). Stamens 10 (f. 12. *b.*), with short filaments protruding between the lobes of the urceolus, bearing long versatile anthers (f. 12. *c.*). Ovary free (f. 12. *c.*), stipitate ovate, crowned by a short simple stigma. Capsule pear-shaped (f. 12. *g.*), 2-valved, 2-celled (f. 12. *f.*), with a dissepiment in the middle of each valve (f. 12. *f.*). Seeds solitary in the cells from abortion, arillate or tailed.—Trees, with alternate, feather-nerved, quite entire leaves. This order is not sufficiently known. It differs from *Samýdeæ* in the seeds being fixed to a dissepiment, not to the parietes; from *Chailletiàceæ* in the seeds being erect, not inverted, as well as in the stamens being twice the number of the lobes of the perigone; from *Thymèleæ* in the fruit being 2-valved, 2-celled, 2-seeded. The genera are badly defined, and the species are scarcely known.

Synopsis of the Genera.

1 Aquila'ria. Perigone 5-cleft (f. 12. *c. h.*). Urceolus 10-lobed (f. 12. *d.*). Stamens 10 (f. 12. *b.*). Anthers versatile (f. 12. *c.*). Style none. Seeds covered by a spongy substance.

2 Ophispe'rmum. Perigone 6-parted. Urceolus 10-lobed. Stamens 10. Anthers adnate. Seed furnished on the side by a long scolloped wing.

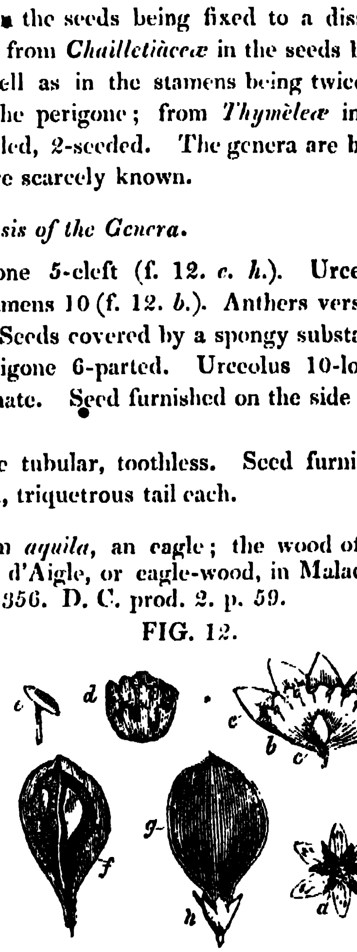
3 Gyrino'ps. Perigone tubular, toothless. Seed furnished with a spongy, awl-shaped, triquetrous tail each.

I. AQUILA'RIA (from *aquila*, an eagle; the wood of *A. Malaccénsis* is called Bois d'Aigle, or eagle-wood, in Malacca). Lam. dict. 1. p. 49. ill. t. 356. D. C. prod. 2. p. 59.

Lin. syst. *Decándria, Monogýnia.* Perigone 5-cleft (f. 12. *c.h.*). Urceolus 5-lobed; lobes bifid (f. 12. *d*). Stamens 10. Anthers versatile (f. 12. *c.*), fixed by the middle. Style none. Seeds covered by a spongy body.

1 A. Malacce'nsis (Lam. l. c.) leaves ovate, abruptly-acuminated. ♄.

FIG. 12.



S. Native of Malacca. A. ovata, Cav. diss. 7. p. 377. t. 224. Bois d'Aigle, Sonnerat. The wood is whitish-yellow. Branches rather villous. Petioles short, hairy. Stipulas wanting. Leaves quite smooth. For the history of this tree see Lam. dict. 1. p. 49.

Malacca Eagle-wood. Clt. 1823. Tree.

2 A. **Agallócha** (Roxb. hort. beng. p. 33.) ♄. S. Native of the East Indies, where it is called *Ugoor* or *Ugooroo* by the natives, and by Europeans *Lignum-aloes* or *Aloe-wood*, but the *Aloéxylon Loureìrii* is a very distinct plant from this and the following. The wood has a fine scent, and is called Agallochum. This shrub is supposed to be the *Calambac* or *Agallochum* of the ancients.

Agallochum or Aloe-wood. Tree.

3 A. **secunda'ria** (D. C. prod. 2. p. 59.) ♄. S. Native of the Moluccas. Agallóchum secundàrium, Rumph. amb. 2. t. 10. This species, according to Lamarck, differs from the preceding in the leaves being gradually acuminated, not abruptly so. The wood of this tree has been long used as a perfume, and was formerly an article of the Materia Medica, under the names of Agallochum, Lignum Aloes or Aloe-wood. This wood in its natural state is white and inodorous. That which possesses the peculiar aroma, for which it is valued, is supposed to be the consequence of a diseased process in the tree, causing the oleaginous particles to stagnate and concrete into resin in the inner part of the trunk and branches, by which the natural appearance of the wood is altered, so as to be of a darker colour, and of a fragrant smell. At length the tree dies, and when split the resinous part is taken out. The perfumes which this wood affords are highly esteemed by the oriental nations. This perfume is said to be useful in vertigo and palsy, given in the form of powder; it is recommended to restrain vomitings and alvine fluxes. But it seems to contain little else than that camphoraceous matter common to many other vegetable substances. From its bitter taste it has the name of aloes. The above description may apply to all the species, or perhaps to *Aloéxylon Agallóchum*. See *Leguminòsæ*.

Secondary Aloe-wood. Tree.

Cult. See end of order for culture and propagation.

II. **OPHISPE'RMUM** (from οφις, *ophis*, a snake, and σπερμα, *sperma*, a seed; in allusion to the twisted form of the seed). Lour. fl. coch. 281. D. C. prod. 2. p. 59.

Lin. syst. *Decándria, Monogýnia.* Perigone 6-parted. Urceolus 10-lobed, tomentose, placed in the orb at the base of the calyx. Stamens 10; anthers standing. Style longer than the stamens, bifid at the apex. Capsules compressed, opening at the apex. Seeds solitary, ovate, acuminate, furnished laterally by a long, somewhat terete, scolloped wing. This is a species of *Aquilària* according to Mr. R. Brown.

1 O. **Sine'nse** (Lour. l. c.) leaves lanceolate, wavy. ♄. G. Native of China. Aquilària Ophispérmum, Poir. dict. scienc. nat. 18. p. 161. A. Chinénsis, Spreng. syst. 2. p. 356. Calyx and stamens remaining with the capsule. Perigone sometimes 5-parted.

China Snake-seed. Tree 60 feet.

Cult. See end of order for culture and propagation.

III. **GYRINO'PS** (from γυρος, *gyros*, a circle, in allusion to the tail of the seed). Gært. fruct. 2. p. 276. t. 140. D. C. prod. 2. p. 60.

Lin. syst. ? Perigone tubular, short, toothless. Genitals unknown. Seeds furnished with a spongy, corky, triquetrous, awl-shaped tail, descending towards the bottom of the capsule.

1 G. **Wa'lla** (Gært. l. c.) ♄. S. Native of Ceylon, where it is called *Walla*. No part but the fruit of this tree is known.

Walla Gyronops. Tree.

Cult. The plants of this order are not worth cultivating unless in botanical gardens; the species will all grow in a mixture of loam and peat, and cuttings will strike root in sand under a hand-glass placed in heat.

Order LXXIII. TEREBINTHA'CEÆ. Juss. gen. 368. D. C. prod. 2. p. 61. in part. Anacardiàceæ, Lindl. introd. nat. syst. 127.

Flowers usually unisexual, rarely hermaphrodite. Calyx small and permanent, with 5, or occasionally 3-4 or 7 divisions. Petals equal in number to the divisions of the calyx, perigynous, sometimes wanting, imbricate in æstivation. Stamens equal in number to the segments of the calyx, perigynous, or twice that number, or even more, equal or alternately shorter, some of them sterile; filaments distinct, or in genera having no calycine disk, cohering at the base. Disk fleshy, annùlar, or cup-shaped, hypogynous, occasionally wanting. Ovary simple, very rarely 5-6, of which 4 or 5 are abortive, superior, rarely inferior, 1-celled. Styles 1-3, sometimes 4, and sometimes wanting, with an equal number of stigmas. Ovum solitary, attached by a cord to the bottom of the cell. Fruit indehiscent. Seeds exalbuminous. Embryo either with a superior or inferior radicle, but always directed towards the hilum, sometimes suddenly curved back, with leafy or fleshy cotyledons.—Trees or shrubs, full of resinous, gummy, caustic, highly poisonous, or even milky juice. Leaves alternate, simple, ternate, or pinnate, destitute of pellucid dots. Flowers terminal or axillary. All the orders broken off from *Terebinthàceæ*, are very nearly related to each other, and whatever affinity is borne by one of them will be participated in by all the others, in a greater or less degree. They are distinguished from *Rhámneæ* in their resinous juice, imbricate calyx, and stamens not opposite the petals; from *Celastrìneæ* by several of the same characters and the want of albumen; from *Rosàceæ* and *Leguminòsæ* by their dotted leaves, very minute stipulas, if any, resinous juice, solitary ovum, or by some one or other of these characters. Some of the trees contained in this order are celebrated for yielding a clammy juice, which is at first white and afterwards becomes black, and is used for varnishing in India.

The varnish from Silhet is chiefly procured from *Semecárpus*, one kind from *Anacárdium*. All these varnishes are dangerous, they inflame the skin and produce painful swellings. A valuable black lac or varnish is obtained from *Stagmària vernicíflua* (edin. phil. journ. 6. p. 400.). A black varnish, well known in India, is manufactured from the nuts of *Semecárpus* and the berries of *Holigárnia longifòlia*, and from the trunk of *Melanorrhœ'a*. The leaves of some species of *Schìnus* are so filled with resinous fluid, that the least degree of unusual repletion of the tissue, causes it to be discharged; thus some of them fill the air with their fragrance after rain, and *S. mólle* and some others expel their resin with much violence when immersed in water, so as to have the appearance of spontaneous motion, in consequence of recoil. *Schìnus arroeìra* is said by St. Hilaire to cause swellings on those who sleep under its shade. The fresh juicy bark of the *Arrueira* shrub, *S. mólle*, is used in Brazil for rubbing newly made ropes, which it covers with a very durable bright dark brown colour. The juice of the same plant is applied by the Indians in diseases of the eyes (Prince Maximil. trav. 270.). The fruit of *Semecárpus Anacárdium* and *Anacárdium occidentàle* is said to exercise a singular effect on the brain (Verey. bull. pharm. 1814. p. 271.). The bark of *Rhus glàbrum* is considered febrifugal, and is also employed as a mordant for red colours. Several species of *Comoclàdia* stain the skin black. The *Cashew* and the *Pistachia* are valuable for their nuts, which are well-known articles in the markets of Europe. The *Mango* is equally famous for its fruit within the tropics. Mastich is the produce of *Pistàcia lentiscus* and Venetian turpentine that of *Pistàcia terebínthus*. The bark of *Rhús coriària* is a powerful means of tanning the skins of animals, and several of the species of the same genus produce excellent varnishes.

Synopsis of the Genera.

Tribe I.

Anacardie'æ *or* Cassuvie'æ. *Petals and stamens inserted in the calycine disk or in the calyx. Ovary* 1, 1-*celled*, 1-*ovulate. Seed sustained by a funicle, which is inflexed at the apex and rising from the bottom of the cell, exalbuminose. Cotyledons thick, replicate above the radicle.*

1 Anaca'rdium. Flowers polygamo-dioecious. Calyx 5-parted. Petals 5, linear. Stamens 10, unequal, some sterile. Style and stigma one. Nut kidney-shaped, seated on a pear-shaped fruit. Leaves simple.

2 Rhinoca'rpus. Flowers polygamo-dioecious. Calyx 5-cleft. Petals 5, oblong. Stamens 10, 4 or 5 of which are only fertile. Style lateral. Nut oblique, compressed, seated on a thick pedicel. Leaves simple.

3 Semeca'rpus. Flowers polygamo-dioecious. Calyx 5-cleft. Petals 5, oblong. Ovary 1, sessile, 1-celled. Stamens 5, all fertile. Styles 3. Nut compressed, heart-shaped, seated on a thick depressed torus. Leaves simple.

4 Holiga'rna. Male and hermaphrodite flowers on divisions of the same tree. Calyx 5-toothed. Petals 5, villous. Stamens 5. Ovary 1-celled, 1-seeded. Nut olive-formed, somewhat compressed. Leaves simple.

5 Mangi'fera. Flowers polygamous. Calyx 5-parted. Petals 5. Stamens 5, 4 of which are usually without anthers. Style 1. Drupe baccate, rather compressed (f. 13. *b.*), containing a fibry woody nut (f. 13. c.). Leaves simple.

6 Buchana'nia. Flowers hermaphrodite. Calyx 5-cleft, rarely 3-4-cleft. Petals 5, inserted under the disk. Stamens 10. Disk 10-crenate. Ovaries 5 or concrete, 4 of which are barren, the styles are therefore 5, and the ovary 1. Drupe rather fleshy, 1-seeded. Leaves simple.

7 Conioge'ton. Flowers hermaphrodite. Calyx 5-parted. Petals 5. Stamens 10, equal. Ovaries 4-5, 1-styled, girded by a denticulated urceolus. Stigmas obtuse. Drupe solitary, containing a 1-seeded lenticular nut. Leaves simple.

8 Pista'cia. Flowers dioecious, apetalous, disposed in amentaceous racemes, each scale with 1 flower. Calyx 3-4-cleft. Ovary 1-3-celled. Stigmas 3, thickish. Drupe rather dry, containing a bony, 1-celled, 1-seeded nut. Leaves pinnate.

9 Astro'nium. Flowers dioecious. Calyx of 5 coloured sepals. Petals 5. Glands 5 in the disk. Stamens 5. Ovary 1. Styles 3, reflexed. Pericarp membranous, 1-seeded. Leaves impari-pinnate.

10 Melanorrhœ'a. Flowers hermaphrodite. Sepals 5, caducous, cohering valvately. Petals 5, rarely 6, imbricate in æstivation. Stamens numerous, inserted in the torus. Style 1. Fruit indehiscent, depressedly kidney-shaped, stalked. Leaves simple.

11 Comocla'dia. Flowers hermaphrodite or monoecious. Calyx 3-4-parted. Petals 3-4, long. Stamens 3-4, short. Ovary 1. Style none. Stigma 1. Drupe 1-celled, 1-seeded. Leaves impari-pinnate.

12 Cyrtoca'rpa. Flowers polygamous. Calyx 5-parted. Petals 5, sessile, imbricate in æstivation. Stamens 10. Disk large, 10-crenate. Style crowned by a 10-cleft stigma. Drupe obovate, having 5 tubercles above the middle, containing a hard nut. Leaves impari-pinnate.

13 Spathe'lia. Flowers dioecious or polygamous. Calyx 5-parted. Petals 5, hypogynous. Stamens 5, with tricuspidate filaments. Stigmas 3. Drupe 3-celled, trigonal, 3-winged, sometimes 2-celled and 2-winged. Cells 1-seeded. Leaves impari-pinnate. Perhaps belonging to *Sapindàceæ*.

14 Picra'mnia. Flowers dioecious. Calyx 3-5-parted. Petals 3-5. Stamens 3-5. Stigmas 2, sessile. Drupe containing a 2-celled, 2-seeded nut. Leaves impari-pinnate.

15 Bischófia. Flowers dioecious. Calyx 5-parted. Petals none. Stamens 5, connate. Ovary 3-celled; cells 2-ovulate. Stigmas 3, sessile. Fruit containing 3 1-seeded nuts. Leaves trifoliate.

16 Sa'bia. Flowers hermaphrodite. Calyx 5-cleft. Petals 5. Styles 2, contiguous, crowned by an obtuse stigma. Stamens 5, inserted in a 5-lobed disk. Drupe 2-lobed; lobes 1-seeded.

Tribe II.

Sumachi'neæ. *Petals and stamens inserted in the calycine disk or in the calyx. Ovary* 1, 1-*celled*, 1-*ovulate. Seed pendulous, suspended from a funicle, which rises from the base, exalbuminous. Cotyledons leafy, with the radicle inflexed above them.*

17 Rhu's. Calyx small, 5-parted. Petals 5. Stamens 5, all fertile, both in the male flowers and the hermaphrodite ones. Ovary 1, 1-celled, 1-seeded. Styles 3, short, or stigmas 3, sessile. Drupe nearly dry, 1-celled, containing a 1-celled, 1-2-3-seeded bony nut. Leaves variously compound, rarely simple.

18 Mau'ria. Flowers hermaphrodite. Calyx 4-5-lobed, urceolate. Petals 4-5. Stamens 8-10, inserted under the annular disk. Ovary 1, sessile, 1-celled, 1-seeded. Style very short, crowned by a 3-4-angled stigma. Fruit compressed, rather fleshy. Leaves impari-pinnate.

19 Stagma'ria. Flowers hermaphrodite. Calyx tubular, irregularly ruptured. Petals 5, inserted in the stipe of the ovary.

Stamens 5. Ovaries 1-3, 1-styled, only one of which comes to perfection. Berry 1-seeded.

20 Duva'ua. Flowers monoecious or dioecious. Calyx 4-cleft. Petals 4, concave. Stamens 8, inserted under the disk, unequal. Disk urceolate, 8-toothed. Ovary sessile. Styles 3-4, very short, crowned by capitate stigmas. Drupe globose, containing a coriaceous 1-seeded nut. Leaves simple.

21 Schìnus. Flowers dioecious. Calyx 5-parted. Petals 5. Stamens 10, with the filaments sterile in the male flowers. Ovary sessile. Stigmas 3-4, sessile, collected in a dot. Drupe with a thin fleshy epicarp, and a 1-seeded bony nut. Leaves impari-pinnate.

† *Genera allied to Terebinthàceæ, tribe Sumachìneæ, but are not sufficiently known.*

* *Petals 4-5. Stamens usually 3-5.*

22 Trice'ros. Calyx 5-parted. Petals 5. Stamens 5. Styles 3, simple. Berry coriaceous, 3-horned, 3-celled, containing 2-3-seeds. Leaves impari-pinnate.

23 Trattinìckia. Male and hermaphrodite flowers mixed. Calyx and corolla campanulate, and 3-toothed. Stamens 5, rising from the disk. Style subulate. Ovary 1. Leaves impari-pinnate.

24 Hue'rtea. Calyx 5-toothed. Petals 5, sessile. Stamens 5. Style bifid, acute. Drupe obovate, containing a 1-seeded, 1-celled nut. Leaves impari-pinnate.

25 Ru'mphia. Calyx tubular, 3-cleft. Petals 3. Stamens 3. Style 1. Drupe coriaceous, turbinate, 3-furrowed, containing a 3-celled, 3-seeded nut.

26 Ba'rbylus. Calyx 4-5-cleft, campanulate. Petals 4-5, rising from the margin of the calyx. Stamens 8-10, rising from the bottom of the calyx. Capsule 3-celled; cells 2-seeded. Leaves pinnate.

* * *Petals wanting. Stamens 10-12.*

27 Luna'nea. Flowers polygamous. Calyx coloured, 5-parted. Disk concave, 10-toothed. Stamens 10, inserted in the disk, and adnate to the outside of it. Ovary crowned by 5 stigmas. Capsule 1-celled, valveless (Rafin), half locular, 2-valved (Lunan). Leaves simple.

28 Heterode'ndron. Flowers hermaphrodite. Calyx 4-5-toothed. Stamens 10-12, hypogynous. Anthers 2-celled. Ovary bluntly 2-4-gonal, 2-4-celled, hairy. Style hardly any. Leaves simple.

29 Styloba'sium. Calyx urceolate, bluntly 5-lobed. Stamens 10, hypogynous. Anthers 2-celled. Ovary biovulate, bearing a filiform style laterally at the base, crowned by a capitate stigma. Drupe 1-celled, 1-seeded, girded by the calyx. Leaves simple. Flowers usually polygamous from abortion.

30 Gneo'rum. Flowers hermaphrodite. Calyx 3-4-toothed. Petals 3-4, imbricate in æstivation. Torus subglobose. Stamens 3-4. Stigmas 3-4. Drupes 3-4, baccate, joined to an axis, each containing a 2-celled putamen; cells 1-seeded. Leaves entire.

31 Suria'na. Flowers hermaphrodite. Calyx 5-parted. Petals 5, hypogynous. Stamens 5-10, some of them usually abortive. Carpels 5, bearing each on the side laterally a filiform style. Seed exalbuminous.

Tribe I.

ANACARDIE'Æ (trees agreeing with *Anacárdium* in important characters) or CASSUVIE'Æ. R. Br. congo. p. 12. D. C. prod. 2. p. 62. Petals and stamens inserted in the calycine disk or in the calyx. Ovary 1 from abortion, 1-celled, containing 1 ovum. Seed sustained by a funicle rising from the bottom of the cell, which is inflexed at the apex, without albumen. Cotyledons thick, replicate above the radicle.

I. ANACA'RDIUM (from *ανα*, *ana*, without, and *καρδια*, *kardia*, a heart; the nut is heart-shaped, and borne on the outside of the fruit). Rottb. coll. hafn. 2. p. 252. D. C. prod. 2. p. 62.—Acájuba, Gært. fruct. 1. t. 40. Acajòu, Tourn. inst. 435. Cassùvium, Lam. dict. 1. p. 22. ill. 322.

Lin. syst. *Polygàmia, Diœ̀cia.* Flowers polygamo-dioecious. Calyx 5-parted. Petals 5, linear, acuminated. Stamens 10, connate at the base, the tenth elongated and fertile. Style and stigma 1, lateral. Nut reniform, umbilicated, seated laterally on a fleshy, wide, pear-shaped peduncle, or what may be called a nut, seated on a fruit. Seed in conformity to the nut. Embryo erect, with half-moon-shaped cotyledons, and an exserted radicle.—Trees with entire, feather-nerved leaves, and terminal panicles of flowers.

1 A. occidenta'le (Lin. spec. 548.) leaves oval, cuneated, very blunt, somewhat emarginate, obovate-oblong, entire, smooth; panicle terminal, divaricate. ♄. S. Flowers small, of a dirty red colour, sweet-scented.

Var. α, *Americànum* (D. C. prod. 2. p. 62.) peduncle thick, about 10-times larger than the nut; longest filament bearing a globe-shaped anther, which is a little dilated at the apex. ♄. S. Native of the West Indies, and of most parts of South America. Jacq. amer. 1. t. 181. f. 35. pict. t. 121. Black. herb. t. 369. Catesb. car. 3. t. 9.

Var. β, *Indicum* (D. C. prod. 2. p. 62.) peduncle thick, scarcely 3-times larger than the nut; longest filament bearing a thick anther, the rest abortive. ♄. S. Native of the East India Islands. Rumph. amb. 1. p. 177. t. 69. Rheed. mal. 3. t. 54. Probably the American plant is a distinct species.

The *Cashew-nut* never exceeds 20 feet in heigth; it commonly rises to 12 or 16 feet, with spreading branches. The fruit or apple, or what is called above the thickened peduncle, has an agreeable, somewhat acid flavour, with some degree of astringency. It is sometimes of a yellowish, sometimes of a red colour. The juice expressed from it and fermented, yields a pleasant wine, and distilled a spirit is drawn from it, far exceeding arrack or rum, making an admirable punch, and powerfully promoting urine. Some planters in the West Indies and elsewhere roast the ripe fruit, or slice one or two into a bowl of punch to give it a pleasant flavour. The astringency of the juice has recommended it as a very signal remedy in dropsical habits. The nut springs from one end of the apple or peduncle. It is of the size and shape of a hare's kidney, but is much larger at the end next the fruit than at the other. The outer shell is of an ash-colour and very smooth, under this is another which covers the kernel, between these there is a thick inflammable oil, which is very caustic, this will raise blisters on the skin and has often been very troublesome to those who have incautiously put the nuts into their mouths to break the shell. This oil has been used with great success in eating off ring-worms, cancerous ulcers, and corns, but it ought to be applied with caution. The kernel, when fresh, has a most delicious taste, and abounds with a sweet milky juice. The broken kernels are sometimes imported for mixing with old Madeira wines, the flavour of which they improve. It is an ingredient in puddings, &c. &c. When older it is usually roasted, and in this state is not so proper for costive habits. Ground with cacao it makes an excellent chocolate. When kept too long it becomes shrivelled, and loses its flavour and best qualities. The thick oil of the shell tinges linen of a rusty iron colour, which can hardly be got out; and if any wood be smeared with the oil it prevents it from decaying. It would therefore be an excellent preserver to house timbers. From the body of the tree is procured by tapping or incision a milky juice, which will stain linen of a deep black that cannot be washed out again. The tree also annually exudes from 5 to 10 or 12 pounds weight of a fine semitransparent gum, similar to gum Arabic, and not inferior to it in virtue or quality, which perhaps renders it in some respects more valuable.

Cashew-nut or *Western* Anacardium. Fl. year. Clt. 1699. Tree 16 feet.

Cult. A light loamy soil answers the species of *Cashew-nut*, and ripened cuttings, with their leaves on, root freely in sand under a hand-glass, in heat.

II. RHINOCA'RPUS (from *ῥιν rhin*, a snout, and *καρπος*, *karpos*, a fruit; fruit ending in a snout). H. B. et Kunth, nov. gen. amer. 7. p. 5. t. 601.

LIN. SYST. *Polygàmia, Diœ'cia.* Flowers polygamous. Petals oblong, reflexed. Stamens 10, very unequal, 2 or 4 bearing anthers, the rest sterile, with the filaments connate at the base and adnate to the petals. Style sublateral, crowned by an obtuse stigma. Fruit oblique, compressed? 1-seeded, on a thick fleshy pedicel.—A tree with the habit of *Anacárdium*, having simple, scattered, entire, obovate, exstipulate leaves, and a terminal corymbose raceme of flowers, with racemose bracteate pedicels.

1 R. EXCE'LSA (Bert. ined. H. B. et Kunth, l. c.). ♄. S. Native of South America in St. Martha, Tobago, and New Granada. Anacárdium rhinocárpus, D. C. prod. 2. p. 62.

Tall Rhinocarpus. Tree 140 feet.

Cult. For culture and propagation see last genus.

III. SEMECA'RPUS (from *σημειον*, *semeion*, a mark, and *καρπος*, *karpos*, a fruit; use of juice). Lin. fil. suppl. 25. Kunth, gen. tereb. p. 5. D. C. prod. 2. p. 62.—Anacárdium, Lam. dict. 1. p. 139. ill. t. 208. Gært. fruct. 40.

LIN. SYST. *Polygàmia, Diœ'cia.* Flowers polygamo-dioecious. Calyx flat, 5-cleft. Petals 5, oblong. Stamens 5, all bearing anthers. Disk urceolar in the bottom of the flower. Ovary 1, sessile, girded by a tumid ring, 1-celled? Styles 3. Stigmas obtuse, emarginate. Nut compressed, heart-shaped, seated on a depressed, thickened torus. Seed conforming to the nut. Embryo inverted, with fleshy cotyledons and a 2-leaved plumule, with a small radicle lying at the top between the cotyledons.—Trees with entire feather-nerved leaves and axillary and terminal panicles of flowers.

1 S. ANACA'RDIUM (Lin. fil. suppl. 182.) leaves oblong, bluntish, glaucous beneath, more or less covered on the nerves beneath with scabrous down; panicle terminal, tomentose. ♄. S. Native of the East Indies, on mountains. Anacárdium orientàle officinàle, Anacàrdium officinàrum, Gært. fruct. 1. p. 192.

Var. α, angustifòlium (D. C. prod. 2. p. 62.) leaves taper-pointed at both ends. Rumph. amb. 1. t. 70. Anacárdium longifòlium, Lam. dict. 1. p. 140. S. Cassùvium, Spreng. syst. 1. p. 936.

Var. β, cuneifòlium (D. C. prod. 2. p. 62.) leaves wedge-shaped and acuminated at the base, blunt at the apex.

Var. γ, obtusiúsculum (D. C. prod. 2. p. 63.) leaves obovate, blunt at both ends. Roxb. cor. 1. t. 12. Anacárdium latifòlium, Lam. dict. 1. p. 139.

P. S. Perhaps all these varieties are as many species.

These are lofty trees with spreading branches. Leaves about eighteen inches long, and about 4 or 5 broad. Flowers small, of a greenish-yellow colour. Receptacle of the fruit when ripe yellow, about the size of the nut, which is black; the cover or shell is composed of 2 laminæ, the inner hard, the outer less so and leathery, between them are cells, which contain the black, corrosive, resinous juice, for which this nut has been long known; the juice is of a pale milk-colour till perfectly ripe, when it becomes black. The wood of this tree is reckoned of no use, not only on account of its softness, but also because it contains much acrid juice, which renders it dangerous to cut down and work upon. The fleshy receptacles on which the seeds rest are roasted in the ashes and eaten by the natives; their taste is very like that of roasted apples: unroasted they taste astringent and acrid, leaving a painful sensation on the tongue for some time. The kernels are rarely eaten. The green fruit, well pounded into a pulp, makes good bird-lime. The pure, black, acrid juice of the shell is employed by the natives externally to remove rheumatic pains, aches, and sprains: in tender constitutions it often produces inflammation and swelling; but where it has not these effects it is an efficacious remedy. It is employed by the Telinga physicians in the cure of almost every kind of venereal complaint. It is in general use for marking cotton cloths; the colour is improved and prevented from running by a little mixture of quick-lime and water. This juice is not soluble in water, and is only diffusable in spirits of wine, for it soon falls to the bottom, unless the menstruum be previously alkalised. The solution is then pretty complete, and of a deep black colour. It sinks in expressed oils, but unites perfectly with them: alkaline lixivium acts upon it with no better success than plain water.

Officinal *Anacardium* or Marking Fruit. Fl. July, Aug. Clt. 1820. Tree 50 feet.

Cult. For culture and propagation see *Anacárdium*.

IV. HOLIGA'RNA (from the appellation of the tree in the language of Karnata). Roxb. hort. beng. p. 22. cor. 3. p. 79. t. 282. D. C. prod. 2. p. 63.

LIN. SYST. *Polygàmia, Diœ'cia.* Flowers polygamous, male and female flowers in different divisions of the tree. Calyx 5-toothed. Petals 5, broadest at the base, and somewhat concrete, oblong, villous. Stamens 5, shorter than the corolla. Ovary in the hermaphrodite flowers adnate to the calyx, 1-celled, 1-seeded. Nut olive-formed, ovate, somewhat compressed, containing a valveless nut. Albumen wanting. Embryo inverted. Cotyledons thick. Radicle oblong, situated above the apex.—A tall Indian tree, with oblong, acuminated, feather-nerved, entire, smooth, coriaceous leaves, which are crowded towards the tops of the branches. Petioles short, bearing a bristle on each side. Panicles axillary. Flowers white. This genus is allied to *Semecárpus*.

1 H. LONGIFÒLIA (Roxb. cor. 3. t. 282.) ♄. S. Native of the East Indies, on the mountains of Malabar and Chittagong. —Rheed. mal. 4. p. 20. t. 9. ex Roxb. and therefore referable to Mangífera racemòsa, Lam. ill. 2. p. 113. The natives of Malabar by incision extract an exceedingly acrid juice, which they use as varnish. The nut is about the size of an olive, containing between the lamina numerous cells filled with black, rather thick, acrid fluid, as that of *Semecárpus*, which is also used as varnish.

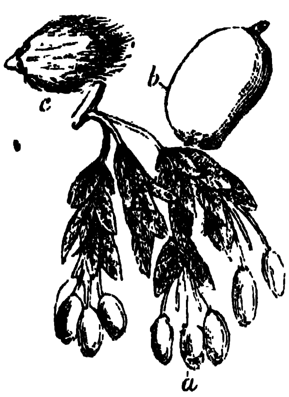
Long-leaved Holigarna. Tree 60 feet.

Cult. For culture and propagation see *Anacárdium.*

V. MANGI'FERA (from *Mango*, the name of the fruit, and *fero*, to bear). Lin. gen. no. 278. Gært. fruct. 2. t. 100. Kunth. gen. tereb. p. 3. D. C. prod. 2. p. 63.

Lin. syst. *Polygàmia, Monœ̀cia.* Flowers polygamous. Calyx 5-parted, deciduous. Petals 4-5. Stamens 5, 4 of these are usually barren. Style 1. Drupe baccate, somewhat compressed (f. 13. *b.*), containing a woody fibrous nut (f. 13. *c.*). Seed ovate-oblong. Embryo erect, with fleshy cotyledons, and a short radicle.—Indian trees, with long, entire, feather-nerved leaves, and terminal panicles of flowers. Fruit eatable.

FIG. 13.



1 M. I'ndica (Lin. spec. 290.) leaves oblong-lanceolate, stalked; panicle terminal, erect; petals spreading at the apex; 1 stamen fertile, the rest abortive; drupe somewhat kidney-shaped, smooth. ♄. S. Native of the East Indies, but now cultivated in every part of the world within the tropics. Lam. ill. t. 138.—Rheed. mal. 4. t. 1 and 2. M. A'mba, Forsk. descr. 205. M. doméstica, Gært. l. c.—Rumph. amb. 1. p. 93. t. 95. The Mango tree is tall, with a spreading top, and when in flower not unlike sweet-chesnut. The wood is a little brown, and used only for indifferent works. The leaves are 7 or 8 inches long, and 2 or more broad, of a fine strong green, and grow in bunches at the extremity of the branches. The flowers are whitish, streaked with yellow; these are disposed in loose terminal bunches or panicles. The fruit when fully ripe is yellow and reddish, or speckled with black, replete with a fine agreeable juice; some are full of fibres, and the juice runs out of these on cutting, or with a little handling; but those which have few or no fibres are much the finest; they cut like an apple, but are more juicy, and some are said to be as large as a man's fist, but the most common are about the size and appearance of a small golden pippin apple. It is esteemed a very wholesome fruit, and is considered the finest tropical fruit, with the exception of mangostan, and some of the finest pine apples. In India jellies, preserves, tarts, &c. are made from the unripe fruit. Gentlemen within the tropics eat hardly any other fruit in the hot months, but if no wine be drank with it, the Mango is apt to throw out boils, at least with new comers, which are, however, conducive to health. In Europe we have only the unripe fruit brought over in pickle. There are numerous varieties of the Mango, chiefly differing in the size, colour, flavour, and figure of the fruit, as apples and pears do in Europe. Retsius says, there are numerous species, the number of stamens being double in some, the racemes in others compound; the fruit kidney-shaped, globular, fleshy or almost juiceless. The fruit of the finest Mangos have a rich sweet-perfumed flavour, accompanied by a grateful acidity.

Indian or Common Mango. Fl. Ju. Sep. Clt. 1690. Tr. 50 ft.

2 M. macroca'rpa (Blum. bijdr. 1158.) leaves scattered on long stalks, elongated, linear-lanceolate; fruit large. ♄. S. Native of Java.

Long-fruited Mango-tree. Tree 60 feet.

3 M. fœ'tida (Lour. fl. cochin. 160.) leaves cuneated, lanceolate, acute, stiff, on short stalks; panicles of flowers erect, terminal, spreading; corolla funnel-shaped, with the segments at length, reflexed; drupe heart-shaped, downy. ♄. S. Native of Cochin-china, Java, and the Moluccas. Rumph. amb. 1. t. 28. Leaves about the size of those of the common mango, on long petioles, and scattered. Flowers red, disposed in terminal panicles, usually monandrous. The fruit is fleshy, strong-scented, of an acid flavour, and unwholesome, but is eaten by the Malays. The wood, though not very good, is used for floors, and lasts very well if it be soaked a considerable time in water.

Fetid Mango. Clt. 1824. Tree 50 feet.

4 M. glau'ca (Blum. bijdr. 1158.) leaves on short petioles, scattered, large, elliptic-oblong, tapering to both ends, glaucescent beneath; panicle terminal, divaricated, shorter than the leaves. ♄. S. Native of the Moluccas, where it is called *Manga utan*.

Glaucous Mango. Fl. July. Tree 50 feet.

5 M. laxiflòra (Desr. in Lam. dict. 3. p. 97.) leaves broad-lanceolate, sessile; panicles loose, pendulous; flowers pentandrous; drupe roundish. ♄. S. Native of the Mauritius. This is probably referable to M. pentándra of Lour. Flowers white. Fruit eatable?

Lax-flowered Mango. Tree 40 feet.

6 M. oppositifòlia (Roxb. hort. beng. 18.) leaves opposite, stalked, lanceolate, tapering to both ends; panicles axillary and terminal, shorter than the leaves; stamens 4-5, fertile; drupe smooth, compressed. ♄. S. Native of Pegu and Java, where it is called *Gandaria*, and *Meriam* at Rangoon. Flowers pale-yellow. Drupe pale-yellow, the size of a small pullet's egg, and is universally eaten in Burma.

Opposite-leaved Mango. Tree 30 feet.

7 M. sylva'tica (Roxb. l. c. fl. ind. 2. p. 438.) leaves alternate, lanceolate, glossy; panicles terminal; flowers monandrous; drupe smooth, obliquely-conical, with the point turned to one side. ♄. S. Native of Silhet, in the East Indies. *Lukshmee* is the vernacular name of this tree in Silhet. The fruit is like that of the common mango, and yellow; and is eaten by the natives, though by no means so palatable as the worst kind of the common mango. It is also dried by the natives and kept for medicinal purposes.

Wood Mango. Tree.

8 M. quadri'fida (Jack. mss. Wall. fl. ind. 2. p. 440.) leaves alternate, lanceolate, tapering to the base; panicles loose, axillary; flowers quadrifid, monandrous; petals 4, glandular in the middle. ♄. S. Native of Sumatra, &c. Flowers small, white. Nectary of 4 round fleshy lobes. Fruit roundish, becoming very dark.

Quadrifid-flowered Mango. Tree 60 feet.

9 M. cæ'sia (Jack. mss. Wall. fl. ind. 2. p. 441.) leaves alternate, stiff, broad-lanceolate, tapering to the base; panicle terminal, erect, tomentose, glaucous; flowers monandrous; petals erect; fruit oblong. ♄. S. Native of Sumatra. Corolla purple within, but paler without. Fruit oblong-ovate, of a pale-red colour.

Grey Mango. Tree 60 feet.

Cult. This is a fine genus of tropical fruit trees. Sandy loam, or a mixture of loam and peat, is the best soil for them. Fresh seed brought from the places of their natural growth will vegetate freely. The species may also be increased by ripened cuttings. In tropical countries, the best varieties are preserved by grafting, as apples are with us.

VI. BUCHANA'NIA (in honour of Francis Hamilton, M.D. formerly Buchanan, of Leny in Scotland, an excellent botanist, and great traveller in the East; formerly superintendent of the botanical garden at Calcutta). Roxb. hort. beng. p. 32. D. C. prod. 2. p. 63.—Láunzan, Buch. in asiat. res. 5. p. 123.—Buchanània and Cambessèdea, Kunth. gen. tereb. p. 4 and 6.

Lin. syst. *Decándria, Pentagýnia.* Flowers hermaphrodite. Calyx 5-cleft, rarely 3-4-cleft, obtuse. Petals 5, inserted under the disk, oblong, revolute, imbricate in æstivation. Stamens 10, shorter than the petals. Disk furnished with 10 crenatures, involving the ovary. Ovaries 5, concrete, or approximate, 4 of which are abortive, reduced to the styles. Styles therefore 5, and ovary single, almost covered by the disk. Drupe obovate, rather fleshy, 1-seeded. Seed recurved, resting on a funicle, which rises from the bottom of the cell.—Indian trees, with simple, quite entire, coriaceous, smooth, feather-nerved leaves, and axillary panicles of flowers, crowded at the tops of the branches. Flowers small, white. Fruit red. Nut oily. In the leaves this genus appears to be allied to *Mangífera*, but in the fruit it is more nearly allied to *Spóndias*.

1 B. LATIFÒLIA (Roxb. hort. beng. 32.) branches of panicle hairy, crowded with flowers, assuming the appearance of a corymb at the tops of the branches. ♄. S. Native of the East Indies. Leaves 6 inches long, and 3 broad, blunt at both ends. Fruit eatable ?

Broad-leaved Buchanania. Clt. 1820. Tree 30 feet.

2 B. ANGUSTIFÒLIA (Roxb. hort. beng. 32.) branches of panicle smooth, rather loose, axillary. ♄. S. Native of the East Indies, particularly in Mysore. Mangífera axillàris, Lam, dict. 3. p. 697. Spóndias simplicifòlia, Rottl. in Willd. nov. act. nat. cur. ber. 4. p. 87. Lúndia mangiferoìdes, Puer. herb. Cambessèdea, Kunth, gen. tereb. p. 4. Leaves oval-oblong, 3-4 inches long, 1½ broad, blunt or emarginate at the apex. Fruit the size of a large cherry, and perhaps eatable.

Narrow-leaved Buchanania. Clt. 1820. Tree 50 feet.

3 B. LANCEÆFÒLIA (Roxb. l. c.) ♄. S. Native of Chittagong, in the East Indies. This species is only known by name.

Lance-leaved Buchanania. Tree.

Cult. A light loamy soil is the best for these trees, and ripened cuttings will root freely in sand under a hand-glass, in heat.

VII. CONIOGE'TON (meaning unknown). Blum. bijdr. 1156.

Lin. syst. *Decándria, Tetra-Pentagýnia.* Calyx inferior, 5-parted. Petals 5. Stamens 10, equal. Ovaries 4-5, 1-styled, 1-ovulate, girded by a denticulated urceolus. Stigmas obtuse. Drupe solitary, baccate, containing a 1-seeded lenticular nut.—A tree, with alternate, simple, cuneate-oblong, obtuse, quite entire, smooth leaves ; flowers in terminal panicles.

1 C. ARBORE'SCENS (Blum. bijdr. 1156.) ♄. S. Native of Java.

Arborescent Coniogeton. Tree 30 feet.

Cult. For culture and propagation see *Buchanània.*

VIII. PISTA'CIA (*πιστακια* is altered from the Arabic word *foustaq*, the name of *P. vèra*). Lin. gen. no. 1108. Lam. ill. t. 811. Kunth, gen. tereb. p. 7. D. C. prod. 2. p. 64.—Terebínthus, Juss. gen. 371.

Lin. syst. *Diœ'cia, Pentándria.* Flowers dioecious, apetalous. Male ones disposed in amentaceous scaly racemes, with a flower to each scale. Calyx 5-cleft. Stamens 5 ; anthers almost sessile, tetragonal. Female flowers disposed in more loose racemes, with a 3-4-cleft calyx. Ovary 1-3-celled. Stigmas 3, thickish. Drupe dry, ovate, containing a somewhat bony nut, usually 1-celled, and 1-seeded, sometimes bearing laterally 2, abortive cells. Seeds solitary in the cells, fixed to the bottom of the cells, without albumen. Cotyledons thick, fleshy, oily, with a superior lateral radicle. Trees with pinnate leaves.

§ 1. *Leaves impari-pinnate, deciduous.—Terebinthus, Tourn. inst. t. 345.*

1 P. VE'RA (Lin. spec. 1454.) leaves pinnate ; leaflets ovate, tapering a little to the base, rather mucronate at the apex ; fruit ovate, pointed. ♄. H. Native of Syria, from whence it has been introduced to Italy by the emperor Vitellius, when he was legate in that province. It is now to be found throughout the whole region of the Mediterranean.—Pistàcia officinàrum, Hort. kew.—Black. icon. t. 461. Duh. ed. nov. 4. t. 17. Flowers small, brownish, green. Fruit panicled, about an inch long, ovate, with an oblique point, reddish, well known for the sake of its nut at our tables. The green internal hue of the kernel is remarkable. The Pistachia or Pistach nut is brought from several parts of Asia, chiefly from Aleppo and Persia. When wrapped in all its coats, it is the size of a green almond, but when stript of all but its shell it resembles a small nut. The kernel is red without, and green within, and its taste very agreeable. Pistachias have been reckoned aperitive, and proper to give vigour, and used in emulsions, &c. in phthisical and nephritical cases. They also enter into several ragouts, and are comfited, made into conserves, &c. The fruit is rarely eaten raw, because of the ill effects it produces. There is a kind of false Pistachia nut brought from the West Indies, which is sometimes confounded with the real one.

True Pistachia-nut-tree. Fl. Ap. May. Clt. 1770. Tree 20 ft.

2 P. RETICULA'TA (Willd. spec. 4. p. 751.) leaves ternate and pinnate, with roundish, abrupt, somewhat pointed leaflets, which taper to the base, and are strongly reticulated with prominent veins ; fruit roundish-oval, obtuse. ♄. H. Native of Sicily and Syria. P. trifòlia, Lin. spec. 1454. P. Narbonénsis, Lin. spec. 1454.—Bocc. mus. 2. t. 93. Leaflets usually 5, rarely 3, when young downy at the margin. The fruit of this species is as good as the true Pistachia-nut.

Reticulated-leaved Pistachia-nut. Fl. April, Aug. Clt. 1752. Tree 20 feet.

3 P. TEREBI'NTHUS (Lin. spec. 1455.) leaflets usually numerous, ovate-lanceolate, rounded at the base, acute, and mucronate at the apex. ♄. H. Native of the south of Europe, and north of Africa. Woodv. med. bot. 415. t. 153.—Blackw. t. 478. Duh. arb. ed. 1. vol. 2. t. 87. P. vulgàris, Tourn. inst. 579. There is a fine female tree of this species in Chelsea garden, near the gate, which for want of male blossoms can never perfect its fruit. Leaves with 3 to 6 pair of leaflets, with an odd one. Their red hue when young is beautiful. Flowers in large compound panicles. Anthers dull-yellow, Stigmas crimson. Fruit hardly bigger than a large pea. Galls of the same shape are found on the leaves, and very large oblong ones like legumes are often produced from the young branches. The resin of this tree is the Chian or Cyprus-turpentine, generally preferred for medical use to what is obtained from the fir tribe, but it is scarcely to be had without adulteration. This resin is obtained by wounding the bark of the trunk in several places, during the month of July, leaving a space of about 3 inches between the wounds ; from these the turpentine is received on stones, upon which it becomes so much condensed by the coldness of the night, as to admit of being scraped off with a knife, which is always done before sunrise ; in order to free it from all extraneous admixture it is again liquified by the sun's heat, and passed through a strainer ; it is then fit for use. The quantity produced is very inconsiderable, 4 large trees, 60 years old, only yielding 2 pounds 9 ounces and 6 drachms, but in the eastern part of Cyprus and Chio the trees afford somewhat more, though still so little as to render it very costly, and on this account it is commonly adulterated, especially with other turpentines. The best Chio turpentine is usually about the consistence of thick honey, very tenacious, clear, and almost transparent, white, inclining to yellow, and of a fragrant smell, moderately warm to the taste, but free from acrimony and bitterness. For the medicinal qualities of the turpentine, see Pinus Làrix, vol. iv.

Var. β, sphærocárpa (D. C. prod. 2. p. 64.) fruit larger, and rounder than in the species.—J. Bauh. hist. 1. p. 278. with a figure. Native of the Levant, and is said to be cultivated in the garden of *Nemaus.*

Turpentine Pistacia or Venetian or Chian Turpentine-tree. Fl. June, July. Clt. 1656. Tree 30 feet.

4 P. ATLA'NTICA (Desf. atl. 2. p. 364.) leaflets usually 9, lanceolate, tapering to the base; petiole between the terminal pair a little winged. ♄. H. Native of Barbary, very common in sandy uncultivated fields near Coffa, where many being in rows it is plain that this tree was cultivated at the foot of the mountains near Mayane and Tlemsen, &c. This is a large tree, with a thick roundish head. Leaflets 7 to 9. Male flowers disposed in terminal thyrse-like racemes. Stamens 5, but sometimes 7. Anthers deep red. Pollen yellow. Female flowers disposed in loose panicled racemes. Style purple. Drupe rather fleshy, about the size of a pea when ripe, blueish, containing a roundish nut. From the bark of the trunk and branches flows at different seasons of the year, but especially in summer, a resinous juice, hardening in the air, of a pale-yellow colour, of an aromatic smell, and taste that is not unpleasant, scarcely to be distinguished from oriental mastick, and known by the same name of *Heule* among the Moors. It is inspissated into lamellæ round the branchlets, or into irregular globules, differing in thickness and shape, frequently as big as the end of the finger or thumb, some of which drop from the tree, and are found scattered on the ground. The Arabs collect this substance in autumn and winter, and make the same use of it as of the mastick from Chio, chewing it to give a pleasant smell to the mouth and brightness to the teeth. At the foot of Mount Atlas this tree is larger than any other which grows there, but the resinous juice is softer, and of a much less pleasant smell and taste than that which flows from the trees of the desert, which is probably occasioned by the climate being cooler, and the soil more moist and fertile. The leaves have often red galls on them resembling berries. The Moors eat the drupes, and bruise them to mix with their dates.

Var. β, latifòlia (D. C. prod. 2. p. 64.) leaflets rounded and broader at the base than in those of the species. ♄. F. Native of the island of Chio, and is said to be the same as that which grows about Constantinople.

Atlas Mastick or Turpentine-tree. Clt. 1790. Tree 40 feet.

5 P. MEXICA'NA (H. B. et Kunth. nov. gen. amer. 7. p. 22. t. 608.) leaflets 16-20, alternate and opposite, oblong, unequal-sided, acute at both ends, mucronate, membranous, smoothish, pubescent on the middle nerve beneath, as well as on the inside of the rachis; fruit turgid, lenticular. ♄. G. Native of Mexico, near Chilpancingo.

Mexican Turpentine-tree. Tree 30 feet.

6 P. FAGAROIDES (Willd. enum. suppl. 66.) leaflets ovate, blunt; petioles winged. ♄. G. Native of? Fruit unknown.

Fagara-like Pistachia-tree. Shrub 10 feet.

7 P. OLEÒSA (Lour. fl. coch. 615.) leaves impari or abruptly pinnate; leaflets 4-7, ovate-lanceolate; young fruit echinated. ♄. G. Native of Cochin-china, as well as the Moluccas. Cussámbium, Rumph. amb. 1. t. 57. The nuts of fruit contain a yellow, bitterish, sweet-scented, thin oil, which thickens on exposure to the air. It is used to anoint the heads of the natives, and also to scent ointments.

Oily Turpentine-tree. Tree 20 feet.

§ 2. *Lentiscus* (from *lentesco*, to be clammy; it is from the *P. Lentiscus* that mastick is obtained, which comes from the word *mastico*, to chew; because it is thus used in Chio, and by the Turkish women to sweeten their breath). *Tourn. inst. p.* 380. *Leaves permanent, abruptly pinnate.*

8 P. LENTI'SCUS (Lin. spec. 1455.) leaflets 8, lanceolate; petiole winged. ♄. H. Native of the south of Europe and north of Africa, both wild and cultivated in gardens. Woodv. med. bot. t. 152. Blackw. t. 195. Duh. arb. ed. nov. 4. t. 18. Leaves with 3 or 4 pairs of small leaflets. Both male and female flowers come out in loose racemes from the sides of the branches; they are of a green colour. The fruit when ripe is brownish. Fabricius remarks, that the male plant in time produces hermaphrodite flowers, with 6 stamens and 5 styles. It has been observed by Gouan that the buds are different from those of the other sorts, the branch-bearing buds being terminating, the flowering buds in both sexes axillary and in pairs; hence the aments are also in pairs. The leaves have sometimes 5 leaflets on each side. The petioles are so much winged that the leaves may be called articulately-pinnate; they are usually terminated by a thread instead of a leaflet. Desfontains informs us that the Lentiscus or Mastick-tree in Barbary is little if at all resinous, though the branches and bark of the trunk were wounded at different seasons; that the wood, however, yields an aromatic smell on burning; and that the berries yield an oil fit both for the lamp and the table. In the island of Chio the officinal mastick is obtained most abundantly by making transverse incisions in the bark of the tree, whence the mastick exudes in drops, which is suffered to run down to the ground, and after they are concreted, they are collected for use. These incisions are made at the beginning of August, when the weather is very dry, and are continued to the end of September. Mastick is a resinous substance, brought to us in small, yellowish, transparent, brittle grains or tears; it has a light agreeable smell, especially when rubbed or heated; on being chewed it first crumbles, soon after sticks together, and becomes soft and white like wax, without impressing any considerable taste. It totally dissolves, except the earthy impurities, which are commonly in no great quantity, in rectified spirit of wine, and then discovers a greater degree of warmth and bitterness, and has a stronger smell than the resin in substance. Boiled in water, it impregnates the liquor with its smell, but gives out little or nothing of its substance; distilled with water, it yields a small quantity of limpid essential oil, in smell very fragrant, in taste moderately pungent. Rectified spirit brings over also in distillation the more volatile odorous matter of the mastick. It is a common practice with the Turkish women to chew this resin, especially in the morning, not only to render their breath more agreeable, but to whiten the teeth, and strengthen the gums; they also mix it with their fragrant waters, and burn it with other odoriferous substances in the way of fumigation. It is used in Europe by japanners in some of their varnishes. As a medicine, mastick is considered to be a mild corroborant and astringent; and as possessing a balsamic power it has been recommended in hæmoptysis proceeding from ulceration, fluor albus, debility of the stomach, and in diarrhœas and internal ulcers. Chewing this drug has likewise been said to be of use in pains of the teeth and gums, and in some catarrhal complaints; it is now, however, seldom used either externally or internally. The wood is received into the Materia Medica in some foreign Pharmacopœias, and is highly extolled in dyspeptic, gouty, hæmorrhagic, and dysenteric affections; but its chief fame at present is in Portugal, where it serves for toothpicks. These are rather neater than if made of common deal.

Var. β, angustifòlia (D. C. prod. 2. p. 65.) leaflets almost linear. ♄. H. P. Massiliénsis, Mill. dict. P. angustifòlia Massiliénsis, Tourn. 580. This shrub scarcely ever exceeds 10 feet in height.

Var. γ, Chìa (Duham. ed. nov. 4. p. 72.) leaflets ovate. ♄. F. Native of the island of Chio. P. Chìa, Desf. cat. hort. par. This is the tree from which they procure the resin called mastick. It is probably a distinct species from the true Lentiscus, which yields little or no resin. See the preceding account.

Mastick-tree. Fl. April, May. Clt. 1664. Tree 20 feet.

Cult. All the hardy species require to be planted in a sheltered situation, or against a wall; they may either be increased by seeds, layers, or ripe cuttings planted under a hand-glass. The greenhouse kinds grow well in a mixture of loam and sand, and ripened cuttings will root in sand under a hand-glass.

IX. ASTRO'NIUM (from *αστρον*, *astron*, a star; in allusion to the shape of the calyx when expanded). Jacq. amer. 261. t. 181. f. 96. Kunth. gen. tereb. p. 9. D. C. prod. 2. p. 65.

LIN. SYST. *Diœ'cia, Pentándria.* Flowers dioecious. Calyx of 5 coloured sepals. Petals 5, ovate. Male flowers with a spreading corolla and calyx. Glands 5 in the disk. Stamens 5. Calyx and corolla of the female flower connivent and permanent. Calyxes after flowering accrete, and stellately spreading. Petals much smaller. Ovary 1. Styles 3, reflexed. Pericarp membranous, indehiscent, oblong, acute, 1-seeded. Seed pendulous, destitute of albumen, with thick oblong cotyledons, and an oblique radicle.—A small tree, abounding every where in a nauseous clammy turpentine juice. Leaves impari-pinnate, smooth. Flowers in loose panicles. After the fruit in the female plants, and the flowers in the male plants have fallen off, new branches are put forth.

1 A. GRAVE'OLENS (Jacq. l. c.) ♄. S. Native of Carthagena, in woods, and of St. Martha. Leaflets 3 pairs, with an odd one, stalked, ovate, acuminated, a little serrated.

Strong-scented Astronium. Tree 20 feet.

Cult. A mixture of loam and peat will answer this tree, and ripened cuttings will root in sand under a hand-glass in heat.

X. MELANORRHŒ'A (from *μελας*, *μελανος*, *melas*, *melanos*, black, and *ρεω*, *rheo*, to flow; the tree when wounded yields a black juice). Wall. pl. rar. asiat. 1. p. 9 t. 11, 12.

LIN. SYST. *Polyándria, Monogýnia.* Flowers hermaphrodite. Sepals 5, cohering valvately into a 5-nerved caducous calyptra. Petals 5, rarely 6, imbricate in æstivation, permanent, borne beneath the fruit. Style 1, rather lateral in the vertex of the ovarium, crowned by a small convex stigma. Fruit indehiscent, coriaceous, depressedly reniform, oblique, pedicellate, furnished with a stellately spreading corolla-like involucre. Seeds exalbuminous. Cotyledons fleshy, thick. Radicle lateral, lying in the fissure of the cotyledons. Large trees, with the habit of *Semecárpus*, full of viscid ferruginous juice, becoming black on exposure to the atmosphere, with large, simple, deciduous leaves, and panicles of flowers.

1 M. USITA'TA (Wall. l. c. p. 9.) leaves obovate, very blunt, villous. ♄. S. Native of Hindostan, in a large valley called Kadbbu, in the kingdom of Munipur, Silhet, and Tipperah, as well as in the Burmese empire, on the banks of the Irrawadi, where it is called *Theet-tsee* or *Zit-si.* This is identical with the majestic *Kheu* or varnish-tree of Munipur, on the north-east frontier districts of Silhet and Tipperah. Mr. M. R. Smith, who has resided a long time in Silhet, considers this the same as the varnish-tree of the Chinese, in the eastern and north eastern provinces. It is procurable in great quantities from Munipur, where it is used for painting river craft, and for varnishing vessels destined to contain liquid. The drug is conveyed to Silhet for sale by the merchants. On being handled it occasions extensive erysipetalous swellings, attended with pain and fever, but never of long duration. In the neighbourhood of Prome a considerable quantity of varnish is extracted from the tree, but very little at Martaban, owing, it is supposed, to the poorness of the soil, and partly also to there being none of the people in that part whose business is to perform the process, although it is very simple. Short joints of a thin sort of bamboo, sharpened at one end, and shut up at the other, are inserted in a slanting direction into holes made in the trunk and principal branches, and left there for 24 or 48 hours; after which they are removed, and their contents emptied into a basket previously varnished over. Sometimes a hundred bamboos may be seen sticking into the tree at once during the collecting season, which lasts as long as the tree is destitute of leaves, namely, from January until April, and they are renewed as long as the juice will flow. In its pure state it is sold at Prome at the rate of one tical or 2*s.* 6*d.* the viss, and at Martaban 2 Madras rupees the viss, although of an inferior quality to that sold at Prome, being usually mixed with oil of Sesamun. A tree is reckoned to produce 2 to 3 or 4 viss annually, a viss being equal to 3½lbs. Every article of household furniture destined to contain solid or liquid food is lacquered over with it. The article to be varnished with it must be prepared with calcined bones, after which the varnish is laid on thinly, either in its pure state or variously coloured. The process of drying is the most difficult part, being effected in a very slow and gradual manner by the articles thus varnished being placed in subterraneous vaults for several months. The drug is also used as a size glue in the process of gilding; nothing more being required than to besmear the surface of the article to be gilded with it, and immediately to apply the gold leaf. If it is considered how very extensively that art is practised by the Burma nation, it being among their most frequent acts of devotion and piety to contribute to the gilding of their numerous religious edifices and idols, it will be evident that a great quantity of the drug must be consumed for that purpose alone. Finally, the beautiful Pali writing of the religious order of the Burmas on ivory, palm-leaves, or metal, is entirely done with this varnish in its native and pure state.

Useful Black varnish-tree. Clt. 1828. Tree 100 feet.

Cult. For culture and propagation see *Astrònium.*

XI. COMOCLA'DIA (from *κομη*, *kome*, a tuft, and *κλαδος*, *klados*, a branch; the leaves are crowded at the tops of the branches). P. Browne, jam. 124. Jacq. amer. 12. Lam. ill. t. 27. Kunth, gen. tereb. p. 9. D. C. prod. 2. p. 65.—Dodonæ'a, Plum. but not of Lin.

LIN. SYST. *Tri-Tetrándria, Monogýnia.* Flowers hermaphrodite or monoecious. Calyx 3-4-parted, permanent. Petals 3-4, long, large. Stamens 3-4, short. Ovary 1. Style none. Stigma 1. Drupe ovate, 1-celled, 1-seeded. Ovum rather pendulous, fixed to the bottom of the ovary by a funicle which is curved at the apex. Albumen none. Cotyledons thick. Radicle superior, curved.—South American trees, abounding every where in clammy juice. Leaves impari-pinnate, with opposite leaflets. Flowers small, purple, sometimes 4-cleft, on short pedicels, disposed in loose branched panicles.

1 C. ILICIFÒLIA (Swartz, 2. fl. ind. occ. 1. p. 75.) leaflets ovate or roundish, sessile, smooth, with spiny angles; spines 1-3 on each side. ♄. S. Native of the West Indies, on calcareous rocks. Flowers small, of a deep red colour, without scent. Leaves long. Dodonæ'a, Plum. ed. Burm. t. 118. f. 1. I'lex Dodonæ'a, Lin. spec. 182. C. tricuspidàta, Lam. act. par. 1784. p. 347. and C. ilicifòlia, Lam. ill. t. 27. f. 2. C. angulòsa, Willd. spec. 1. p. 188. Petioles puberulous. There is a variety with angular leaves, not spiny.

Var. β, glàbra (Schult. mant. 1. p. 350.) leaves smooth on both surfaces as well as the petioles. ♄. S. Native of Porto Rico. C. glàbra, Spreng, syst. 1. p. 176.

Holly-leaved Maiden Plum. Clt. 1778. Tree 20 feet.

2 C. ACUMINA'TA (Moc. et Sesse, fl. mex. icon. ined. D. C. prod. 2. p. 65.) leaflets sessile, lanceolate, acuminated, smooth, somewhat cordate at the base, with 6-7 spiny teeth on each side. ♄. S. Native of Mexico. An intermediate species between *C. ilicifòlia* and *C. dentàta.* Flowers dark red. Stamens opposite the petals in the figure quoted above.

Acuminated-leaved Maiden Plum. Tree 20 feet.

3 C. denta'ta (Jacq. amer. 13. t. 173. f. 4.) leaflets on short footstalks, oblong, erosely-toothed, smooth above and downy beneath. ♄. S. Native of Cuba in woods, as well as of St. Domingo, where it is called *Guao*. H. B. et Kunth, nov. gen. amer. 7. p. 16. This species is very like *C. ilicifòlia*. Leaflets from 6 to 10. The whole tree abounds in a milky glutinous juice, turning very black, not to be washed from cloth. If the tree be ever so slightly wounded it has a very unpleasant smell. The natives have a notion that it is dangerous to sleep under it.

Toothed-leaved Maiden Plum. Fl. Jul. Clt. 1790. Tree 29 ft.

4 C. propi'nqua (H. B. et Kunth, nov. gen. amer. 7. p. 16.) leaflets lanceolate-oblong, acute, almost entire, smoothish above, hairy-pubescent beneath and ferruginous. ♄. S. Native of the island of Cuba near La Trinidad, where it is also called *Guao*.

Allied Maiden Plum. Tree 12 feet.

5 C. mollíssima (H. B. et Kunth, nov. gen. amer. 7. p. 16. t. 607.) leaflets small, oblong, acute, rounded at the base, downy-pubescent above, but clothed with soft silky tomentum beneath. ♄. S. Native of Mexico, between Acapulco and Venta del Exido. C. tomentòsa, Willd. herb. ex Schult. mant. 1. p. 350.

Very soft Maiden Plum. Tree 20 feet.

6 C. integrifòlia (Jacq. amer. 12.) leaflets stalked, lanceolate, quite entire, smooth. ♄. S. Native of Jamaica. Sloan. jam. 2. t. 222. f. 1. Lam. ill. t. 27. f. 1. Flowers small, deep red, without scent. Drupes black and succulent when ripe; they are eatable but not inviting. The wood is hard, of a fine grain, and reddish colour. Leaves about 2 feet long, with about 8 leaflets on each side. The whole tree abounds in a watery juice, slightly glutinous, which grows black in the air, and dies the hand of a deep black colour, that can hardly be washed out.

Entire-leaved Maiden-plum. Clt. 1778. Tree 20 feet.

† *Species not sufficiently known.*

7 C.? Tapa'culo (H. B. et Kunth, l. c. p. 66.) leaflets oblong, acuminated, acutish at the base, quite entire, smooth. ♄. S. Native on the banks of the river Orinoco, near Maypures and Carichana, where it is called *Tapacula*. The Indians near St. Fernando de Atabapo use a preparation of the leaves against chigars.

Tapacula Maiden-plum. Tree 50 feet.

8 C.? Loxe'nsis (H. B. et Kunth, l. c.) leaflets oblong, somewhat acuminated, acute at the base, quite entire, shining, and smooth above, pubescent and downy beneath, with the middle nerve, rachis, and branches clothed with rufescent down. ♄. S. Native of New Granada, near Loxa, in woods.

Loxa Maiden-plum. Tree 30 feet.

Cult. See *Astrònium* for culture and propagation, p. 67.

XII. CYRTOCA'RPA (from κυρτος, *kyrtos*, gibbous, and καρπος, *karpos*, a fruit; in allusion to the 5 gibbosities above the middle of the fruit). H. B. et Kunth, nov. gen. amer. 7. p. 19. D. C. prod. 2. p. 91.

Lin. syst. *Polygàmia, Diœ'cia.* Flowers polygamous? Calyx 5-parted, permanent, spreading. Petals 5, sessile, longer than the calyx, imbricate in æstivation. Stamens 10, length of calyx. Disk large, 10-crenate. Ovary 1. Style 1. Stigma 4-cleft. Drupe obovate-elliptical, with 5 tubercles above the middle, containing a hard nut.—An American tree, with impari-pinnate leaves and quite entire sessile leaflets. Flowers almost sessile, disposed in glomerated spikes, white. This tree has the appearance of a species of *Comoclàdia*.

1 C. pro'cera (H. B. et Kunth, l. c. t. 609.). ♄. S. Native of New Spain.

Tall Cyrtocarpa. Tree 60 feet.

Cult. See *Astrònium* for culture and propagation, p. 67.

XIII. SPATHE'LIA (from σπαθη, *spathe*, a palm-tree; the upright habit and want of branches of *S. simplex* has caused it to be likened to a palm-tree). Lin. gen. no. 373. Gært. fruct. 1. p. 278. t. 58. Kunth, gen. tereb. 25. D. C. prod. 2. p. 84.

Lin. syst. *Diœ'cia, Pentándria.* Female flowers. Calyx 5-parted, membranous, coloured. Petals 5, hypogynous, imbricate in æstivation. Stamens 5, with short, 3-pointed filaments, which are dilated and villous at their base. Ovary somewhat conical, 3-angled, 3-celled, each cell containing 2 ova. Style wanting. Stigmas 3. Drupe oblong, 3-celled, trigonal, sometimes 2-angled, 2-celled; angles winged. Seeds oblong, solitary in the cells. Albumen fleshy. Embryo straight, inverted, with oblong-linear, thin cotyledons, and a short radicle.—Trees with impari-pinnate leaves, and subterminal racemose panicles of flowers. This genus perhaps does not belong to this order.

1 S. si'mplex (Lin. spec. 386.) leaves with about 20 pairs of oblong, toothed leaflets. ♄. S. Native of Jamaica. Ker. bot. reg. t. 670. Sloan. hist. 2. t. 171. Trunk hardly branched. Leaves like those of *Sórbus*. The habit of the plant that of *Comoclàdia*. The fruit is full of a resinous juice. The flowers are red.

Simple-stemmed Spathelia. Fl. July. Clt. 1778. Tr. 20 ft.

2 S.? rhoifòlia (D. C. prod. 2. p. 84.) leaves with about 6 pairs of ovate, acuminated, quite entire leaflets. ♄. G. Native of Mexico. Rhùs pterocárpa, Moc. et Sesse, fl. mex. icon. ined.

Red-leaved Spathelia. Tree 20 feet.

Cult. See *Astrònium* for culture and propagation, p. 67.

XIV. PICRA'MNIA (from πικραμος, *picramos*, derived from πικρος, *picros*, bitter; the plants are bitter in every part). Swartz, fl. ind. 1. p. 218. t. 4. Schreb. gen. no. 1517. D. C. prod. 2. p. 66.

Lin. syst. *Diœ'cia, Tri-Pentándria.* Flowers dioecious. Calyx 3 or 5-parted. Petals 3 or 5, oblong. Male flowers with exserted stamens, equal in number with the petals. Female flowers with an ovate ovary, and 2 sessile stigmas. Drupe ovate, containing a 2-celled, 2-seeded nut. Seeds oblong.—Small trees with impari-pinnate leaves, alternate, stalked, quite entire, ovate-lanceolate leaflets. Racemes of flowers elongated, pendulous, opposite the leaves. The character of the seed being unknown, the place which this genus should occupy in this order is truly doubtful.

1 P. antide'sma (Swartz, fl. ind. occ. 1. p. 218.) flowers triandrous; racemes longer than the leaves; leaflets elliptical, acuminated. ♄. S. Native of Jamaica and St. Domingo, on mountains in woods. Sloane, hist. t. 208. f. 2. Flowers small, greenish-white. Fruit at first scarlet, but black when ripe, about the size of a gooseberry. Swartz informs us that the negroes in Jamaica look upon this shrub as antivenereal, and that they commonly use an infusion of it in colic. The whole plant is exceedingly bitter, and is called *Majo Bitters* in Jamaica.

Antidesma-like Majo-bitters. Fl. Aug. Clt. 1793. Sh. 8 ft.

2 P. Fessònia (D. C. prod. 2. p. 66.) flowers triandrous; racemes shorter than the leaves; leaflets ovate, acuminated. ♄. S. Native of Mexico. Fessònia depéndens, Moc. et Sesse, fl. mex. icon. ined. Flowers greenish-white? Fruit red, with 3 scales in the female flowers in place of the stamens.

Fesson's Majo-bitters. Shrub 8 feet.

3 P. penta'ndra (Swartz, fl. ind. occ. 1. p. 220.) flowers pentandrous; racemes shorter than the leaves; leaflets ovate-elliptical, acuminated. ♄. S. Native of the islands of Montserrát and St. Domingo. P. pseùdo-Brazílium, Hort. par.? in Juss. gen. 370. and hence *Comoclàdia Brasiliástrum*, Poir. suppl. 2. p. 325. Flowers greenish-white.

Pentandrous Majo-bitters. Clt. 1822. Shrub 8 feet.

4 P. Tari'ri (D. C. prod. 2. p. 4.) flowers? leaflets broadly and unequally ovate, acuminated, with villous edges, and bearing glands in the axillæ of the veins. ♄. S. Native of Guiana in woods. Taríri Guianénsis, Aubl. guian. suppl. p. 37. t. 390. It is called *Tariri* by Caribbees.

Tariri Majo-bitters. Shrub 10 feet.

Cult. See *Astrònium* for culture and propagation, p. 67.

XV. BISCHO'FIA (in honour of — Bischoff, of the Botanical Academy of Munich). Blum. bijdr. 1168.

Lin. syst. *Diœ'cia, Pentándria.* Flowers dioecious. Calyx inferior, 5-sepalled. Corolla wanting. Male flowers with 5 short stamens, which are joined into an urceolus, hardly free at the apex. Anthers 2-celled. Female flowers with the rudiments of filaments scale-formed, sometimes 2. Ovary ovate, globose, 3-celled; cells 2-ovulate; ovula pendulous. Stigmas 3, sessile, linear, reflexed, approximate at the base. Fruit containing 3 1-seeded nuts.—A strong tree, with very hard red wood, alternate, trifoliate leaves, serrulated leaflets, axillary and lateral panicles of flowers, with each pedicel furnished with 13 bracteas at the base. This genus agrees better with *Rutàceæ* than *Terebinthàceæ.*

1 B. Java'nica (Blum. bijdr. 1168.). ♄. S. Native of Java, in mountain woods in the western provinces, where it is called *Gadok.*

Java Bischofia. Fl. Sept. Tree 60 feet.

Cult. See *Astrònium* for culture and propagation, p. 67.

XVI. SA'BIA (*Soobja* is the Bengalese name of one of the species). Colebr. in Lin. trans. 12. p. 351. and 355. Wall. in fl. ind. 2. p. 308.

Lin. syst. *Pentándria, Monogýnia.* Calyx inferior, 5-cleft. Petals 5, lanceolate, imbricate in æstivation. Stamens 5, opposite the petals, inserted round the base of a perigynous 5-lobed disk. Anthers bursting by a dorsal longitudinal fissure. Style furrowed, or 2 contiguous, crowned by a blunt stigma. Drupe deeply 2-lobed; lobes kidney-shaped, 1-seeded, one of them usually abortive. Embryo erect, folded. Climbing shrubs, with simple exstipulate leaves, and axillary, 1 or many-flowered peduncles. Notwithstanding many anomalies in this genus, Dr. Wallich seems to think it belongs to the present tribe of *Terebinthàceæ.*

1 S. lanceola'ta (Colebr. l. c. t. 14.) smooth; leaves oblong, lanceolate, slightly blistered; corymbs axillary and terminal. ♄. ◡. S. Native of Silhet. An extensively rambling shrub. Flowers very fragrant, marked with linear purple dots.

Lanceolate-leaved Sabia. Shrub cl.

2 S. parviflòra (Wall. fl. ind. 2. p. 310.) young shoots slightly pubescent; leaves ovate, with membranous, waved margins; peduncles axillary, few-flowered; petals lanceolate. ♄. ◡. G. Native of Nipaul. An extensive climber. Flowers smaller than those of the last species, purple.

Small-flowered Sabia. Shrub cl.

3 S. campanula'ta (Wall. in fl. ind. 2. p. 311.) leaves oblong, with membranous margins; flowers solitary, axillary, cup-formed, with large, round, concave petals. ♄. ◡. G. Native of Sheopore, in Nipaul. Flowers green, large. Anthers 2-celled.

Bell-flowered Sabia. Shrub cl.

Cult. Loam and sand, with a little peat, is a good soil for this genus, and ripened cuttings will root in sand under a hand-glass. The species are not worth cultivating, except in botanical gardens.

Tribe II.

SUMACHI'NEÆ (plants agreeing with *Sumach* in important characters). D. C. prod. 2. [illegible] 66. Petals and stamens inserted in the calycine disk or in the calyx. Ovary solitary (from abortion), 1-celled, containing only 1 ovulum. Seed pendulous, exalbuminous, sustained by a funicle rising from the base of the cell. Cotyledons leafy, with the radicle bent in above the fissure of the cotyledons.

XVII. RHU'S (derived from ροος or ρους, in Greek, which is derived from *rhudd*, a synonyme of *rub* in Celtic, red; in allusion to the colour of the fruit and leaves of some species in autumn). Lin. gen. no. 369. Lam. ill. t. 207. Kunth, gen tereb. p. 5. D. C. prod. 2. p. 66.

Lin. syst. *Pentándria, Trigýnia,* or *Diœ'cia, Pentándria.* Calyx permanent, small, 5-parted. Petals 5, ovate, spreading. Stamens 5, all antheriferous, both in the male and female flowers. Ovary 1, somewhat globose, 1-celled. Styles 3, short, or stigmas 3, sessile. Drupe almost dry, 1-celled, containing a bony, 1-seeded nut from abortion, and sometimes 2 or 3 seeds. Seeds without albumen, sustained by a funicle rising from the bottom of the cell. Cotyledons leafy, with the radicle lying on the upper suture of the cotyledons. Gært. fruct. 1. p. 205. t. 44.—Shrubs with alternate, various, but usually compound leaves. Flowers usually polygamous, or dioecious from abortion.

Sect. I. Co'tinus (κοτινος, *cotinos*, is a name under which Pliny speaks of a tree with red wood, which is supposed to grow in the Apennines). Tourn. inst. p. 380. D. C. prod. 2. p. 77. Flowers hermaphrodite. Drupe half cordate, veiny, smooth, containing a triangular nut. Leaves simple. Flowers loosely panicled, many of which are abortive, and of these the pedicels are elongated and hairy after flowering.

1 R. Co'tinus (Lin. spec. 383.) leaves obovate. ♄. H. Native of the south of Europe from Spain to Caucasus, in places exposed to the sun. Jacq. aust. t. 210. Mill. fig. t. 270. Cótinus Coggýgria, Scop. carn. ed. 2. no. 368. Mœnth. meth. 73.—Lob. icon. 99. Cótinus coriàcea, Duh. arb. 1. t. 78. Flowers greenish-yellow. This is rather an ornamental shrub, and the wood is much used by the modern Athenians for dyeing wool of a most beautiful and rich yellow. The whole plant is used for tanning in Italy, where it is called *Scotino.*

Venus-Sumach or Wild-olive. Fl. June, July. Clt. 1656. Shrub 4 to 6 feet.

2 R. velutìna (Wall. mss. in Lin. soc. herb.) leaves simple, oblong, on long petioles, repand-toothed, clothed beneath with velvety white pubescence, as well as the branches; peduncle racemose, terminal. ♄. G. Native of Kamoon, in the East Indies. Flowers small, white.

Velvety Sumach. Shrub.

3 R. læ'vis (Wall. mss. in herb. Lin. soc.) leaves simple, ovate, or obovate-oblong, mucronate at the apex on long petioles, entire, quite smooth, and rather glaucous beneath; panicle terminal. ♄. G. Native of the East Indies. Flowers small, white.

Smooth Sumach. Shrub.

Sect. II. Metòpium (*Metopion* is a name under which Pliny speaks of a resinous tree unknown to us; it is derived from *οπος*, juice). D. C. prod. 2. p. 67. Flowers hermaphrodite. Drupe ovate, rather oblong, dry, smooth, containing a large, ample membranous nut. Seed, according to Linnæus, arillate and 2-lobed. Leaves impari-pinnate, with 2 pairs of ovate, quite entire, long-stalked leaflets.

4 R. Metòpium (Lin. amœn. 5. p. 395.) leaves quite smooth. ♄. S. Native of Jamaica, in woods on the mountains. Sloan. hist. 2. t. 199. f. 5.—Browne, jam. 177. t. 13. f. 3. Drupes reddish. This tree yields a great quantity of gummy resin called Doctors' gum, which, when pure, is of a yellow colour, and after a short time, acquires a hard brittle consistence. It

is daily used in strengthening plaisters, for which it is deservedly much recommended. It is of a warm discutient nature, and may be used in all swellings arising from colds, both externally and internally. The gum, dissolved in water, is an easy purgative, and thought to be extraordinarily diuretic. In Jamaica the tree is frequent enough, and the hogs are said to have recourse to it when wounded in the woods.

Metopium or Hog gum-tree. Clt. 1823. Tree 20 feet.

SECT. III. SU'MACH (*el-simac* or *es-simac* is the Arabian name of some species). D. C. prod. 2. p. 67.—Rhùs and Toxicodéndron, Tourn. inst. 381. Mœnch. meth. 72. Flowers polygamous, dioecious, or hermaphrodite. Drupe ovate-roundish, usually villous, containing a smooth or striped nut.—Shrubs with impari-pinnate leaves or palmately trifoliate ones. Petioles naked or a little winged. Flowers panicled.

§ 1. *Leaves impari-pinnate.*

* *Petioles naked.*

5 R. FILÍCINA (Moc. et Sesse, fl. mex. icon. ined.) leaves 7-9 pairs; petiole naked; leaflets sessile, pinnatifid, pilose, oblong; lobes blunt, awned, with a hair. ♄. G. Native of Mexico, on the mountains, where it is called *Tetlazian*, but it is not the *Tetlacian* of Hern. mex. p. 153. Fruit covered with violet hairs.

Fern-like Sumach. Shrub.

6 R. TYPHÌNA (Lin. spec. 380.) leaves with 8 or 10 pairs of leaflets; petioles naked, and are as well as the branches hairy; leaflets lanceolate, acuminated, serrated, rather pilose beneath. ♄. H. Native of North America, from Canada to Carolina, in rocky dry situations. Duh. arb. ed. nov. 2. t. 47. Wats. dend. brit. t. 17. and 18. R. Virginiàna, Bauh. pin. p. 517. The purple velvety berries appear in large close clusters. The leaves change in autumn first to a purplish, but just before they fall to a feuillemort colour. This species, as well as *R. coriària* is used for tanning leather; and the roots are prescribed as a febrifugal medicine in the country of its natural growth.

Var. α, *arboréscens* (D. C. prod. 2. p. 67.) leaves somewhat pubescent beneath. ♄. H. Willd. enum. 323. Tree 20 feet.

Var. β, *frutéscens* (Willd. l. c.) leaves white, with pubescence beneath. ♄. H. Shrub 8 feet.

Fever or Virginian Sumach. Fl. July, Aug. Clt. 1629. Shrub 8 to 20 feet.

7 R. VIRIDIFLÒRA (Poir. dict. 7. p. 504.) leaves with 8-10 pairs of leaflets; petioles naked, and are as well as the branches pilose; leaflets lanceolate-oblong, serrated, pubescent beneath. ♄. H. Native of North America, in Pennsylvania and Virginia, on the edges of woods in dry sunny situations. R. Canadénsis, Mill. dict. no. 5. Flowers yellowish-green, probably not much more than a variety of the following species. Racemes of flowers erect.

Green-flowered Sumach. Fl. July, Aug. Clt. ? Tree 15 ft.

8 R. GLA'BRA (Lin. spec. 380.) leaves with 8 or 10 pairs of leaflets, and are as well as the branches smooth; petioles naked; leaflets lanceolate-oblong, serrated, whitened beneath. ♄. H. Native of North America from New England to Carolina, common in old fields. Flowers greenish-red. Fruit silky, red. They are used for dyeing the same colour, and they are eaten by children with impunity, but they are very sour. On cutting the stem a yellow juice comes out between the bark and the wood. The bark boiled with the fruit affords a black ink-like tincture.

Var. α, *hermaphrodìta* (D. C. prod. 2. p. 67.) flowers hermaphrodite, greenish. R. glàbra, Willd. spec. 1. p. 1478.—Dill. elth. t. 243. f. 314.

Var. β, *dioica* (D. C. prod. 2. p. 67.) flowers dioecious, greenish. Lam. ill. t. 207. f. 1.

Var. γ, *coccinea* (D. C. prod. 2. p. 67.) flowers dioecious, red. Fruit scarlet. R. élegans, Ait. hort. kew. 1. p. 162. R. Caroliniànum, Mill. dict. no. 4.—Cat. car. app. t. 4. Native of South Carolina.

Smooth or Scarlet Sumach. Fl. July, Aug. Clt. 1726. Shrub 8 feet.

9 R. PU'MILA (Mich. fl. bor. amer. 1. p. 182.) a humble shrub wholly covered with pubescence; leaves with many pairs of deeply-toothed oval leaflets, which are downy on the under surface; petioles? ♄. H. Native of Upper Carolina. Fruit silky. This is the most poisonous of the genus, according to information from Mr. John Lyon, who by collecting the seed of this species was poisoned all over his body and was lamed for a considerable time.

Dwarf Sumach. Fl. July. Clt. 1806. Shrub 1 foot.

10 R. ACUMINA'TA (D. C. prod. 2. p. 68.) leaves with 3 or 4 pairs of leaflets, and are as well as the branches smooth; petioles naked; leaflets oval, quite entire, with long taper-points, paler beneath, and full of parallel feather nerves. ♄. H. Native of Nipaul. Lateral veins of leaves 20-30, parallel. Panicle of flowers axillary, shorter than the leaves. Flowers dioecious.

Acuminated-leaved Sumach. Shrub.

11 R. SUCCEDA'NEA (Lin. mant. 221.) leaves with 5-7 pairs of leaflets, smooth, permanent; petioles wingless; leaflets ovate-lanceolate, taper-pointed, shining, netted with veins and glaucous beneath, self-coloured. ♄. G. Native of Japan, Fasi-no-Ki. Kæmpf. amœn. 793. t. 795.—Thunb. jap. 121. Drupe ovate, white, about the size of a cherry, containing a smooth nut. The oil of the seeds, expressed whilst warm, acquires the consistence of suet, and serves for making candles. The trunk yields a varnish, but in so small a quantity as not to be worth collecting. Osbeck informs us that this is called *Tay-sha* in China.

Succedaneous or Red Lac Sumach. Fl. June, July. Clt. 1768. Shrub 10 to 15 feet.

12 R. NODÒSA (Blum. bijdr. 1164.) leaflets 3-4 pairs, ovate-oblong, entire, bluntly acuminated, a little obliquely attenuated at the base, smooth; petioles wingless, terete, geniculately knotted; panicle terminal, fastigiate. ♄. S. Native of Java, on the mountains of Salak, where it is called *Kadondang-aroy*.

Knotted-petioled Sumach. Tree.

13 R. PUBI'GERA (Blum. bijdr. 1165.) leaflets 3-7 pairs, ovate-lanceolate, entire, acuminated, a little obliquely attenuated at the base, opaque on both surfaces, and are as well as the petioles somewhat pubescent; panicles axillary. ♄. S. Native of Java.

Pubigerous Sumach. Tree.

14 R. VERNICÍFERA (D. C. prod. 2. p. 68.) leaves with 5-6 pairs of leaflets; petioles naked, and are as well as the branchlets clothed with soft down; leaflets elliptic, acute, quite entire, smoothish above, but velvety beneath from pubescence. ♄. G. Native of Japan, where it is called *Sitz* or *Urus* (ex Kœmpf. amœn. 791. t. 792.), and of Nipaul. R. vérnix, Lin. mat. med. 151. Thunb. jap. 121. but not of others. R. juglandifòlia, Wall. in Litt. D. Don, prod. fl. nep. 248. but not of Willd. Leaves long, resembling those of a walnut. Thunberg affirms that the very best Japan varnish is prepared from this tree, which grows in great abundance in many parts of that country, and is likewise cultivated in many places on account of the great advantages derived from it. This varnish, which oozes out of the tree on being wounded, is procured from stems that are three years old, and is received in some proper vessel. At first it is of a lightish colour and of the consistence of cream, but grows thicker and black on being exposed to the air. It is so transparent when laid pure and unmixed upon boxes or fur-

niture, every vein of the wood may be clearly seen. For the most part a dark ground is spread underneath it, which causes it to reflect like a mirror, and for this purpose recourse is frequently had to the fine sludge, which is got in the trough under a grind-stone, or to ground charcoal; occasionally a red substance is mixed with the varnish, and sometimes leaf-gold, ground very fine. This varnish hardens very much, but will not endure any blows, cracking and flying almost like glass, though it can stand boiling water without any damage. With this the Japanese varnish over the posts of their doors, and most articles of household furniture, which are made of wood. It far exceeds the Chinese and Siamese varnish, and the best is collected about the town of Jassino. It is cleared from impurities by wringing it through very fine paper; then about a hundredth part of an oil called *toi*, which is expressed from the fruit of *Bignònia tomentòsa* is added to it, and being put into wooden vessels, either alone or mixed with native cinnabar, or some black substance, it is sold all over Japan. The expressed oil of the seeds serves for candles. The tree is said to be equally poisonous with the *Rhùs venenàta*, or American poison-tree.

Varnish-bearing Sumach or Japan Varnish-tree. Clt. 1818. Tree 30 feet.

15 R. VENENA'TA (D. C. prod. 2. p. 68.) leaves with 6-7 pairs of smoothish deciduous leaflets; petioles naked; leaflets ovate-lanceolate, acuminated, quite entire, netted with veins beneath. ♄. H. Native of North America, from Canada to Carolina, in low copses, where it is called *Poison-sumach* or *Poison-wood.*—Dill. elth. t. 292. R. vérnix, Lin. spec. 380. Big. med. bot. 1. p. 96. t. 10. Wats. dend. brit. t. 19. Toxicodéndron pinnàtum, Mill. dict. no. 5. Flowers dioecious, green. Fruit white, smooth, containing a furrowed nut. The milky juice of this tree stains linen a dark brown. The whole shrub is in a high degree poisonous, and the poison is communicated by touching or smelling any part of it. In forty-eight hours, inflammation appears on the skin in large blotches, principally on the extremities and on the glandulous parts of the body; soon after small pustules rise in the inflamed parts, and fill with watery matter, attended with burning and itching. In two or three days the eruptions suppurate, after which the inflammation subsides and the ulcers heal in a short time. It operates, however, somewhat differently on different constitutions; and some are incapable of being poisoned with it at all. Persons of irritable habits are most liable to receive it. Kalm gives much the same account of the American poison-tree or Swamp Sumach. An incision being made, a whitish-yellow juice, which has a nauseous smell, comes out between the bark and the wood; it is noxious to some persons, but does not in the least affect others. On himself it had no effect, except on a hot day, when being in some perspiration, he cut a branch and carried it in his hand for half an hour, smelling it now and then. It produced a violent itching in his eyelids and the parts thereabouts; during a week his eyes were very red, and the eyelids very stiff, but the disorder went off by washing the eyelids with very cold water. The Abbé Sauvages stained linen black with the juice of this tree, which it retained after a great number of washings in ley. The Abbé Mazeas made trial of that of *R. toxicodéndron.* The instant, he says, the cloth was exposed to the sun, it became the finest black he had ever seen.

Poison Sumach, Poison-wood, or Swamp Sumach. Fl. July. Clt. 1713. Tree 20 feet.

16 R. RUFE'SCENS (Hamilt. prod. fl. ind. occ. p. 32.) rufescent; leaflets 5 pairs, nearly sessile, obliquely cordate, oblong, acuminated, adpressedly serrated, shining above, covered with rufescent tomentum beneath, with the veins parallel; flowers axillary, subcymose, tomentose. ♄. S. Native of Jamaica.

Rufescent Sumach. Tree 2[illegible] feet.

17 R. COMMERSÒNII (Poir. suppl. 5. p. 264.) leaves with 3-4 pairs of smooth leaflets; petioles? leaflets tapering to the base, but blunt at the apex, somewhat mucronated and quite entire. ♄. S. Native of Brazil. Like *R. venenàta* or *vernicifera*, ex Poir. R. meridionàlis, Spreng. syst. 1. p. 936.

Commerson's Sumach. Clt. 1818. Tree 30 feet.

18 R.? PERNICIÒSA (H. B. et Kunth. nov. gen. amer. 7. p. 10.) leaves with 7-8 pairs of leaflets, and are smooth, as well as the branches; petioles naked; leaflets on long stalks, elliptical or rhomboid-ovate, quite entire, membranous. ♄. S. Native of New Spain, near St. Theresa and Tapecuacuilca. Flowers, as well as fruit, unknown. This species resembles in its poisonous effects the *R. venenàta*, no. 15.

Pernicious Sumach. Shrub 3 to 4 feet.

19 R. JUGLANDIFÒLIA (Willd. in Schult. syst. 6. p. 649. but not of Wall.) leaves with 11-15 pairs of oblong, acuminated, quite entire, smooth (but rather pilose beneath) leaflets, which are rounded on the upper edge at the base, but narrowed at the lower edge; panicles axillary, much branched; calyxes smooth. ♄. S. Native of New Granada, where it is commonly called *Caspi de Pasto.* H. B. et Kunth. nov. gen. amer. 7. p. 6. t. 603 and 604. Allied to *R. copallina*, but the petioles are wingless. The juice is very acrid and poisonous.

Walnut-leaved Sumach. Shrub 5 to 6 feet.

20 R. FRAXINIFÒLIA (D. Don, prod. fl. nep. p. 248.) flowers hermaphrodite; leaflets 7, lanceolate, acuminated, serrated, glabrous, shining, oblique at the base; rachis rather terete, simple; panicle much branched, villous. ♄. G. Native of Nipaul. A large tree, with leaves nearly 2 feet long.

Ash-leaved Sumach. Clt. 1820. Tree 40 feet.

21 R. STRIA'TA (Ruiz et Pav. fl. per. 3. p. 29. t. 252.) leaves pinnate, with quite entire ovate-lanceolate leaflets, downy beneath; racemes large; fruit striated. ♄. G. Native of Peru, in the groves of Chinchao. Flowers white.

Striped-fruited Sumach. Tree 20 feet.

* * *Leaves with the petioles more or less winged.*

22 R. CORIA'RIA (Lin. spec. 379.) leaves with 5-7 pairs of villous leaflets; petioles naked or somewhat marginate at the apex; leaflets elliptical, bluntly and coarsely toothed. ♄. H. Native of the south of Europe, on rocks in exposed situations, from Portugal to Tauria. Duh. ed. nov. 2. t. 46. Wats. dend. brit. t. 136. Blackw. t. 486.—Plenck. icon. t. 232. Leaves of a yellowish-green colour. Flowers whitish-green, disposed in terminal panicles. The branches of this tree are used instead of oak bark for tanning leather, and it is said that Turkey leather is all tanned with it. The leaves and seeds are used in medicine, and are esteemed very restringent, stiptic, tonic, and cooling. The Tripoli merchants sell the seeds at Aleppo, and they are in common use there to provoke an appetite. The taste of the fruit is very acid and astringent, and does not possess the dangerous qualities for which some species of this genus are so remarkable.

Hide or Elm-leaved Sumach. Fl. July, Aug. Clt. 1629. Tree 20 feet.

23 R. SEMIALA'TA (Mur. comm. gœtt. 6. 1784. p. 27. t. 3.) leaves with 5-7 pairs of leaflets; petioles naked or somewhat margined from the middle to the apex; leaflets ovate, acuminated, serrated, downy beneath. ♄. G. Native of the East Indies and Cochin-china. R. Javánicum, Lour. cochin. 183. Flowers white, bell-shaped. Leaflets clothed with rusty down on the under surface. The Chinese extract an oil from the berries by bruising them, and boiling them in water; they use it as a varnish, which is beautiful, but does not keep its polish so well as the true sort.

Half-winged-petioled Sumach. Clt. 1780. Shrub 6 feet.

24 R. Java'nica (Lin. spec. 380.) leaflets 5-7 pairs, ovate-oblong, acuminated, bluntly-toothed, tomentose beneath; petioles submarginate; panicle terminal, tomentose. ♄. G. Native of Japan and China, but introduced to Java. R. semialàta, var. β, Osbéckii, D. C. prod. 2. p. 67.

Java Sumach. Clt. 1799. Tree 30 feet.

25 R. Chine'nsis (Mill. dict. no. 7.) leaves with 3 or 4 pairs of leaflets; petioles membranous, and are, as well as the branches, clothed with downy villi; leaflets ovate, bluntly-serrated. ♄. G. Native of China.

Chinese Sumach. Clt. 1800. Shrub 5 to 6 feet.

26 R. Ame'la (D. Don, prod. fl. nep. 248.) leaves with 6-7 pairs of leaflets; petioles with a narrow wing; leaflets elliptical, acuminated, serrated, sessile, odd one only stalked, all covered with greyish-down beneath. ♄. F. Native of Nipaul, at Narainhetty. R. Bucki-amèlam, Roxb. hort. beng. p. 22. Flowers dioecious, disposed in large terminal panicles. Berries silky. Leaves 1-2 feet long. *Bucku-amela* is the vernacular name of the tree.

Bucku-Amela Sumach. Clt. 1823. Tree 40 feet.

27 R. paucifl'ora (Lin. fil. suppl. 183.) leaves pinnate; petioles winged, covered with very fine villi; leaflets alternate, wedge-shaped, serrated at the apex; panicles sessile, few-flowered. ♄. G. Native of the Cape of Good Hope. Thunb. fl. cap. 2. p. 225.

Few-flowered Sumach. Shrub 6 feet.

28 R. obli'qua (Thunb. fl. cap. 2. p. 224.) leaves with many pairs of smooth, ovate, quite entire, dimidiate leaflets. ♄. G. Native of the Cape of Good Hope. Flowers and fruit unknown. Allied to *R. pauciflòra*.

Oblique-leafletted Sumach. Clt. 1825. Shrub 6 feet.

29 R. ala'ta (Thunb. fl. cap. 2. p. 225.) leaves pinnate; petioles winged, tomentose; leaflets alternate, ovate, serrated at the apex; peduncles axillary. ♄. G. Native of the Cape of Good Hope.

Winged-petioled Sumach. Clt. 1824. Shrub 10 feet.

30 R. copallìna (Lin. spec. 380.) leaves of 5-7 pairs of leaflets, which are smooth above, and rather pilose beneath; petioles winged, jointed; leaflets elliptic, quite entire. ♄. H. Native of North America, in dry fields and woods, particularly in a sandy soil, from New Jersey to Carolina. Jacq. hort. schœnb. 341.—Pluk. alm. t. 56. f. 1. Root stoloniferous. Flowers dioecious, yellowish-green. Berries red. The leaves of this species change to purple in the autumn, and are used as tobacco by the Indians of the Missouri and Mississippi.

Var. β, *leucántha* (Jacq. schœnb. t. 342.) root not stoloniferous; flowers white; panicles more contracted. ♄. H. Native of North America. Leaflets many pairs, narrow.

Gum *Copal-like* or Lentiscus-leaved Sumach. Fl. July, Aug. Clt. 1688. Shrub 8 feet.

31 R. tri'juga (Poir. dict. 7. p. 508.) leaves with 3 pairs of coriaceous ovate leaflets, which are pubescent beneath; petioles flat, striated. ♄. S. Native of Brazil, at Rio Janeiro. Fruit globose, shining.

Three-paired-leaved Sumach. Tree.

§ 2. *Toxicodéndron* (from τοξικον, *toxikon*, poison, and δενδρον, *dendron*, a tree; tree very poisonous). *Tourn. inst. t.* 381. *Mœnch. meth.* 73. *but not of Gærtn. nor Thunb.—Pocóphorum, Neck. elem. no.* 964. *Leaves pinnately trifoliate, with the middle leaflet stalked.*

32 R. radi'cans (Lin. spec. 381.) leaflets ovate, smooth, entire. ♄. H. Native of North America, from Canada to Georgia, common in all woods, fields, and along fences. Berries white. Flowers dioecious, greenish.

Var. α, vulgàris (D. C. prod. 2. p. 69.) plant climbing and rooting; leaflets large, entire or rarely toothed, ovate. R. Toxicodéndron, var. *α*, vulgàre, Pursh. fl. amer. sep. 1. p. 205. Sims, bot. mag. t. 1806. Duh. ed. nov. 2. t. 48. Toxicodéndron vulgàre, Mill. dict. This plant having in common with ivy the quality of not rising without the support of a wall, tree, or hedge; it is called in some parts of America creeping ivy. It will climb to the top of high trees in woods, the branches every where throwing out fibres, which penetrate the trunk of the tree which it grows on. When the stem is cut it emits a pale-brown sap, of a disagreeable scent, and so sharp that letters or marks made upon linen cannot be got out again, but grows blacker the more it is washed. Like *R. venenàta* it is poisonous to some persons, but in a less degree. Kalm relates of two sisters, one could manage the tree without being affected by its venom, while the other felt its exhalation as soon as she came within 3 feet of it, or even when she stood to windward of it, at a greater distance; that it had not the least effect upon him, though he had made many experiments upon himself, and once the juice squirted into his eyes; but that on another person's hand, which he had covered very thick with it, the skin a few hours afterwards became as hard as a piece of tanned leather, and peeled off afterwards in scales.

Var. β, *volùbilis* (D. C. prod. 2. p. 69.) stem climbing, scarcely rooting; leaflets ample, ovate. Toxicodéndron volùbile, Mill. dict.

Var. γ, *microcárpa* (D. C. prod. 2. p. 69.) leaflets oblong-ovate, with long taper points; fruit much smaller than in the two preceding varieties. R. Toxicodéndron microcárpon, Pursh. fl. sept. amer. 1. p. 205.—Dill. elth. t. 291. f. 375.

These two last varieties possess the same poisonous qualities as the first, but in a less degree.

Rooting Poison-oak or Sumach. Fl. June, July. Clt. 1640. Shrub creeping or climbing.

33 R. toxicode'ndron (Lin. spec. 381.) leaflets deeply-angled or sinuated, pubescent. ♄. H. Native of North America, along with R. radicans. R. Toxicodéndron quercifòlium, Michx. fl. bor. amer. 1. p. 182. Pursh. fl. sept. amer. 1. p. 205. Toxicodéndron pubéscens, Mill. dict. no. 2. According to Nuttal, this is a truly distinct species from the preceding. Perhaps the T. serràtum, Mill. dict. is a variety of this plant. Flowers greenish. The juice of this tree is milky when it first exudes, but becomes jet black by exposure to the air. It is poisonous to the touch. It was first tried as a medicine by Dr. Alderson of Hull, in imitation of experiments of M. Fresnoi, with the *Rhùs radicans*. He gave it in four cases of paralysis in doses of half a grain or a grain three times a day, and all his patients recovered to a certain degree the use of their limbs. The first symptom of amendment was always an unpleasant feeling of prickling or twitching in the paralytic limbs. Dr. Duncan has given it in larger doses without experiencing the same success; it was not however inactive. In one case the patient discontinued its use on account of the disagreeable pricking it occasioned, and in general it operated as a gentle laxative, notwithstanding the torpid state of the bowels of such patients.

Common *Poison-tree* or Poison-oak. Fl. June, July. Clt. 1640. Shrub creeping upon walls or trees.

34 R. Bahame'nsis; leaflets ovate, acuminated, entire, lateral ones oblique at the base, pubescent beneath, especially on the nerves; petioles and branches hairy; racemes axillary, rather compound. ♄. H. Native of the Bahama Islands. The plant is poisonous like the two preceding.

Bahama Poison-tree. Fl. June, July. Shrub cr. or cl.

35 R. lineatifòlia (Ort. dec. p. 89.) leaflets ovate, acuminated, toothed, quite entire at the base, lined, with the edges rather villous, lateral ones on short stalks, middle one on a long stalk; racemes axillary; berries striped. ♄. S. Native of the Island

of Cuba. Rhámnus Cubénsis, Pers. ench. 1. p. 240. no. 35. Rhámnus lineatifòlius, Schult. syst. 5. p. 294. Rhús lineàta, Spreng. syst. Flowers cream-coloured.

Lined-leaved Sumach. Clt. 1818. Shrub 2 feet.

§ 3. *Leaves palmately-trifoliate, that is to say, that the three leaflets rise from the top of the petiole.*

* *Leaflets entire, more or less downy, as well as the petioles and branches.*

36 R. GLAU'CA (Desf. arb. 2. p. 326.) leaflets obcordate, flat, usually covered with glaucous powder, smooth, quite entire. ♄. G. Native of the Cape of Good Hope. Pers. ench. 1. p. 326.

Glaucous-leaved Sumach. Fl. July. Clt. 1821. Shrub 4 ft.

37 R. VILLÒSA (Lin. fil. suppl. 183.) leaflets obovate, bluntish, quite entire, rather hairy on both surfaces, as well as the petioles and branchlets; racemes axillary, much shorter than the leaves. ♄. G. Native of the Cape of Good Hope. R. incàna, Mill. dict. no. 8.—Pluk. alm. t. 219. f. 8. In cultivation this species is sometimes smooth. It is perhaps not distinct from *R. æquàlis*, Pers. ench. 1. p. 326. Flowers yellowish-green.

Villous Sumach. Fl. July. Clt. 1714. Shrub 6 feet.

38 R. PYROÌDES (Burch. cat. 1796. voy. 1. p. 340.) leaflets subequal, obovate-oblong, quite entire, mucronated, and are, as well as the branchlets, covered with close-pressed pubescence; racemes axillary, shorter than the leaves, disposed in a terminal, elongated, leafless panicle. ♄. G. Native of the Cape of Good Hope. Leaves pale.

Pear-like Sumach. Clt. 1816. Shrub 6 feet.

39 R. ATOMA'RIA (Jacq. hort. schœnb. t. 343.) leaflets obovate, mucronate, quite entire, smoothish above, but clothed with velvety villi beneath, as well as the branches and petioles; panicle terminal, much branched. ♄. G. Native of the Cape of Good Hope. Flowers greenish-yellow. The leaves when bruised have the smell of turpentine.

Atomed-leaved Sumach. Fl. July. Clt. 1800. Sh. 6 to 8 ft.

40 R. ELLI'PTICA (Thunb. fl. cap. 2. p. 214.) leaflets elliptical, entire, acute, downy beneath; petioles filiform; branches smooth; panicles axillary. ♄. G. Native of the Cape of Good Hope. Flowers greenish-yellow.

Elliptical-leaved Sumach. Fl. July. Clt. 1818. Shrub 6 feet.

41 R. CILIA'TA (Licht. in Schult. syst. 6. p. 661.) leaflets linear-lanceolate, quite entire, puberulous beneath, and fringed on the margins; branches spiny; panicle terminal. ♄. G. Native of the Cape of Good Hope. Burch. cat. 1946. Flowers greenish-yellow.

Fringed-leaved Sumach. Clt. 1816. Shrub 6 feet.

42 R. BI'COLOR (Licht. in Schult. syst. 6. p. 661.) leaflets oblong, acute, downy beneath; racemes axillary. ♄. G. Native of the Cape of Good Hope.

Two-coloured-leaved Sumach. Shrub 6 feet.

43 R. ANGUSTIFÒLIA (Lin. spec. 381. exclusive of Burmann's synonyme,) leaflets stalked, linear-lanceolate, quite entire, downy beneath. ♄. G. Native of Ethiopia. Pluk. phyt. t. 217. f. 6. R. argentèa; Mill. dict. Panicles axillary. Flowers greenish.

Narrow-leaved Sumach. Clt. 1714. Shrub 7 feet.

44 R. ROSMARINIFÒLIA (Vahl. symb. 3. p. 50.) leaflets linear, acute, with revolute, quite entire edges, clothed with rusty down beneath; panicles axillary and terminal. ♄. G. Native of the Cape of Good Hope.—Burm. afr. t. 91. f. 1. R. rosmarinifòlia, Thunb. fl. cap. 2. p. 212. is probably a distinct plant.

Rosemary-leaved Sumach. Clt. 1800. Shrub 6 feet.

* * *Leaflets entire, smooth, but the petioles and branchlets are more or less downy.*

45 R. CIRRHIFLÒRA (Lin. fil. suppl. 184.) leaflets obovate, quite entire, smooth; petioles pubescent; tendrils axillary, filiform; stem climbing. ♄. ◡. G. Native of the Cape of Good Hope, in woods. Thunb. fl. cap. 2. p. 218. Flowers yellowish-green.

Tendril-flowered Sumach. Shrub cl.

46 R. PUBE'SCENS (Thunb. fl. cap. p. 215.) leaflets obovate, quite entire, mucronate, smooth; petioles very short; branchlets pubescent. ♄. G. Native of the Cape of Good Hope. Flowers greenish-yellow.

Pubescent Sumach. Clt. 1800. Shrub 6 feet.

47 R. PENDULÌNA (Jacq. ex Willd. enum. 324.) leaflets lanceolate, quite entire, smooth on both surfaces, but fringed; petioles pubescent; branches pendulous; panicle racemose, terminal. ♄. G. Native of the Cape of Good Hope. Flowers greenish-yellow.

Pendulous-branched Sumach. Shrub 6 feet.

* * * *Leaflets entire, and are, as well as petioles and branchlets, smooth.*

48 R. THUNBERGIA'NA (Schult. syst. 6. p. 651.) leaflets obcordate, glaucous, with revolute, smooth, quite entire edges. ♄. G. Native of the Cape of Good Hope. R. glaúcum, Thunb. fl. cap. 2. p. 218. but not of Desf. Flowers greenish-yellow.

Thunberg's Sumach. Shrub 6 feet.

49 R. LU'CIDA (Lin. spec. 382.) leaflets obovate, quite entire, very blunt, somewhat emarginate, smooth on both surfaces; racemes shorter than the leaves, in terminal panicles. ♄. G. Native of the Cape of Good Hope. R. lùcida β, Ait. hort. kew. ed. 2. vol. 2. p. 166.—Comm. hort. 1. t. 93.—Pluk. phyt. t. 219. f. 9.—Burm. afr. 252. t. 91. f. 2. Flowers whitish. Fruit reddish.

Var. β, *subdentàta* (D. C. prod. 2. p. 69.) some of the leaves are a little toothed. Jacq. hort. schœnb. t. 347.

Shining-leaved Sumach. Fl. July, Aug. Clt. 1694. Sh. 8 ft.

50 R. CAVANILLE'SII (D. C. prod. 2. p. 69.) leaflets obovate, very blunt, somewhat emarginate, quite entire, smooth on both surfaces; racemes longer than the leaves. ♄. G. Native of Mexico. R. lùcidum, Cav. icon. 2. p. 27. t. 132. exclusive of the synonyms. Flowers greenish-yellow. Fruit reddish.

Cavanilles's Sumach. Fl. July, Aug. Clt. 1697. Shrub 6 ft.

51 R. BURMA'NNI (D. C. prod. 2. p. 69.) leaflets obovate, blunt, mucronate, quite entire, pale beneath, smooth on both surfaces, as well as the branches; racemes interrupted, a little shorter than the leaves. ♄. G. Native of the Cape of Good Hope. Burm. afr. p. 232. t. 91. f. 2. R. lùcidum α, Ait. hort. kew. ed. 2. vol. 2. p. 166. Flowers greenish-yellow or whitish.

Burmann's Sumach. Fl. July, Aug. Clt. 1797. Shrub 6 feet.

52 R. PANICULA'TA (Wall. mss. in herb. Lin. soc.) leaves palmately-trifoliate; leaflets smooth, coriaceous, obovate-oblong, emarginate at the apex; panicles axillary and terminal. ♄. S. Native of Asia.

Panicled-flowered Sumach. Shrub.

53 R. NERVÒSA (Poir. suppl. 5. p. 264.) lateral leaflets small, cuneately-obovate, very blunt, mucronulate, shining on both surfaces, and are, as well as the branches, quite smooth; racemes rather shorter than the leaves, disposed in a terminal panicle. ♄. G. Native of the Cape of Good Hope. Burch. cat. no. 2871. Flowers greenish-yellow.

Var. β, *mucronàta* (Thunb. fl. cap. 2. p. 216.) petioles very short; panicles axillary.

Nerved-leaved Sumach. Clt. 1800. Shrub 6 feet.

54 R. LÆVIGA'TA (Lin. spec. 1672.) leaflets oblong, quite entire, acute at both ends, and are, as well as the petioles and branches, smooth; panicle terminal, elongated, loose. ♄. G.

Native of the Cape of Good Hope. R. elongàta, Jacq. hort. schœnb. t. 345. Flowers yellowish-white.

Smooth Sumach. Fl. July, Sept. Clt. 1758. Sh. 7 ft.

55 R. LA'NCEA (Lin. fil. suppl. 184.) leaflets linear, acuminated at both ends, and are smooth, as well as the branches, lateral ones diverging in a straight angle; panicle loose, terminal. ♄. G. Native of the Cape of Good Hope. Thunb. fl. cap. 2. p. 212.

Lance-leafletted Sumach. Clt. 1810. Shrub 10 feet.

56 R. VIMINA'LIS (Vahl. symb. 3. p. 50.) leaflets linear-lanceolate, very long, quite entire, somewhat tapering to the base, and are, as well as the branches, quite smooth; panicles axillary, shorter than the leaves. ♄. G. Native of the Cape of Good Hope. Jacq. hort. schœnb. t. 344. Flowers greenish-yellow.

Green-twiggy Sumach. Fl. Sept. Nov. Clt. 1774. Sh. 8 ft.

57 R. FRA'GRANS (Licht. in Schult. syst. 6. p. 661.) leaflets linear-lanceolate, mucronate, smooth. ♄. G. Native of the Cape of Good Hope. Probably quite distinct from *R. rigida*.

Fragrant Sumach. Fl. July, Sep. Clt. 1824. Shrub 6 feet.

58 R. DENUDA'TA (Licht. in Schult. syst. 6. p. 661.) leaflets lanceolate-linear, and are smooth, as well as the branches; panicles capillary, axillary, shorter than the leaves. ♄. G. Native of the Cape of Good Hope. Flowers greenish-yellow.

Naked Sumach. Shrub 6 feet.

59 R. TRIDA'CTYLA (Burch. cat. no. 1667. voy. 1. p. 340.) leaflets smooth, quite entire, linear, very blunt, broadest towards the base; branches stiff, spreading, unarmed. ♄. G. Native of the Cape of Good Hope. Flowers greenish-yellow.

Three-fingered-leaved Sumach. Clt. 1816. Shrub 6 feet.

* * * * *Leaflets toothed, crenate or serrated, more or less downy.*

60 R. PARVIFLÒRA (Roxb. hort. beng. p. 22.) leaflets obovate, crenate-toothed, somewhat velvety, and are as well as the petioles and branchlets velvety-villous beneath; middle one much larger than the rest; panicle terminal, villous. ♄. G. Native of Nipaul. This species is allied to *R. atomària*, but the leaves are not entire. Flowers greenish-yellow.

Small-flowered Sumach. Shrub 6 feet.

61 R. A'LBIDA (Schousb. muroc. 128.) leaflets wedge-shaped, entire, or somewhat crenated, obtuse, whitish-glaucous, and lepidoted, smooth; petioles a little winged; panicles axillary and terminal. ♄. G. Native of Mogodor. R. albicáns, Willd. enum. 325.

Whitened-leaved Sumach. Clt. 1816. Shrub 2 feet.

62 R. OXYACA'NTHA (Schousb. in act. soc. hafn. p. 71.) leaflets cuneate-obovate, usually entire, middle one longest, hoary on both surfaces, as well as the branches and petioles; branches unarmed; racemes axillary and terminal; flowers probably dioecious. ♄. G. Native of Mogodor. R. cratægifórme, Pers. ench. 1. p. 326.? This species is perhaps sufficiently distinct from *R. dioíca* and *R. álbida*. Flowers greenish-yellow.

Sharp-spined Sumach. Clt. 1823. Shrub 6 feet.

63 R. SINUA'TA (Thunb. fl. cap. 2. p. 222.) leaflets ovate, obtuse, sinuated, villous beneath, as well as the branches; panicles axillary. ♄. G. Native of the Cape of Good Hope. Mýrica trifoliàta, Lin. ex Thunb.?

Sinuate-leafletted Sumach. Clt. 1820. Shrub 6 feet.

64 R. MYSORE'NSIS; leaflets obovate, middle one long, all retuse, sinuately-lobed, brown and pubescent beneath. ♄. S. Native of Mysore. Racemes panicled, axillary, and terminal.

Mysore Sumach. Shrub.

65 R. DIMIDIA'TA (Thunb. fl. cap. 2. p. 220.) leaflets sessile, smooth above but villous beneath, obovate, middle one 3-toothed, lateral one dimidiate, sinuately toothed. ♄. G. Native of the Cape of Good Hope. This species is allied to *R. tridentàta*. Flowers greenish-yellow.

Dimidiate-leaved Sumach. Shrub 6 feet.

66 R. TRIDENTA'TA (Lin. fil. suppl. 184.) climbing; leaflets on short petioles, ovate, hoary, serrated; serratures 3-5; tendrils axillary. ♄. ◡. G. Native of the Cape of Good Hope. Thunb. fl. cap. 2. p. 220. Flowers yellowish-green.

Three-toothed-leafletted Sumach. Clt. 1816. Shrub cl.

67 R. DISSE'CTA (Thunb. fl. cap. 2. p. 223.) leaflets sharply cut, pinnatifid, smooth above, but clothed with white down beneath; branches smooth. ♄. G. Native of the Cape of Good Hope. Flowers greenish-yellow.

Dissected-leaved Sumach. Clt. 1820. Shrub 6 feet.

68 R. TOMENTÒSA (Lin. spec. 382.) leaflets elliptical, acuminated at both ends, coarsely serrated from the middle to the apex, clothed with white down beneath, but smoothish above, as well as the branches; panicles terminal, downy. ♄. G. Native of the Cape of Good Hope. Comm. hort. amst. 1. t. 92.—Pluk. phyt. t. 219. f. 7. Flowers greenish-yellow.

Downy-leaved Sumach. Clt. 1691. Shrub 8 feet.

69 R. INCI'SA (Lin. fil. suppl. 183.) leaflets obovate, wedge-shaped, obtuse, deeply pinnatifid, clothed with white down beneath, but pubescent above, as well as the branches; calyxes downy. ♄. G. Native of the Cape of Good Hope. Flowers greenish-yellow.

Incised-leaved Sumach. Clt. 1789. Shrub 6 feet.

* * * * * *Leaflets toothed, serrated, smooth, but the petioles and branchlets are sometimes downy.*

70 R. EXCÌSA (Thunb. fl. cap. 2. p. 216.) leaflets obovate or somewhat oblong, entire or a little cut, smooth; branches divaricate, smooth. ♄. G. Native of the Cape of Good Hope. Flowers and fruit unknown.

Cut-leaved Sumach. Clt. 1816. Shrub 6 feet.

71 R. RÍGIDA (Mill. dict. no. 14.) leaflets linear, acuminated, smooth, stiff, entire, or with a few acute teeth; panicles terminal; branches smooth. ♄. G. Native of the Cape of Good Hope. Burch. cat. no. 2929. Flowers greenish-yellow.

Stiff-leaved Sumach. Clt. 1700. Shrub 6 feet.

72 R. SERRÆFÒLIA (Burch. cat. no. 1697.) leaflets linear, acuminated, elongated, serrated, and are, as well as the branches, smooth; panicles terminal. ♄. G. Native of the Cape of Good Hope. Flowers greenish-yellow.

Saw-leaved Sumach. Clt. 1816. Shrub 6 feet.

73 R. UNDULA'TA (Jacq. hort. schœnb. t. 346.) leaflets obovate, tapering to the base, somewhat serrated, wavy; panicles axillary, length of leaves. ♄. G. Native of the Cape of Good Hope. Pers. ench. 1. p. 326. Flowers whitish-yellow.

Wavy-leaved Sumach. Clt. 1816. Shrub 6 feet.

74 R. DIOI'CA (Brouss. in Willd. enum. p. 325.) leaflets obovate, middle one largest, 3-5-toothed, cuneated at the base, smooth; branches spiny, smooth; racemes short, axillary; flowers dioecious. ♄. G. Native of Mogodor. R. oxyacántha, Cav. ann. 3. p. 36. R. oxyacanthoides, Dum. Cours. bot. cult. 6. p. 662. Flowers greenish-yellow.

Dioecious Sumach. Clt. 1825. Shrub 6 feet.

75 R. LOBA'TA (Poir. suppl. 5. p. 264.) leaflets wedge-shaped at the base, and entire, but furnished with lobe-like teeth at the apex, and are, as well as the branches, smooth; racemes axillary. ♄. G. Native of Teneriffe, in bushy places. This species is sometimes furnished with simple leaves, rising from the axillæ of the others. Flowers greenish-yellow.

Lobed-leaved Sumach. Clt. 1800. Shrub 6 feet.

76 R. ERÒSA (Thunb. fl. cap. 2. p. 212.) leaflets lanceolate, erosely-toothed, shining, and are, as well as the branches, quite smooth; panicles axillary. ♄. G. Native of the Cape of Good Hope. Flowers greenish-white.

Erose-leaved Sumach. Shrub 6 feet.

77 R. cuneifòlia (Desf. cat. par. ed. 2. p. 227.) leaflets wedge-shaped, smooth, with 5 or 6 blunt teeth at the apex; branches pubescent. ♄. G. Native of the Cape of Good Hope. Perhaps the same as *R. cuneifòlia*, Thunb. fl. cap. 2. p. 222. Flowers greenish-white.

Wedge-leaved Sumach. Clt. 1816. Shrub 6 feet.

78 R. saxa'tilis (Moc. et Sesse, fl. mex. icon. ined. D. C. prod. 2. p. 71.) leaflets ovate-lanceolate, acuminated, coarsely-serrated, and are, as well as the branches, smooth; racemes axillary, length of petioles. ♄. G. Native of Mexico, on rocks, where it is called *Metzquaquitli*. Flowers whitish-green.

Rock Sumach. Shrub 6 feet.

79 R. grandidenta'ta (D. C. prod. 2. p. 72.) leaflets obovate, cuneated at the base, with 3 or 4 deep teeth at the apex; panicles terminal; fruit round, smooth. ♄. G. Native of the Cape of Good Hope. Burch. cat. no. 3079. Flowers whitish-green.

Large-toothed-leaved Sumach. Shrub 6 feet.

80 R. micra'ntha (Thunb. fl. cap. 2. p. 221.) leaflets ovate, acute, toothed at the apex; panicles axillary, supra-decompound. ♄. G. Native of the Cape of Good Hope. Flowers greenish-white.

Small-flowered Sumach. Clt. 1818. Shrub 6 feet.

81 R. denta'ta (Thunb. fl. cap. 2. p. 219.) leaflets obovate, mucronately-toothed; stem covered with scabrous tubercles. ♄. G. Native of the Cape of Good Hope. Flowers yellowish-green.

Toothed-leaved Sumach. Clt. 1793. Shrub 6 feet.

82 R. crena'ta (Thunb. fl. cap. 2. p. 219.) leaflets wedge-shaped, crenately trifid at the apex, smooth, but rufous beneath; branches villous; racemes terminal. ♄. G. Native of the Cape of Good Hope. Flowers greenish-yellow.

Crenate-leaved Sumach. Clt.? Shrub 3-6 feet.

83 R. spica'ta (Thunb. fl. cap. 2. p. 217.) leaflets obovate, toothed at the apex, and are, as well as the branches, smooth; flowers spicate. ♄. G. Native of the Cape of Good Hope. Perhaps this species is referable to section *Lobàdium*.

Spike-flowered Sumach. Shrub 6 feet.

84 R. Africa'na (Mill. dict. no. 11.) leaflets ovate, nerved, usually toothed, green on both surfaces. ♄. G. Native of the Cape of Good Hope. Flowers greenish-yellow.

African Sumach. Shrub 6 feet.

85 R. Meerburgia'na (Rœm. et Schult. syst. 6. p. 663.) leaflets linear-lanceolate, smooth. ♄. G. Native of? R. pùmilum, Meerb. icon. pict. t. 14. but not of Michx.

Meerburgh's Sumach. Shrub 8 feet.

Sect. IV. Theze'ra (from θηζας, *thezas*, a point; in reference to the prickles). D. C. prod. 2. p. 72. Flowers dioecious. Styles 3, distinct, short. Drupe roundish, marked with 3 tubercles at the apex, containing a compressed nut. Leaves palmately 3-5-foliate; leaflets sessile. Flowers disposed in short racemes.

86 R. pentaphy'lla (Desf. fl. atl. 1. p. 267. t. 77.) branches spiny; petioles a little winged; leaflets 3-5, linear-lanceolate, broadest at the apex, blunt, entire or 3-toothed. ♄. H. Native of Sicily and Barbary. Rhámnus pentaphýllus, Jacq. obs. 2. p. 27.—Bocc. sic. t. 21. R. Thezèra, Pers. ench. 1. p. 325. Tin. pug. 1. p. 7. Flowers pale-yellow. Fruit red when ripe, with a subacid, rather pleasant taste. The bark dyes red, and is used for tanning leather.

Five-leaved Sumach. Clt. 1816. Shrub 10 feet.

87 R. zizy'phina (Tin. pug. sic. 1. p. 8.) leaflets 3, wedge-shaped, toothed beyond the middle, smooth, shining above; branches spiny, divaricate; racemes terminal. ♄. H. Native of Sicily, on the mountains. Schrank. in flora, 1819. p. 384. Rhámnus tripartìta, Ucria and Zízyphus tripartìta, Rœm. et Schult. syst. 5. p. 342. and 6. p. 663. Flowers yellowish.

Zizyphus-like Sumach. Clt. 1800. Shrub 4 feet.

Sect. V. Loba'dium (from *loba*, a stalk of wheat; similarity in the dense aments of flowers). Rafin. in journ. phys. 89. t. 98. D. C. prod. 2. p. 73.—Turpínia, Rafin. in Desv. journ. 1809. 2. p. 170.—Schmálzia, Desv. journ. Flowers polygamous. Glands 2-lobed, alternating with the stamens under the ovary. Styles 3, short, distinct. Drupe somewhat compressed, villous, containing a smooth nut.—Aromatic shrubs, with palmately-trifoliate leaves, rising from the top of the common petiole, sessile, coarsely and deeply serrated. Flowers disposed in dense aments.

88 R. suave'olens (Ait. hort. kew. 1. p. 368.) leaflets sessile, ovate-rhomboid, deeply serrated, smooth. ♄. H. Native of Carolina. Mýrica trifoliàta, Hortul. and perhaps of Lin.? Toxicodéndron crenàtum, Lam. dict. no. 5. Flowers greenish-yellow.

Sweet-scented Sumach. Fl. May. Clt. 1759. Shrub 6 feet.

89 R. aroma'tica (Ait. hort. kew. 1. p. 367.) leaflets sessile, ovate-rhomboid, deeply serrated, covered with longish pubescence. ♄. H. Native of North America, in Pennsylvania, Carolina, and Kentucky, in rocky situations, about springs. Flowers yellow in catkins, as well as those of the preceding species, which give them quite a distinct appearance from the rest of the genus.

Aromatic Sumach. Fl. May, June. Clt. 1772. Shrub 6 ft.

† *Species not sufficiently known.*

* *Leaves simple.*

90 R. A'tha (Forst. prod. 142.) leaves simple, ovate-oblong; flowers polygamous. ♄. G. Native of New Caledonia.

Atha Sumach. Shrub.

91 R. Sæ'neb (Forsk. suppl. 207.) leaves long, lanceolate, serrated, clothed with white down beneath; fruit globose, hispid, crowded. ♄. F. Native of Arabia, on the mountains about Hadio, where it is called *Sæneb*.

Sæneb Sumach. Shrub.

92 R. mo'llis (H. B. et Kunth, nov. gen. amer. 7. p. 10. t. 602.) leaves simple, oblong-elliptical, cordate, almost entire, coriaceous, and are, as well as the branchlets, clothed with soft hairs; racemes axillary, few-flowered; calyxes closed, covered with long pubescence. ♄. G. Native of Mexico, near Quaretaro. The branches of this shrub, when immersed in water, turns it blue. Fruit unknown. This is probably a genuine species of the genus.

Soft Sumach. Shrub.

93 R. cau'stica (Hook. bot. Beech. p. 15. t. 7.) leaves simple, coriaceous, elliptical, quite entire, with cartilaginous margins; racemes subpanicled, axillary, and terminal; flowers dioecious, decandrous; fruit drupaceous, dry. ♄. G. Native of Chili, at Conception. Laúrus caústica, Molini, Willd. and others.—Litri or Llithi, Feull. per. vol. 3. t. 23. A much branched shrub, of which there are two varieties; the one with rather pubescent branches and smooth leaves, the other with the branches pubescent, as well as the leaves beneath. This is so extremely poisonous that individuals resting or sleeping under it at certain times of the year are afterwards attacked with eruptions all over the body.

Caustic Sumach or Llithi-tree. Shrub 10 feet.

* * *Leaves pinnate.*

94 R.? heterophy'lla (D. C. cat. hort. monsp. 1813. p. 136.) leaves impari-pinnate, with 5-7 ovate, rarely 3 or 1, oblong, quite smooth leaflets; petioles a little winged at the apex; flowers dioecious from abortion. ♄. G. Native of? Fruit unknown. Stamens 5. Stigmas 3. Perhaps R. heterophýlla,

Balb. cat. taur. 1813. p. 64. and Poir. suppl. 5. p. 262. is the same, or a distinct species. It is also probably the R. variifolium, Moc. et Sesse, fl. mex. icon. ined.

Variable-leaved Sumach. Shrub.

95 R. DIGITA'TA (Lin. fil. suppl. 184.) climbing; leaves pinnate; leaflets 5, oblong, quite entire, smooth, obtuse; tendrils axillary. ♄. ◡. G. Native of the Cape of Good Hope. Flowers and fruit unknown.

Digitate-leaved Sumach. Clt. 1820. Shrub cl.

* * * *Leaves trifoliate.*

96 R. ARBÒREA (D. C. prod. 2. p. 73.) leaflets lanceolate, unequally serrated, downy beneath; petioles and branches piloselytomentose; stem arborescent. ♄. S. Native of Jamaica, on hills, as well as of Campeachy. Toxicodéndron arbòreum, Mill. dict. no. 8. Berry orange, smooth. Sloan. cat. 170.

Tree Sumach. Tree 20 feet.

97 R. ARBORE'SCENS (D. C. prod. 2. p. 73.) leaflets ovatelanceolate, acuminated, smooth, oblique at the base; stem shrubby, branched; flowers dioecious. ♄. S. Native about Carthagena. Toxicodéndron arboréscens, Mill. dict. no. 9.

Arborescent Sumach. Shrub 6 feet.

Cult. The hardy species of this genus are very proper for shrubberies; some of them are propagated freely from cuttings of the roots, and others from cuttings and layers. The greenhouse and stove species will grow in any kind of soil, and ripened cuttings of them root freely under a hand-glass in sand; those of the stove species require heat.

XVIII. MAU'RIA (in honour of Antonio Mauri, an Italian botanist, author of Floræ Romanæ Prodromus, 8vo. 1818). H. B. et Kunth, nov. gen. amer. 7. p. 11. gen. tereb. p. 6.

LIN. SYST. *Octo-Decándria, Monogýnia.* Flowers hermaphrodite. Calyx 4-5-lobed, urceolate, permanent. Petals 4-5, broad at the base. Stamens 8-10, inserted under the disk. Disk annular. Ovary 1, sessile, 1-celled, 1-ovulate. Style very short. Stigma thick, 3-5-angled. Fruit obliquely-elliptical, compressed, rather fleshy. Seed without albumen, pendulous. Cotyledons flat. Radicle superior, hooked.—Peruvian trees, with simple or impari-pinnate leaves, and axillary and terminal panicles of flowers.

1 M. SIMPLICIFÒLIA (H. B. et Kunth, l. c. t. 605.) leaves simple, somewhat elliptical. ♄. S. Native of South America. Flowers pale-red.

Simple-leaved Mauria. Tree 20 feet.

2 M. HETEROPHY'LLA (H. B. et Kunth. l. c. t. 606.) leaves with 1 or 2 pairs of leaflets, with an odd one, which is oblong. ♄. S. Native of Peru, between Loxa and Ayavaca. Fruit unknown. Flowers pale-red.

Variable-leaved Mauria. Tree 20 feet.

Cult. For culture and propagation see the stove species of *Rhús.*

XIX. STAGMA'RIA (from *σταζω, stazo,* to run out; the bark exudes a resin). Jack, mal. misc. no. 1. p. 12.

LIN. SYST. *Pentándria, Mono-Trigýnia.* Calyx inferior, tubular, deciduous, with the mouth irregularly ruptured. Petals 5, inserted in the stipe of the ovary. Stamens 5, alternating with the petals; filaments about the length of the corolla; anthers oblong. Ovary 3-lobed; lobes 1-seeded, 1-2 of which are usually abortive. Styles 1-3, rising from the tops of the lobes of the ovary. Stigmas obtuse. Berry kidney-shaped, furrowed, 1-seeded, warted. Seed exalbuminous. Embryo falsely monocotyledonous.—A tree, full of resinous juice, with simple exstipulate leaves, and panicles of flowers.

1 S. VERNICIFLU'A (Jack, l. c.) ♄. S. Native of Sumatra and Borneo, and other East India Islands.—Rumph. amb. 2. p. 259. t. 86. A large tree, with alternate elliptic-lanceolate leaves. It is dangerous to handle, or even to sit or sleep under its shade. The bark exudes a resin, which soon becomes hard and black on exposure, and is collected and employed as a varnish. According to Rumphius, this is the celebrated varnish-tree of Japan, and probably the Aúgia of Loureiro.

Varnish-flowing Stagmaria. Tree 50 feet.

Cult. For culture and propagation see stove species of *Rhús.*

XX. DUVA'UA (in honour of M. Duvau, a French botanist). Kunth, gen. tereb. p. 8. D. C. prod. 2. p. 74.

LIN. SYST. *Monœ'cia* or *Diœ'cia, Octándria.* Flowers monoecious or dioecious. Calyx 4-cleft, permanent. Petals 4, concave. Stamens 8-10, inserted under the disk, alternate ones longer than the petals, they are barren in the female flowers. Disk urceolar, 8-toothed. Ovary sessile, conical, containing only one ovulum, sterile in the male flowers. Styles 3-4, very short. Stigmas capitate. Drupe globose, containing a coriaceous nut. Seed 1, pendulous, destitute of albumen, with flat cotyledons and a long superior radicle.—Smooth, somewhat spinescent trees, natives of Chili, with simple, almost entire leaves, and axillary, many-flowered racemes. Flowers sometimes 5-cleft.

1 D. DEPE'NDENS (D. C. prod. 2. p. 74.) leaves ovate-lanceolate, entire, and sometimes trifid; racemes simple, length of leaves; flowers usually octandrous. ♄. F. Native of Chili, where it is called *Huinghan.* Amýris polýgama, Cav. icon. 3. p. 20. t. 239. Schìnus depéndens, Ort. dec. 8. p. 102. Flowers yellowish-white. Berries black. The flowers are occasionally polygamous, monoecious, and dioecious.

Dependent-branched Duvaua. Clt. 1790. Tree 20 feet.

2 D.? DENTA'TA (D. C. prod. 2. p. 74.) leaves lanceolate, toothed; racemes compound, a little longer than the leaves; flowers decandrous. ♄. F. Native of the island of Owhyhee. Schìnus dentàtus, Andr. bot. rep. t. 620. Flowers white, numerous, in compound axillary racemes. Berries black, the size of a small currant, with a sweet fleshy pulp, each having many cells, though generally perfecting but one seed.

Toothed-leaved Duvaua. Fl. May, Jul. Clt. 1795. Tr. 20 ft.

Cult. For culture and propagation see greenhouse species of *Rhús.*

XXI. SCHI'NUS (*σκινος, schinos,* is the Greek name for the mastick; a resinous juice exudes from this tree similar to mastick). Lin. gen. no. 1130. Lam. ill. t. 822. Kunth, gen. tereb. p. 7. D. C. prod. 2. p. 74.

LIN. SYST. *Diœ'cia, Decándria.* Flowers dioecious. Calyx 5-parted. Petals 5. Male flowers with 10 stamens and the rudiment of an ovary. Female flowers with sterile stamens and one sessile ovary. Style wanting. Stigmas 3-4, collected into a dot. Drupe globose, with a thin epicarp, and very little pulp, containing a 1-seeded bony nut, having 6 hollows or cavities in the circumference. Seed without albumen, compressed, suspended by a funicle, which rises from the side of the parietes. Embryo with flat cotyledons and an inferior radicle.—Shrubs or little trees, natives of America, abounding in peppery, balsamiferous gum. Racemes or panicles axillary. Leaves impari-pinnate. This genus agrees with *Spóndias* in the radicle being inferior.

1 S. MU'LLI (Lin. spec. 1467.) leaves with numerous pairs of lanceolate, serrated leaflets, terminal one longest; flowers panicled. ♄. G. Native of Brazil and Peru. Mill. fig. t. 246. Lam. ill. t. 822. Flowers small, yellowish-green. Berries about as large as a pea, of a singularly beautiful rose-colour, and highly polished. The Peruvians are reported to make a vinous drink by boiling these berries, as well as a kind of honey, and a sort of vinegar, according to the mode of management. A resinous gum exudes from the stem, which par-

takes of the nature of mastick. The fresh leaves have a singular motion when immersed in water, and emit a turpentine odour when bruised. *Mulli* is the Peruvian name of the tree.

Var. β, *Areìra* (Lin. spec. 1467.) leaflets almost quite entire. ♄. G. Mólle, Clus. cur. post. p. 94. with a figure. Both varieties are beautiful shrubs in England, but they are said to grow to considerable trees in the places of their natural growth. The first variety stands in the open air in Sicily.

Mulli or Peruvian Mastick-tree. Fl. July, Aug. Clt. 1597. Tree 20 feet.

2 S. TEREBINTHIFÒLIUS (Raddi, pl. bras. p. 20.) leaves impari-pinnate, with 7 somewhat serrated, almost equal leaflets; flowers racemose. ♄. S. Native of Brazil. C. Aroèiri, Marcg. bras. p. 90. Flowers greenish-white.

Terebinthus-leaved Schinus. Clt. 1830. Tree 20 feet.

3 S. HU'YOAN (Mol. chil. ed. gall. 337.) leaves impari-pinnate; leaflets serrated; stalked; the odd one very short. ♄. G. Native of Chili, where it is called *Huinghan*. Flowers greenish-white.

Huinghan Schinus. Tree.

Cult. For culture and propagation see greenhouse and stove species of *Rhús*, p. 76.

† *Genera allied to Terebinthiàceæ, Tribe Sumachìneæ, but are not sufficiently known.*

* *Petals 4-5. Stamens usually 3-5.*

XXII. TRICE'ROS (from τρεις, *treis*, three, and κερας, *keras*, a horn; in allusion to the fruit being crowned by three horns). Lour. fl. coch. 184. D. C. prod. 2. p. 89.

LIN. SYST. *Pentándria, Trigýnia.* Calyx 5-parted, permanent, spreading. Petals 5. Stamens 5. Ovary roundish. Styles 3, distant at the base and simple. Berry coriaceous, 3-horned, 3-celled. Seeds 2? roundish.—A tree with impari-bipinnate leaves, having 2 pairs of pinnæ. Racemes loose, subterminal.

1 T. COCHINCHINE'NSIS (Lour. l. c.). ♄. G. Native of Cochin-china, on the mountains. Flowers white.

Cochin-china Triceros. Tree 25 feet.

Cult. See *Cneòrum* for culture and propagation, p. 78.

XXIII. TRATTINI'CKIA (in honour of Trattinick, a German botanist). Willd. spec. 4. p. 975. but not of Pers. nor Esp. D. C. prod. 2. p. 89.

LIN. SYST. *Monœ'cia, Pentándria.* Male and female flowers mixed. Calyx campanulate, 3-toothed. Corolla campanulate, 3-toothed. Stamens 5, rising from the torus. Ovary 1, ovate. Style awl-shaped, simple. Fruit unknown.—A large tree, with the appearance of *Rhús*. Leaves impari-pinnate. Panicles of flowers terminal. From the petals being connected, it would appear that this tree is closely allied to *Hedwígia*.

1 T. RHOIFÒLIA (Willd. l. c.). ♄. S. Native of Brazil, in the province of Para.

Red-leaved Trattinickia. Tree 66 feet.

Cult. See stove species of *Rhús*, for culture and propagation, p. 76.

XXIV. HUE'RTIA (in honour of Jerome Huerta, a Spaniard, who translated Pliny into his own langurge). Ruiz et Pav. fl. per. prod. 34. t. 6. syst. 1. p. 63. D. C. prod. 2. p. 90.

LIN. SYST. *Pentándria, Monogýnia.* Calyx 5-toothed. Petals 5, ovate, sessile. Stamens 5. Ovary free. Style 1. Stigma bifid, acute. Drupe? obovate, containing a 1-celled, 1-seeded nut?—A tree with impari-pinnate leaves, and stalked, oval-lanceolate, serrated leaflets, which are villous at the origin of the veins beneath, bearing 2 glands at the base of each. Racemes axillary and terminal. Flowers yellow.

1 H. GLANDULÒSA (Ruiz et Pav. fl. per. 3. p. 5. t. 227. f. a.). ♄. S. Native of Peru in groves.

Glandular Huertia. Tree 70 feet.

Cult. See stove species of *Rhús*, for culture and propagation, p. 76.

XXV. RU'MPHIA (in honour of George Everard Rumphius, Consul of Amboyna, author of Herbarium Amboinense, 1750 in fol.; died 1706). Lin. gen. no. 47. Lam. ill. t. 25. D. C. prod. 2. p. 90.

LIN. SYST. *Triándria, Monogýnia.* Calyx tubular, 3-cleft. Petals 3, oblong. Stamens 3, exserted equal with the petals. Ovary 1, somewhat trigonal. Style 1. Drupe coriaceous, turbinate, 3-furrowed, containing a 3-celled, 3-seeded nut.—A tree, with simple leaves and axillary racemes of white flowers. This genus is excluded from *Terebinthàceæ* by S. Kunth.

1 R. TILIÆFÒLIA (Lam. dict. 6. p. 352.). ♄. S. Native of Malabar, not of Amboyna. R. Amboinénsis, Lin. spec. 49.—Rheed. mal. 4. t. 11. Leaves cordate, ovate, crenate, hairy, rough.

Lime-tree-leaved Rumphia. Tree 60 feet.

Cult. See stove species of *Rhús* for culture and propagation, p. 76.

XXVI. BA'RBYLUS (a name by which Theocritus and others have called the common damask prune). P. Browne, jam. 116. D. C. prod. 2. p. 91.—Baròla, Adans. fam. 344.

LIN. SYST. *Octo-Decándria, Monogýnia.* Calyx 4-5-cleft, campanulate. Petals 4-5, rising from the margin of the calyx. Stamens 8-10, rising from the bottom of the calyx. Ovary free. Style and stigma 1. Capsule 3-celled, each cell containing 2 seeds.—A tree with alternate, pinnate leaves, and racemes of white flowers. This genus is hardly known, but according to Adanson it is allied to *Terebinthàceæ*.

1 B. JAMAICE'NSIS (D. C. prod. 2. p. 91.) ♄. S. Native of Jamaica.

Jamaica Barbylus. Tree 20 feet.

Cult. See stove species of *Rhús* for culture and propagation, p. 76.

* * *Petals wanting. Stamens* 10-12.

XXVII. LUNA'NEA (in honour of John Lunan, author of Hortus Jamaicensis). D. C. prod. 2. p. 92.—Edwárdsia, Rafin. speech. 1. p. 158. but not of Salisb.—Bíchy, Lunan, hort. jam. 1. p. 86.

LIN. SYST. *Polygàmia, Diœ'cia.* Flowers polygamous. Calyx coloured, 5-parted; lobes erectly-spreading, thick, and pilose on the outside. Petals wanting. Disk concave, 10-toothed. Stamens 10, exserted from the disk; anthers with coalescent teeth on the outside. Ovary roundish, crowned by 5 stigmas. Capsule somewhat ovate, gibbous, 1-celled, valveless (ex Rafin), semilocular, 2-valved (ex Lunan). This genus is allied to *Poupártia*, according to Rafin. Seeds fixed by the back.

1 L. BÍCHY (D. C. prod. 2. p. 92.). ♄. S. Native of Guinea, from whence it has been introduced to the West Indies by the negroes, under the name of *Bichy*. Edwárdia lùrida, Rafin. l. c. Amýris Lunàni, Spreng. syst. 2. p. 217. Leaves alternate, stalked, oblong, acuminated, smooth, waved, veiny, and compound racemes of yellow flowers, which are striped with purple and have an ungrateful smell.

Bichy Lunania. Tree.

Cult. For culture and propagation see stove species of *Rhús*, p. 76.

XXVIII. HETERODE'NDRON (from ἑτερος, *heteros*, variable, and δενδρον, *dendron*, a tree; tree variable in form). Desf. mem. mus. 4. p. 9. t. 3. D. C. prod. 2. p. 92.

LIN. SYST. *Decándria, Monogýnia.* Flowers hermaphrodite.

Calyx small, permanent, sinuately 4-5-toothed. Petals wanting. Stamens 10-12, hypogynous; anthers 2-celled, inserted by the base. Ovary bluntly 2-4-sided, 2-4-celled, hairy. Style scarcely any. Fruit unknown.—A shrub, with the appearance of *Cneòrum.* Leaves simple, oblong-lanceolate, quite entire. Flowers in axillary racemes.

1 H. OLEÆFÒLIUM (Desf. l. c.). ♄. G. Native of New Holland. Flowers yellowish-green.

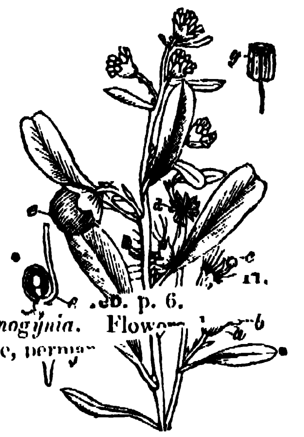
Olive-leaved Heterodendron. Shrub.

Cult. See *Cneòrum* for culture and propagation.

XXIX. STYLOBA'SIUM (from στυλος, *stylos*, a style, and βασις, *basis*, a base; style at the base of the ovary). Desf. mem. mus. 5. p. 37. t. 2. D. C. prod. 2. p. 92.

LIN. SYST. *Decándria, Monogýnia.* Calyx urceolar, bluntly 5-lobed (f. 14. *a.*), coloured. Petals wanting. Stamens 10 (f. 14. *b.*), hypogynous; anthers 2-celled (f. 14. *g.*). Ovary obovate (f. 14. *f.*), containing 2 ovula, bearing from the side at the base a filiform style (f. 14. *f.*), which is capitate at the apex (f. 14. *c.*). Drupe (f. 14. *e.*), 1-celled, 1-seeded, roundish, girded by the calyx.—A shrub, with alternate, somewhat spatulate, quite entire, smooth leaves. Flowers usually polygamous from abortion, on short pedicels from the axillæ of the upper branches. This genus probably belongs to *Terebinthàceæ* near *Heterodéndron* or perhaps to *Rosàceæ*, Tribe CHRYSOBALA'NEÆ.

FIG. 14.



1 S. SPATULA'TUM (Desf. l. c.). ♄. G. Native of New Holland, on the eastern coast.

Spatulate-leaved Stylobasium. Shrub 6 feet.

Cult. See *Cneòrum* for culture and propagation.

XXX. CNEO'RUM (κνεωρον, *cneoron*, a name given to some shrub resembling an olive by Hippocrates and Theophrastus). Lin. gen. no. 48. Lam. ill. t. 27. Kunth, gen. tereb. p. 25. D. C. prod. 2. p. 83.—Chamæ'lea, Tourn. inst. t. 421.

LIN. SYST. *Tri-Tetrándria, Monogýnia.* Flowers hermaphrodite. Calyx 3-5-toothed, small, permanent. Petals 3-4, equal, imbricate in æstivation. Torus somewhat globose. Stamens 3-4. Stigmas 3-4. Drupes baccate, 3-4, joined together by the axis; putamen 2-celled; cells 1-seeded. Seed pendulous. Albumen fleshy. Radicle recurved downwards and beyond the cotyledons. Cotyledons semicylindrical (Gært. fruct. 1. t. 70.)—Subshrubs, with entire linear-oblong, dotless leaves, and axillary, yellow flowers. This genus is perhaps more nearly allied to *Dodonæàceæ.*

1 C. TRICÓCCON (Lin. spec. 49.) smooth; flowers axillary; pedicels free from the floral leaves. ♄. G. Native of Spain and the south of France, in gravelly and rocky places. Sims, bot. mag. icon. Lam. ill. 27.—Cam. epit. t. 973. Jaume, pl. fr. t. 5. Flowers usually 3-cleft. This is a dwarf spreading shrub with narrow leaves, having fruit resembling some species of *Euphórbia.*

Three-berried Widow-wail. Fl. April, Sept. Clt. 1793. Shrub 1 to 2 feet.

2 C. PULVERULE'NTUM (Vent. hort. cels. t. 77.) plant covered with greyish powder; flowers axillary; pedicels adhering to the base of the floral leaves. ♄. G. Native of Teneriffe, among rocks in hot situations. Flowers usually 4-cleft.

Powdery Widow-wail. Fl. April, Sept. Clt. 1822. Sh. 1 to 3 ft.

Cult. The species thrive well in a mixture of loam and peat, or any light loamy soil. They will survive the winter in the open air in mild winters. Ripened cuttings root freely in sand, under a hand-glass. Seeds ripen in abundance.

XXXI. SURIA'NA (in honour of Joseph Donat Surian, once a physician at Marseilles, who accompanied Plumier in his travels). Plum. gen. 37. Lin. gen. no. 581. Lam. ill. t. 389. D. C. prod. 2. p. 91.

LIN. SYST. *Penta-Decándria, Pentagýnia.* Calyx 5-parted. Petals 5, hypogynous, or inserted in the bottom of the calyx. Stamens 5-10. Carpels 5, bearing each a filiform style on the inside laterally, ending in a valveless, indehiscent, coriaceous nut. Seed 1 from the base, obovate, kidney-shaped, destitute of albumen. Embryo replicate, with a terete radicle directed downwards, and flat incumbent cotyledons.—A shrub with simple, oblong, spatulate, thickish, rather velvety, exstipulate leaves, which are crowded at the tops of the branches, and yellow, bracteate, subterminal flowers. From the embryo this genus is allied to *Cneòrum*, not to *Rosàceæ*, and perhaps with it and *Heterodéndron* will constitute a distinct order. According to Kunth it is more nearly allied to *Geraniàceæ.*

1 S. MARÍTIMA (Lin. spec. 284.). ♄. S. Native of South America, by the sea-side as well as of India and New Caledonia, &c. Plum. ed Burm. t. 249. f. 1. Flowers yellowish.

Sea-side Suriana. Clt. 1733. Shrub 3 to 4 feet.

Cult. Loam and sand is a good mixture for this tree, and ripened cuttings will root in sand under a hand-glass, in heat.

ORDER LXXIV. SPONDIA'CEÆ (plants agreeing with *Spóndias* in important characters). Kunth in ann. scienc. nat. 2. p. 362. Lindl. introd. nat. ord. p. 362. Terebinthàceæ, Tribe III. Spondiàceæ, D. C. prod. 2. p. 74.

Flowers sometimes unisexual. Calyx 5-cleft (f. 15. *a.*), regular, permanent or deciduous. Petals 5 (f. 15. *b.*), inserted below the disk which surrounds the ovary, somewhat valvate or imbricate in æstivation. Stamens 10, perigynous, inserted with the petals. Disk annular in the male flowers, orbicular, 10-toothed. Ovary superior, sessile, from 2-5-celled, with one pendulous ovum in each cell. Styles 5, very short, crowned by obtuse stigmas. Fruit drupaceous (f. 15. *d.*), containing a 2-5-celled nut (f. 15. *c.*). Seeds exalbuminous. Cotyledons plano-convex. Radicle superior, pointing towards the hilum, but inferior in *Spóndias*, according to Gærtner.—Trees, with unequally-pinnate, alternate, dotless leaves, a few simple ones occasionally intermixed, all exstipulate. Flowers axillary and terminal, disposed in panicles or racemes.—This order comes very near *Terebinthàceæ* in the structure of its fruit, which is almost that of *Mangifera*, except that it is compound and not simple, destitute however of the resinous juice of that order.

Synopsis of the Genera.

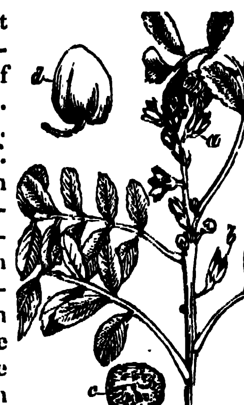
1 SPÓNDIAS. Flowers sometimes unisexual. Calyx 5-cleft (f 15. *a.*). Petals 5 (f. 15. *b.*), rather valvate in æstivation. Stamens 10, glandular, exserted from the disk. Ovary 1. Styles 5. Drupe (f. 15. *d.*) containing a 5-celled fibrous nut (f. 15. *c.*), each cell containing 2 ova, one of which only comes to maturity.

2 POUPA'RTIA. Flowers unisexual. Calyx 5-parted. Petals 5, imbricate in æstivation. Stamens 10. Ovary 5-celled? with some of the cells abortive. Styles 5. Drupe containing a 2-3-celled fibrous nut.

I. SPO'NDIAS (*σπονδιας*, *spondias*, one of the Greek names for the plum; the fruit exactly resembles a plum). Lin. gen. no. 577. Gært. fruct. 2. t. 104. Kunth. gen. tereb. p. 31. D. C. prod. 2. p. 74.

Lin. syst. *Decándria, Pentagýnia.* Flowers sometimes of separate sexes. Calyx 5-cleft (f. 15. *a.*), coloured. Petals 5 (f. 15. *b.*), oblong, spreading, somewhat valvate in æstivation. Stamens 10, glandular, exserted, rising from the crenate disk. Ovary 1, ovate. Styles 5, erect, distant, simple. Drupe ovate (f. 15. *d.*) or roundish, crowned by the punctiform vestiges of the styles, containing a fibrous 5-celled nut (f. 15. *c.*), each cell containing 2 ovula. Seed solitary from abortion, without albumen. Embryo straight, with somewhat fleshy cotyledons, and an inferior radicle.—Trees, with impari-pinnate leaves, very rarely simple. Racemes axillary or terminal, simple or panicled. This genus agrees with *Schìnus* in the radicle being inferior.

FIG. 15.



1 **S. purpu'rea** (Lin. spec. 613.) leaves impari-pinnate; petioles compressed. ♄. S. Native of the West Indies and South America. S. Mómbin, Lin. syst. veg. 357. but not of Jacq. S. myrobálanus, Jacq. amer. t. 88. Gært. fruct. 2. p. 102. t. 104. —Sloan. jam. 2. p. 126. t. 219. f. 3, 4, and 5. Flowers small, red, in simple racemes. Fruit ovate or oblong, purple or variegated with yellow, an inch long; pulp yellow, with a singular, but agreeable acid aromatic flavour, but is not held in much esteem by Europeans. The tree is very variable in size; the boughs are set in the ground when in flower as hedges, and in the course of 2 or 3 months they are laden with fruit. It is called *Spanish plum-tree.*

Purple-fruited Hog-plum or Spanish plum. Clt. 1800. Tree 30 to 40 feet.

2 **S. Za'nzee**; leaves impari-pinnate, with entire leaflets; fruit small, black, edible; panicle terminal. ♄. S. Native of Guinea, where it is called *Zanzee.*

Zanzee Hog-plum. Tree 60 feet.

3 **S. lu'tea** (Lin. spec. 613.) leaves impari-pinnate, with 7-9 ovate, oblong, shining leaflets, which are gradually acuminated; petioles round. ♄. S. Native of South America and the West Indies, where it is called *Mombin, Hobo,* &c. S. myrobálanus, Lin. syst. 357. S. Mómbin, Jacq. amer. 138. Gært. fruct. 2. p. 102.—Sloan. hist. t. 219. f. 1 and 2. Racemes in branched panicles. The fruit of this tree is yellow, and as large as a plum; the flesh is of an agreeable acid aromatic flavour, eaten by children and some of the inhabitants, but furnishing excellent food for hogs. There is a variety of this species in Jamaica, esteemed by some persons. As the branches grow very readily, the tree is used by some for hedges, and one or two is planted in pastures to afford shade for sheep.

Yellow-fruited Hog-plum. Clt. 1739. Tree 50 feet.

4 **S. Oghi'gee**; leaves impari-pinnate; leaflets ovate, acute, entire; panicle spreading, terminal; flowers pentandrous. ♄. S. Native of Guinea, where it is called *Oghigee.* Fruit about the size of a pigeon's egg, yellow, of a fine sweetish acid taste. Flowers small, white.

Oghigee Hog-plum. Tree 60 feet.

Cult. Loam and sand is a good mixture for the species of *Spóndias*, and large cuttings will root if planted in sand or mould, in heat.

II. POUPA'RTIA (the tree is called in the island of Bourbon *Bois de Poupart*). Comm. in Juss. gen. 372. Kunth. gen. tereb. p. 31. D. C. prod. 2. p. 75.

Lin. syst. *Diœ'cia, Decándria.* Flowers of separate sexes. Calyx 5-parted, deciduous. Petals 5, spreading very much, imbricate in æstivation. Stamens inserted on the margin of a hypogynous disk. Ovary 5-celled? cells 1-seeded, with some of the cells usually abortive. Styles 5, approximate or subconnate, crowned by obtuse truncate stigmas. Drupe baccate, containing a 2-5-celled nut; cells remote from the axis. Seeds flattish, without albumen, somewhat falcate. Embryo exalbuminous, inverted with plano-convex cotyledons, and a lateral or centrifugal radicle.—Trees, with impari-pinnate leaves, and quite entire acuminated leaflets, and subterminal panicles of flowers. This genus is said to belong to *Burseriàceæ* by R. Brown.

1 **P. Borbónica** (Lam. dict. 5. p. 606.) leaves pinnate; racemes compound. ♄. S. Native of the island of Bourbon, where it is called *Bois de Poupart.* Leaves some of them simple, others with numerous leaflets, 11-19. Flowers dark-purple.

Bourbon Poupart-wood. Clt. 1825. Tree 40 feet.

2 **P. mangi'fera** (Blum. bijdr. 1160.) leaflets ovate or elliptic-oblong, acuminated, oblique at the base, quite entire, veiny, and smooth; panicle divaricate. ♄. S. Native of Java, and other parts of the East Indies, where it is called *Daho.* Mangífera pinnàta, Lin. fil. suppl. 156. Spóndias mangífera, Pers. ench. p. 509. Spóndias amàra, Lam. dict. 4. p. 261. The leaves of this tree are said by Rheede to be agreeably acid. The fruit oval, of a yellowish-green colour, an inch and a half long, eatable, and agreeably fragrant. The cat-ambalan of Rheed. mal. p. 93. appears to be a wild state of the same plant.

Mango-bearing Poupartia. Clt. 1820. Tree.

3 **P. du'lcis** (Blum. bijdr. 1161.) leaflets elliptic-oblong, acuminated, repandly-crenulated, smooth, with parallel veins; panicle divaricate. ♄. S. Native of Java, Moluccas, and the Society Islands. Spóndias dúlcis, Forst. prod. 198. Spóndias Cytheræ'a, Sonn. itin. 2. t. 123. Lam. dict. 4. p. 160. ill. t. 384. Gært. fruct. 2. p. 101. t. 103. The fruit is large, and very smooth, of a golden-yellow colour, and a somewhat nauseous fetid smell, containing a sweet, aromatic, succulent pulp. The tree is cultivated to a great extent in the Society and Friendly Islands, especially in Otaheite, for the sake of its fruit, which is esteemed one of the most wholesome; it has almost the flavour of a pine-apple, and not only assuages thirst, but is given to the sick without distinction.

Sweet Otaheite-apple. Clt. 1792. Tree 30 feet.

Cult. For culture and propagation see *Spóndias.*

Order LXXV. BURSERIA'CEÆ (*plants agreeing with Bursèra in important characters*). Kunth, in ann. sci. nat. 2. p. 333. Lindl. introd. nat. ord. Terebinthàceæ, Tribe IV. D. C. prod. 2. p. 75. Terebinthàceæ, part. Juss. gen. 368.

Flowers hermaphrodite (f. 16.), but occasionally unisexual (f. 18.). Calyx permanent, nearly regular, with from 2-5 divisions (f. 16. *a.*). Petals 3-5 (f. 16. *c.*), inserted below the disk, rising from the calyx, usually valvate in æstivation. Stamens 2 (f. 16. *d.*), or 4-times as many as there are petals, perigynous, all fertile. Disk orbicular (f. 18. *d.*), or annular (f. 16. *b.*). Ovary 2-4-celled, superior, sessile (f. 16. *e.* f. 18. *e.*). Style short or wanting, with the stigmas equal in number to the cells of the ovary. Ovula in pairs, attached to the axis, collateral. Fruit drupaceous (f. 18. *e.*), 2-5-celled, with the outer part often splitting into valves. Seeds exalbuminous. Cotyledons either wrinkled or plaited or fleshy. Radicle superior, straight, turned towards the hilum.—Trees or shrubs, abounding in balsamic resin or gum. Leaves alternate, unequally pinnate, occasionally stipulate, usually without pellucid dots. Flowers axillary or terminal, disposed in racemes or panicles. This order differs from *Terebinthàceæ*, to which it is closely allied, in the compound ovary and pinnate leaves, and also in the very generally valvate æstivation of the calyx. The plants abound in a fragrant resinous juice, which, however, is destitute of the acridity and staining properties of that of *Terebinthàceæ*. The resin of *Boswéllia* is used in India as incense, and also as pitch. It is hard and brittle, and according to Dr. Roxburgh, is boiled with some low-priced oil to render it soft and fit for use. The native doctors prescribe it mixed with ghee (clarified butter) in cases of gonorrhœa, and also in what they call *ritta*. A substance like gum elemi is produced by *Icìca Icicariba* and *I. Carana*, and a yellow essential oil by *Bursèra acuminàta*, which has the same properties as those of balsam of capaiva; the 3-horned nuts of *Canàrium commùne* are eaten in Java both raw and dressed, and an oil is expressed from them which is used at table when fresh, and for lamps when boiled. The raw nuts, however, are apt to bring on diarrhœa.

Synopsis of the Genera.

1 Boswe'llia. Flowers hermaphrodite (f. 16.). Calyx 5-toothed (f. 16. *a.*). Petals 5 (f. 16. *c.*), with the edges incumbent in æstivation. Disk cup-shaped (f. 16. *b.*), crenated, staminiferous. Stamens 10 (f. 16. *d.*). Style crowned by a capitate stigma. Capsule trigonal (f. 16. *e.*), 3-valved, 3-celled. Seeds solitary in the cells, girded by a membrane.

2 Balsamode'ndron. Flowers unisexual. Calyx 4-toothed. Petals 4, induplicately-valvate in æstivation. Stamens 8, inserted under the annular disk, with elevated warts between them. Ovary 1. Style 1, short, obtuse. Berry or drupe ovate, acute, marked by 4 sutures, 1-2-celled; cells 1-seeded.

3 Icìca. Flowers usually hermaphrodite. Calyx 4-5-toothed. Petals 4-5, inserted under the disk, valvate in æstivation. Stamens 8-10. Ovary 4-5-celled; cells 2-ovulate. Disk orbicular. Style short, crowned by 3-4 stigmas. Fruit coriaceous, 2-3-valved, containing 4-5 little, 1-seeded nuts involved in pulp.

4 Pròtium. Flowers unisexual. Calyx 5-cleft. Petals 5, inserted under the disk, valvate in æstivation. Stamens 10. Style 1. Disk truncate, 10-ribbed. Drupe indehiscent, containing 3 nuts, 2 of which are usually abortive.

5 Burse'ra. Flowers polygamous (f. 18.). Calyx small, 3-5-parted. Petals 3-5 (f. 18. *b.*), valvate in æstivation. Stamens 6-10 (f. 18. *c.*). Disk annular, 8-crenate (f. 18. *d.*). Ovary 3-celled. Style short, trifid. Drupe (f. 18. *e.*), 3-valved, containing 3 1-2-seeded nuts, 2 of which are abortive.

6 Mari'gnia. Flowers hermaphrodite. Calyx 5-cleft. Petals 5, valvate in æstivation. Disk entire. Stamens 10. Ovary 5-celled. Stigma nearly sessile, somewhat 5-lobed. Drupe containing 1-5 1-seeded nuts, covered with pulp.

7 Colopho'nia. Calyx urceolate, 3-lobed. Petals 3, inserted under the disk, imbricate in æstivation. Stamens 6. Disk 6-toothed.

8 Cana'rium. Flowers dioecious or polygamous. Calyx 3-toothed. Petals 3, imbricate in æstivation. Stamens 6. Disk urceolate. Ovary 3-celled. Style short, crowned by 3 punctiform stigmas. Drupe baccate, containing a 3-celled nut.

9 Hedwígia. Flowers polygamous or hermaphrodite. Calyx 4-toothed. Petals 4, concrete to the middle, valvate in æstivation. Stamens 8, adnate to the corolla. Disk cup-shaped, 8-lobed. Ovary 4-celled, 8-furrowed. Stigma sessile, 4-furrowed. Berry 4-furrowed, containing 4 nuts, one of which only comes to maturity.

10 Sorinde'ia. Flowers polygamo-dioecious. Calyx urceolate, 5-toothed. Petals 5, valvate in æstivation. Stamens about 20 (16-28), inserted in the bottom of the calyx in the male flowers, and 5 fertile in the hermaphrodite ones. Stigmas 3, sessile. Drupe containing a filamentose nut.

11 Garu'ga. Flowers hermaphrodite. Calyx campanulate, 5-toothed. Petals 5, inserted in the calyx as well as the stamens, which are 10 in number, with 5 pairs of glands between the stamens. Style filiform, crowned by a 5-lobed stigma. Drupe fleshy, containing 5 irregular 1-seeded nuts, or only 2-3 from abortion.

12 Ela'phrium. Flowers hermaphrodite. Calyx 4-parted. Petals 4. Stamens 8. Style short, crowned by a bifid stigma. Capsule 1-celled, 1-seeded. Seeds covered with pulp.

13 Fagara'strum. Flowers hermaphrodite. Calyx 3-4-parted. Petals 3-4. Stamens 6-8, unequal. Ovary stipitate, with the stipe bearing the petals and stamens, tubercled, 3-4-lobed at the apex, 3-4-celled; cells 2-ovulate. Style 3-4-angled, 3-4-lobed at the apex.

I. BOSWE'LLIA (in memory of the late Dr. John Boswell, of Edinburgh). Roxb. cor. t. 207. hort. beng. p. 32. Kunth, gen. tereb. p. 16. D.C. prod. 2. p. 76.

Lin. syst. *Decándria, Monogýnia.* Flowers hermaphrodite (f. 16.). Calyx 5-toothed (f. 16. *a.*), permanent. Petals 5 (f. 16. *c.*), obovate-oblong, spreading, with the margins incumbent in æstivation. Disk cup-shaped, crenate (f. 16. *b.*), staminiferous, surrounding the base of the ovary. Stamens 10 (f. 16. *d.*). Ovary oblong, trigonal, 3-celled; cells 2-ovulate; ova attached to the axis. Style 1. Stigma capitate, 3-furrowed. Capsule trigonal (f. 16. *e.*), 3-valved, 3-celled, opening from the base. Seed solitary in the cells, girded by a broad membranous wing.—Indian trees abounding in balsam. Leaves imparipinnate, with opposite serrated leaflets. Flowers small, disposed in racemes or panicles. This genus differs from the rest of *Burseriàceæ* in the fruit being capsular, not drupaceous.

1 B. gla'bra (Roxb. cor. 3. p. 4. t. 207.) leaflets broad, lanceolate, blunt, serrated, smooth; racemes aggregate, simple, terminal, shorter than the leaves. ♄. S. Native of Coromandel and the Moluccas. Rumph. amb. 2. t. 50. ex Roxb. and therefore Canàrium balsamíferum, Willd. spec. 4. p. 760. This is one of the largest trees on the coast of Coromandel, where it is called *Gugulapootschittoo*. The wood is hard, heavy, and durable. The wounded bark yields a kind of resin, which is burnt as incense in the Hindu temples, and is also employed

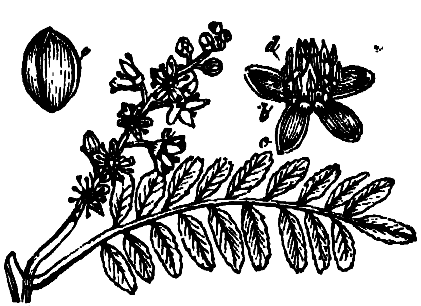
with vegetable oil for the more useful purpose of marine pitch. Leaves crowded at the ends of the branches, a span long, deciduous. Flowers small, white, with a red nectary and yellow anthers.

Smooth Boswellia. Clt. 1823. Tree 70 feet.

2 B. HIRSU'TA (Smith, in Rees' cycl. no. 2.) leaflets oblong-lanceolate, hairy, deeply serrated; racemes axillary, simple, many-flowered. ♄. S. Native of Amboyna. Rumph. amb. 2. t. 51. ex Smith, and therefore Canàrium hirsùtum, Willd. spec. 4. p. 760.

Hairy Boswellia. Tree 50 feet.

FIG. 16.



3 B. SERRA'TA (Stack: extr. bruc. p. 19. t. 3.) leaflets ovate-oblong, taper-pointed, serrated, pubescent; racemes axillary, simple. ♄. S. Native of the mountainous parts of India. From this tree is collected the gum olibanum ex Colebr. in asiat. res. 9. p. 377. with a coloured figure. B. thurífera, Roxb. hort. beng. p. 32. Flowers whitish-yellow. It is generally agreed that the gum resin, called olibanum, is the frankincense which was used in the religious ceremonies of the ancients, but there is not the same agreement as to the plant supposed to produce it. Linnæus has referred it to the Lycian juniper, and the chemical writers agree with him; but the French botanists deny it, and say that Linnæus made the assertion without proof. This remark is evidently well founded. A great degree of obscurity has always hung over this subject; and we learn from Theophrastus and from Pliny that the Greek writers differed in their description of the tree. *Olibanum* is named *Luban* and *Cundur* by the Arabs. But *benzoin* having been introduced into general use as incense, in place of *Olibanum*, the name of *Luban* is given to that fragrant balsam, but the Mahommedan writers of India on materia medica apply only the term *Cundur* to *Olibanum*. From the Hebrew *Lebonah* or Arabic *Luban*, the Greeks obtained their names for the tree and gum *Libanos* and *Libanotos*. They seem likewise to have been acquainted with the term *Cundur*, from which *κονδρω* is probably derived. The Hindoo writers on materia medica notice a fragrant resinous gum under the name of *Cunduru*, which their grammarians consider as a Sanscrit word, and accordingly date an etymology of it from a Sanscrit root. They concur in declaring it to be the produce of the *Sallaci*, a tree which they affirm to be vulgarly called *Salai*. The tree which is known by that name is the *Boswéllia serràta*. Mr. Turnbull, who was surgeon to the residency of Nagpore in the East Indies, and on his return to the station of Mirzapore he had procured considerable quantities of the gum of the *Salai*, which he sent to Europe at different times, first without assigning the name of *Olibanum*, and afterwards under that designation. It was in England recognised for *Olibanum*, though offered for sale as a different gum; and annual consignments of it have been since regularly sold at the East India Company's sales. The experience of several years at a market such as that of London, where a mistake, if any had been committed, would have been soon discovered, seems to be conclusive. *Olibanum* is said to be principally collected in Arabia and brought from Mecca to Cairo, from whence it is imported into Europe. It consists of various brittle grains of different sizes, not larger than a chesnut, of a red or yellow colour, having little taste and a peculiar aromatic smell. Newmann got from 480 grains, 346 alcoholic and 125 watery extract, and inversely 200 watery and 273 alcoholic. The distilled spirit and water both smelt of *Olibanum*, but no oil separated. *Olibanum* forms a transparent solution with alcohol, and a milky fluid when triturated with water; it is not fusible but inflammable, and burns with an agreeable smell. It is said to be the frankincense of the ancients; and the diffusion of its vapour around the altar still forms part of the religious ceremonies of the Greek and Roman Catholic churches.

Serrated-leaved Boswellia. Clt. 1820. Tree 40 feet.

Cult. A mixture of loam, peat and sand will suit these trees, and ripened cuttings will root in sand, under a hand-glass, in heat.

II. BALSAMODE'NDRON (from *βαλσαμον*, *balsamon*, balsam, and *δενδρον*, *dendron*, a tree; the tree produces the balsam of Mecca). Kunth, gen. tereb. p. 16. D. C. prod. 2. p. 76.—Balsàmea, Gled. act. soc. cur. nat. berl. 3. p. 127.

LIN. SYST. *Diœ'cia, Octándria.* Flowers of separate sexes. Calyx 4-toothed, permanent. Petals 4, linear-oblong, induplicately valvate in æstivation. Stamens 8, inserted under the annular disk, with elevated warts between the stamens. Ovary 1. Style 1, short, blunt. Berry or drupe ovate, acute, 1-2-celled, marked with 4 sutures; cells 1-seeded.—Eastern balsamiferous trees. Leaves with 3-5 sessile, dotless leaflets. This genus is not well known.

1 B. GILEADE'NSE (Kunth, l. c.) leaves palmately trifoliate; leaflets blunt, quite entire; pedicels 1-flowered, 3 together, shorter than the petiole. ♄. G. Native of Arabia, near Haes. Amỳris Gileadénsis, Lin. mant. 65. Vahl. symb. 1. p. 28. t. 11. Amỳris Opobálsamum, Forsk. descr. p. 79. Flowers small, whitish. The tree which produces the balsam of Gilead has purplish branches, but whether it is obtained from the same tree as balsam of Mecca is very doubtful. This substance, which has also the names of *Balsamum Judaicum*, *Syriacum de Mecca*, and *Opobalsamum*, is a resinous juice obtained from an evergreen tree, growing spontaneously, particularly on the Asiatic side of the Red Sea, near Mecca. The true *Opobalsamum*, according to Alpinus, is at first turbid and white, of a very strong pungent smell, like that of turpentine, but much sweeter, and of a bitter, acrid, astringent taste; upon being kept for some time it becomes thin and limpid, of a greenish hue, then of a golden yellow, and at length of the colour of honey. The balsam is in high esteem among the eastern nations, both as a medicine and as an odoriferous unguent and cosmetic. But in Europe it is never obtained genuine, and as all the signs of its goodness are fallacious, it has been very rarely employed; nor need it be regretted, for any of the other resinous fluids will answer equally as well, such as the balsam of Canada or Capaiva. The dried berries were formerly kept under the title of *Carpo-balsamum*, and the wood under that of *Xylo-balsamum*.

Balsam of Gilead. Tree 20 feet.

2 B. OPOBA'LSAMUM (Kunth, l. c.) leaves with 1 or 2 pairs of acutish, quite entire leaflets; odd one sessile; pedicels 1-flowered, shorter than the petioles. ♄. G. Native of Arabia, P. Alp. eg. 2. t. 60. Amỳris Opobálsamum, Lin. amœn. 7. p. 68. Baléssan, Bruce's trav. French ed. t. 25. This is probably only a variety of the first.

Var. β, Meccanénse (D. C. prod. 2. p. 76.) leaves bipinnate. Balsàmea Meccanénsis, Gled. l. c. 3. p. 127. t. 3 f. 2.

The *Opobalsamum*, *Balsam of Mecca*, and *Balsam of Gilead* are supposed to be the produce of one and the same tree. Gerlach relates that the tree which produces the *Opobalsamum*, or *Balsam of Mecca*, grows near Bederhunin, a village between Mecca and Medina, in a sandy rocky soil, confined to a tract about a mile in length. In the beginning of April the trees drop their juice, from gashes which are made in the smaller branches, into vessels set under them to receive it. A tree will not yield more than 10 to 15 drachms in one season. The inhabitants use it as a sudorific, particularly in rheumatism, but it is adulterated upon the spot. Lady Mary Wortley Montague says that the *Balm of Mecca* of the best quality is not easy to be got, even at Constantinople; that on applying some of it to her face it became swelled and red during three days, but that her complexion was much mended by the operation; and that the ladies all use it in Constantinople, and have the loveliest bloom in the world. An inferior sort of balsam is prepared from boiling the twigs in a quantity of water, and the balsamic matter rises to the surface and is skimmed off. After they have thus procured all they can, it is said that they push the fire, and a large quantity of thicker balsam, like turpentine, rises, which is preserved by itself, and is that principally which we have in Europe. The other can only be obtained by presents; and that which naturally distils from the trees hardly supplying the seraglio and great officers, there is none of it sent out of the country. Hasselquist describes the *Balsam of Mecca* as being yellow and pellucid, with a most fragrant resinous balsamic smell, as being very tenacious, and drawing out into long threads; that it is taken to the quantity of 3 grains to strengthen a weak stomach, and that it is a most excellent remedy for wounds. To know whether it is adulterated, drop some in a glass, and if it remains still on the surface it is of little or no use, but if it extends itself over the surface it is then of the best kind. The drugs used to adulterate this balsam are oil of sesamum, Cyprus turpentine, and ostrich fat. According to Bruce the tree is 5 or 6 feet high, branching much, with the aspect of a standard cherry-tree, having red branches and white flowers. The young shoots were formerly cut off and tied up in faggots, and sent to Venice to make the Theriaca or Venice treacle, when bruised or drawn by fire. From very early ages great value has been set upon this drug in the East. We know from Scripture, that the Ishmaelites, or Arabian carriers and merchants, trafficking with Indian commodities to Egypt, brought with them balm as part of their cargo. Strabo alone, of all the ancients, has given us an account of the place of its origin. "Near to this," he says, "is the most happy land of Sabeans, and they are a very great people. Among them frankincense, myrrh, and cinnamon grow, and in the coast that is about Saba the balsam also. Among the myrrh trees behind Azab, all along the coasts to the straits of Babelmandeb is its native country." We need not doubt but that it was early transplanted into Arabia, that is into the south part of Arabia Felix, immediately fronting Azab. The first plantation that succeeded seems to have been at Petra, the ancient metropolis of Arabia, now called Beder or Beder Hunein. Afterwards being transplanted into Palestine, it obtained the name of *Balsamum Judaicum* and *Balm of Gilead*, and became an article of commerce there. There were three productions obtained from the tree much esteemed among the ancients, the first was called *Opobalsamum*, or juice of balsam, which was the finest kind, composed of the greenish liquor found in the kernel of the fruit; the next was *Carpobalsamum*, made by the expression of the fruit when at maturity; the third was *Xylobalsamum*, worst of all; it was an expression or decoction of the young twigs, of a reddish colour. But the principal quantity of balsam at all times was produced by incision, as at the present day. The wound is made by an axe when the juice is in its strongest circulation, in July and August. It is then received into small earthen bottles, and every day's produce is poured into a larger, which is kept closely corked. The *balsam of Judea* appears to be the same balsam adulterated.

Opobalsamum or Balsam of Mecca tree. Tree 14 feet.

3 B. Ka'taf (Kunth, l. c.) leaves palmately trifoliate; leaflets smooth, serrated at the apex; pedicels bifid; berry globose, umbilicate at the apex. ♄. G. Native of Arabia Felix. Amyris Kátaf, Forsk. descr. p. 80. Vahl. symb. 1. p. 28. Mart. akad. munch. 6. p. 178. This tree probably also produces *Balsam of Mecca*. There is a red sweet-scented powder obtained from it, which the women in Arabia use to wash and cleanse their heads.

Kataf-tree. Tree 14 feet.

4 B. Ka'fal (Kunth, l. c.) leaves palmately-trifoliate; leaflets serrated at the apex, younger ones villous; berry compressed, with a prominent dot at the apex. ♄. G. Native of Arabia, where it is called *Kafal*. Amyris Káfal, Forsk. æg. p. 80. The balsam obtained from this tree is purgative.

Kafal-tree. Tree 20 feet.

† *A species perhaps allied to the present genus.*

5 B.? Zeyla'nicum (Kunth, l. c.) leaves impari-pinnate, with 5-7 stalked, ovate, acute leaflets; racemes of flowers interrupted, downy; flowers 3-petalled, hexandrous. ♄. S. Native of Ceylon. Amyris Zeylánica, Retz. obs. 4. p. 25. From this tree flows the Gum elemi of the East, but it is truly distinct from the American elemi. Calyx 3-toothed. Drupe dry, containing a 3-celled bony nut. Flowers glomerated, involucrated. This is probably a proper genus, or a species of *Colophònia*, judging from the number of parts.

Ceylon Balsam-tree. Tree.

Cult. See *Boswéllia* for culture and propagation, p. 81.

III. ICI'CA (*Icica* is the name of one of the species in Guiana). Aubl. guian. 1. p. 337. Juss. gen. 370. Kunth, gen. tereb. 17. D. C. prod. 2. p. 77.

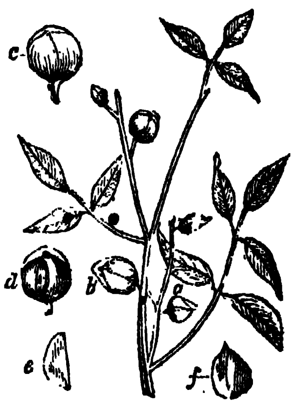
Lin. syst. *Octo-Decándria, Monogýnia.* Flowers usually hermaphrodite. Calyx 4-5-toothed, permanent. Petals 4-5, broadest at the base, and inserted under the disk, valvate in æstivation. Stamens 8-10. Ovary 4-5-celled, each cell containing 2 ovula. Disk orbicular. Style short. Stigmas 4-5. Fruit coriaceous (f. 17. *c.*), 2-3-valved, including 4-5 little nuts (f. 17. *d.*), which are covered with pulp, each containing 1 seed. Seeds without albumen, resinous. Leaves impari-pinnate, free of dots. Racemes panicled, axillary, and terminal, usually simple. Flowers of all the species white.

1 I. enneа'ndra (Aubl. guian. 1. p. 345. t. 134.) leaflets 3-5, stalked, ovate, entire, acuminated, tapering to the base, netted with veins; panicles racemose, longer than the petioles. ♄. S. Native of French Guiana in woods, where it is called *Arouaou.* Petals 5-6. Stamens 9. Amyris enneándra, Willd. spec. 2. p. 335. A very fragrant resinous juice flows from the bark of the tree.

Nine-stamened Icica. Clt. 1822. Tree 30 feet.

2 I. heterophy'lla (D. C. prod. 2. p. 77.) leaves ternate or pinnate; leaflets stalked, ovate, acuminated, entire, simply veined; racemes simple, rather shorter than the leaves. ♄. S. Native of Guiana, in woods at the river Courou, where it is called *Aracouchini.* Icica Aracouchìni, Aubl. guian. 1. p. 344. t. 133. Amyris heterophylla, Willd. spec. 2. p. 335. On the slightest incision being made in the bark of this tree, a yellow, balsamic, aromatic fluid resembling turpentine flows out in great quantities, which retains its fluidity a long time, even when exposed to the air. The inhabitants of Guiana use this fluid to cure wounds, and they carry with them always the little nuts of the fruit, which retain their scent, and which they name *Aracouchini.* They send presents of them to their friends as something very precious. The Caribbees perfume with the balsam the oil

FIG. 17.



of carape and fecula of arnotta mixed together, with which they anoint their bodies as well as their hair, to preserve them against rain and against the bites of insects.

Variable-leaved Icica. Tree 50 feet.

3 I. Guiane'nsis (Aubl. guian. 1. p. 340. t. 131.) leaflets 3-5, nearly sessile, ovate, taper-pointed, entire; peduncles corymbose, many-flowered, much shorter than the petioles, furnished with scales at the base. ♄. S. Native of Cayenne, where it is called *Bois d'encens.* Amy̆ris Guianénsis, Willd. l. c. Flowers greenish. The balsam obtained from this tree has the same properties as that obtained from the next species, and is used for the same purposes.

Guiana Icica. Clt. 1823. Tree 50 feet.

4 I. heptaphy'lla (Aubl. guian. 1. p. 337. t. 130.) leaflets 5-7, stalked, oblong, acuminated; racemes somewhat corymbose, few-flowered, 6-times or more shorter than the petiole. ♄. S. Native of the woods in Guiana, where it is called *Arbre d'encens.* Amy̆ris ambrosìaca, Willd. spec. 2. p. 335. exclusive of the synonym of Marcg. Fruit ovate, 4-celled, resembling that of the laurel, with the nut involved in a brittle covering, containing 4 stones or 4 cells wrapped up in viscid pulp, which has a balsamic smell and taste, hardens into a grey resin, and is used to burn as a perfume. The whole tree is very sweet-scented, and pours out a very odorous clear balsam from the wounded trunk or branches, which is used in dysentery; the dose is one drachm in red wine; it is also used in houses and churches to burn as a perfume. The Caribbee name is *Arouaou.*

Seven-leaved Icica. Clt. 1826. Tree 30 feet.

5 I. Tacamaha'ca (H. B. et Kunth, nov. gen. amer. 7. p. 33.) leaflets 5, elliptic-oblong, acuminated, somewhat coriaceous, shining; panicles axillary, 3-times shorter than the petioles; flowers octandrous. ♄. S. Native of South America, frequent near Calabozo in Los Llanos, where it is called *Tacamahaca.* Allied to *I. heptaphy̆lla.* Branchlets angular, powdery.

Tacamahac Icica. Clt. 1819. Tree 30 feet.

6 I. Icicari'ba (D. C. prod. 2. p. 77.) leaflets 3-5, stalked, oblong, acuminated; flowers almost sessile, crowded in the axillæ of the leaves. ♄. S. Native of Brazil, where it is called *Icicariba* and *Resina icica.* Amy̆ris ambrosìaca, Lin. fil. suppl. 216.? This tree produces sweet-scented gum like the rest, which is used as incense, and as a substitute for *gum elemi.*

Icicariba. Tree 40 feet?

7 I. deca'ndra (Aubl. guian. 1. p. 346.) leaflets 5, stalked, oblong, acuminated at both ends, entire; panicles loose, a little longer than the petioles. ♄. S. Native of Guiana, in woods, where it is called *Chipa.* Amy̆ris decándra, Willd. spec. 2. p. 335. I. pentándra, Aubl. guian. 1. t. 135. When the bark of this tree is wounded, a whitish liquid flows out, which has the scent of citrons, when dry becoming a yellow transparent resin, which is found in small pieces under the bark. This resin is carried by the Caribbees to Cayenne, where it is employed in churches as incense.

Decandrous Icica. Tree 40 feet.

8 I. macrophy'lla (H. B. et Kunth, nov. gen. amer. 7. p. 33.) leaflets 7 (9-13), oblong, somewhat coriaceous, with short taper points; racemes axillary, crowded in fascicles, much shorter than the petioles; flowers decandrous. ♄. S. Native of South America, near Maraquita in New Granada, where the tree is called *Guacharaco.* Branchlets round, smooth. Very nearly allied to *I. altíssima,* and probably the same.

Long-leaved Icica. Tree 80 feet.

9 I. altíssima (Aubl. guian. 1. t. 132.) leaflets 7, stalked, ample, ovate, bluntly acuminated; racemes simple, shorter than the petioles. ♄. S. Native of Guiana, in woods. Amy̆ris altíssima, Willd. spec. 2. p. 336. There are two varieties of this tree, the one called *Cedre blanc* the other *Cedre rouge.* The wood of the *Cedre rouge* is considered more durable than the *Cedre blanc* for household furniture and for carpentering, and canoes and boats made with it last longer than those made with the other kind.

Tall Icica. Tree 100 feet.

† *Species not sufficiently known.*

10 I. serra'ta (D. C. prod. 2. p. 77.) leaflets almost sessile, oblong, acuminated, serrated; racemes simple, numerous, terminal. ♄. S. Native of Mexico, on the warmer mountains. A. ambrosìaca, Moc. et Sesse, fl. mex. icon. et descrip. ined. but not of Lin. Drupe oblong, acute, 2-celled.

Serrated-leaved Icica. Tree.

11 I.? Cara'na (H. B. et Kunth, nov. gen. amer. 7. p. 34.) leaves trifoliate (and pinnate?); leaflets oblong, acuminated, smooth, shining above, white and glittering beneath. ♄. S. Native of South America, near Javita, at the river Temi in the Mission of Orinoco, where it is called *Carana.* Amy̆ris Caràna, Humb. relat. 2. p. 421. and 435. Flowers and fruit unknown. A grateful white resin is found closely adhering to the bark of this tree, which at length becomes yellowish, and is used against bruises.

Carana Icica. Tree 50 feet.

12 I.? cuspida'ta (H. B. et Kunth, l. c.) leaves impari-pinnate with 3 pairs of elliptical leaflets, having cuspidate points, which are smooth, and full of pellucid dots, shining above, but white and pruinose beneath. ♄. S. Native with the preceding species. Flowers and fruit unknown. Glue is made of the resin of this tree mixed with tortoise oil.

Cuspidate-leaved Icica. Tree 100 feet.

13 I. acumina'ta (D. C. prod. 2. p. 78.) leaflets 9, very large, lanceolate, acuminated; racemes short, lateral, crowded. ♄. S. Native of Cayenne. Amy̆ris acuminàta, Poir. suppl. 2. p. 136. but not of Roxb.

Acuminate-leaved Icica. Tree.

14 I.? denta'ta (D. C. prod. 2. p. 78.) leaflets 9, stalked, ovate, acuminated, toothed; racemes axillary, simple; pedicels elongated. ♄. S. Native of the East Indies. Amy̆ris dentàta, Willd. spec. 2. p. 337.

Tooth-leaved Icica. Tree 60 feet.

15 I.? Timorie'nsis (D. C. prod. 2. p. 78.) leaflets 11, stalked, ovate, acuminated, unequal at the base, almost quite entire; panicles racemose, shorter than the petioles. ♄. S. Native of the island of Timor.

Timor Icica. Tree.

Cult. For culture and propagation see *Boswéllia,* p. 81.

IV. PRO'TIUM (meaning unknown). Burm. ind. 88. Kunth, gen. tereb. p. 18. D. C. prod. 2. p. 78.

Lin. syst. *Diœ'cia, Decándria.* Flowers of separate sexes. Calyx 5-parted. Petals 5, sessile, spreading, inserted under the disk and valvate in æstivation. Stamens 10, shorter than the petals. Ovary 3-celled, each cell containing 2 ovula. Style 1, simple. Disk truncate, 10-ribbed. Drupe indehiscent, containing 3 nuts, two of which are usually abortive.—A tree from Java, with impari-pinnate leaves and axillary panicles of flowers. This genus is hardly distinct from *Bursèra.*

1 P. Java'nicum (Burm. l. c.). ♄. S. Native of Java. Amy̆ris Pròtium, Lin. mant. 65.—Rumph. amb. 7. t. 23. f. 1. Leaflets 7, stalked, oblong, acute, wavy.

Java Protium. Tree.

Cult. For culture and propagation see *Boswéllia,* p. 81.

V. BURSE'RA (in honour of Joachim Burser, a disciple of Caspar Bauhin). Jacq. amer. 94. Lin. gen. no. 440. Swartz, obs. 130. Kunth, gen. tereb. p. 18. D. C. prod. 2. p. 78.

Lin. syst. *Polygàmia, Diœ'cia.* Flowers polygamous (f. 18.).

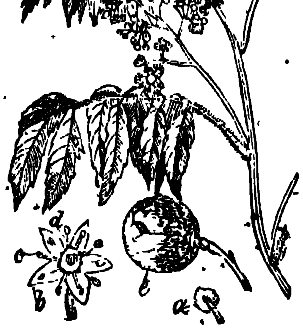
Calyx small, 3-5-toothed, with blunt teeth. Petals 3-5 (f. 18. *b.*), spreading, valvate in æstivation. Stamens 6-10 (f. 18. *c.*). Disk annular, with usually 6-10 teeth (f. 18. *d.*). Ovary ovate, 3-5-angled, 3-5-seeded. Style short, trifid at the apex. Drupe oblong, covered by a 3-valved succulent rind (f. 18. *e.*), containing 3-5 nuts, 2 or 4 of which are abortive, the fertile one is fleshy, and containing 1 seed or 1 nut. Seed baccate according to Swartz, pendulous, without albumen. Cotyledons leafy, corrugated, and plaited or 3-lobed, with a straight superior radicle.—American balsam-bearing trees, with impari-pinnate or simple leaves, and axillary and terminal racemes of flowers.

1 B. GUMMÍFERA (Jacq. amer. 94. t. 65. Lin. spec. 741.) leaves deciduous, usually impari-pinnate; leaflets ovate, acute, membranous; racemes axillary; flowers hexandrous. ♄. S. Native of the West Indies.—Sloan. hist. t. 109. There are varieties of this plant with simple, trifoliate, and impari-pinnate leaves, with 5-9 leaflets. Nut not exactly trigonal, but rather roundish, very like *Pistachia*. The tree is common in all the sugar islands of the West Indies. The bark is very thick, and exudes a clear transparent resin, which soon hardens in the air, and looks like the mastick of the shops; but by incision it yields a considerable quantity of a more fluid substance, which has much the smell and appearance of turpentine, and may be used for the same purposes. In the French islands it is called *Gommier blanc*, and an infusion of the buds and young leaves is recommended in disorders of the breast.

Var. β, polyphýlla (D. C. prod. 2. p. 78.) leaflets 11-13. Native of the Bahama islands. Cat. carol. 1. t. 30.

Gum-bearing Bursera. Clt. 1690. Tree 80 feet.

FIG. 18.



2 B. SERRA'TA (Wall. ex Coleb. in Lin. trans. vol. 15. t. 4. f. 1.) leaves impari-pinnate, with 3-5 pairs of broad-lanceolate, bluntly-acuminated, serrulated leaflets; petioles pubescent, as well as the pedicels and young roots; panicles axillary, shorter than the leaves; flowers decandrous. ♄. S. Native of the forests bordering on Bengal. The timber is close-grained and hard, and is much esteemed, and used for furniture by the inhabitants. It is as tough as oak, and heavier. Its vernacular name is *Najor* or *Neyor*.

Serrated-leaved Bursera. Clt. 1818. Tree 70 feet.

3 B. ACUMINA'TA (Willd. spec. 4. p. 1120.) leaves impari-pinnate; leaflets oblong, acute at the base, acuminated at the apex; racemes axillary. ♄. S. Native of Caraccas, as well as of Porto-Rico and St. Domingo. Flowers and fruit unknown. This tree contains a concrete yellow essential oil.

Acuminated-leaved Bursera. Tree 60 feet.

4 B. LEPTOPHLÆ'OS (Mart. bot. zeit. July 1828.) trunk branched at the base; bark shining, smooth, papyraceous, soluble; leaves impari-pinnate, and are, as well as the branches, pubescent; leaflets 5-7, oblong, acute; lobed in front; racemes few-flowered, lateral and axillary. ♄. S. Native of Brazil. A tree full of thin resinous juice.

Thin-juiced Bursera. Tree 50 feet.

5 B. SIMPLICIFÒLIA (D. C. prod. 2. p. 79.) leaves simple, oblong-obovate, obtuse, somewhat emarginate, coriaceous; racemes terminal, somewhat corymbose; nut exactly trigonal, with the angles a little winged. ♄. S. Cultivated in Jamaica.

Simple-leaved Bursera. Tree.

Cult. For culture and propagation see *Boswéllia*, p. 81.

VI. MARI'GNIA (meaning unknown.) Comm. ined. Kunth. nov. gen. tereb. p. 19. D. C. prod. 2. p. 79.—Dámmara, Gært. fruct. 2. p. 109. t. 103, but not of Lam. nor Link.

LIN. SYST. *Decándria, Monogýnia.* Flowers hermaphrodite. Calyx 5-cleft, permanent, with acute lobes. Petals 5, twice as long as the calyx, valvate in æstivation. Disk entire. Stamens 10, length of calyx. Ovary roundish, 5-celled. Stigma almost sessile, somewhat 5-lobed. Drupe crowned by the stigma, containing 1-5 1-seeded nuts, with the bark coriaceous, and perhaps soluble; nuts covered with pulp. Seed pendulous, without albumen. Cotyledons leafy, finely contortuplicate (Gært.), but flat in the immature seeds (Kunth.). Radicle superior.—Balsamiferous trees, with impari-pinnate leaves, and numerous coriaceous, variable leaflets. Racemes of flowers axillary and terminal.

1 M. OBTUSIFÒLIA (D. C. prod. 2. p. 79.) leaflets obovate, obtuse. ♄. S. Native of the Mauritius, where it is called *Colophane Batard.* Bursèra obtusifòlia, Lam. dict. 2. p. 768. Dámmara gravèolens, Gært. fruct. l. c. Leaflets blunt, glaucous, and shining above.

Blunt-leaved Marignia. Tree 50 feet.

2 M. ACUTIFÒLIA (D. C. prod. 2. p. 79.) leaflets acute. ♄. S. Native of the Moluccas. Dámmara nigra, Rumph. amb. 2. p. 160. t. 52.

Acute-leaved Marignia. Tree.

Cult. For culture and propagation see *Boswéllia*, p. 81.

VII. COLOPHO'NIA (called in the Isle of France *Bois de Colophone*). Comm. ined. Kunth. gen. tereb. p. 20. D. C. prod. 2. p. 79.

LIN. SYST. *Hexándria, Monogýnia.* Calyx urceolar, bluntly 3-lobed. Petals 3, inserted under the disk, roundish-ovate, imbricate in the bud. Stamens 6, one-half shorter than the petals, equal in length to the calyx. Disk 6-lobed. Ovary? —Resinous trees, with impari-pinnate, coriaceous, dotless leaves, and panicles of unisexual flowers.

1 C. MAURITIA'NA (D. C. prod. 2. p. 79.) ♄. S. Native of the Mauritius. Bursèra paniculàta, Lam. dict. 2. p. 768. Flowers purple. Fruit unknown. Leaflets 5-7, oval, acute, entire, smooth.

Mauritian Colophonia. Tree.

Cult. For culture and propagation see *Boswéllia*, p. 81.

VIII. CANA'RIUM (derived from its vernacular name *Canari*, in the Malay language). Lin. mant. 127. Gært. fruct. 2. t. 102. Kœn. ann. bot. 1. p. 360. Kunth. gen. tereb. p. 20. D. C. prod. 2. p. 79.—Pimèla, Lour. fl. coch. p. 407.

LIN. SYST. *Polygàmia, Diœ'cia.* Flowers dioecious or polygamous. Calyx urceolate, 3-toothed. Petals 3, concave, connivent, imbricate in æstivation. Stamens 6, rarely 7-8, connate at the base into a tube girding the ovary. Ovary ovate-globose, 3-celled, 2 of which are usually abortive. Style short, thick, crowned by a trigonal stigma. Drupe baccate, containing a trigonal 3-celled nut, each cell containing 1 pendulous seed, but sometimes solitary from abortion, destitute of albumen. Cotyledons 2, each divided into 3 oblong, somewhat leafy lobes, which are twisted in various ways.—Indian trees, with impari-pinnate leaves and stalked leaflets; stipulas deciduous. Flowers racemose or panicled.

SECT. I. CANA'RIA (see genus for derivation). D. C. prod. 2. p. 79. Drupe containing a 1-celled nut when mature.

1 C. COMMU'NE (Lin. mant. 127.) leaflets 7-9, on long stalks, ovate-oblong, bluntly acuminated, quite entire, smooth; stipulas toothed or undivided; panicle terminal; flowers glomerate, nearly sessile, bracteate; stamens connate into a membranous

tube at the base. ♄. S. Native of the East Indies, and the Moluccas, where it is also cultivated for the sake of its fruit. C. vulgàre, Rumph. amb. 2. t. 47. C. Mehenbethene, Gært. fruct. 2. p. 102.—Kœn. ann. bot. 1. p. 260. t. 7. f. 2. Flowers white. Fruit ovate, with a thin olive skin. When the nuts are mature, they contain a sweet kernel, which does not become rancid, and which resembles a sweet chesnut; they are eaten both raw and dressed by the inhabitants of the Moluccas, Banda, and New Guinea; and an oil is expressed from them, which is used at the table when fresh, and for lamps when stale; bread is also made from them, cakes, biscuits, &c. for the table. Eaten fresh, they are apt to bring on diarrhœas and dysenteries, and to occasion an oppression of the breast.

Var. β, *Zephýrinum* (D. C. prod. 2. p. 79.) leaflets 15.—Rumph. amb. 2. t. 48.

Common Canarium. Tree 50 feet.

2 C. SYLVE'STRE (Gært. fruct. 2. p. 99. t. 102.) leaflets 3-5, oblong, tapering to both ends, quite entire; flowers racemose, terminal. ♄. S. Native of Amboyna, on the mountains.—Rumph. amb. 2. t. 49. Flowers white. Fruit obovate, rounded, not 3-cornered. The kernels of the nuts are eatable, and it is difficult to get them out of the shell, on account of their brittleness and singular form.

Wild Canarium. Tree 50 feet.

3 C. MICROCA'RPUM (Willd. spec. 4. p. 760.) leaflets 5-9, ovate-lanceolate, acuminated, smooth, quite entire; racemes axillary, elongated, many-flowered; fruit drooping. ♄. S. Native of the Molucca Islands and Cochin-china.—Rumph. amb. 2. t. 54. Amyris oleòsa, Lam. dict. 1. p. 362. Pimèla oleòsa, Lour. coch. 408. Flowers white. Drupe small, oval, of a blueish-black colour, not eatable. By incisions made in the trunk of the tree, a viscid, odorous, yellowish oil flows out, very like Capaiva, which is mixed with the Chinese varnish; used medicinally it is vulnerary and resolvent. It is frequently used in the naval yards, and is commonly called Damar; it is mixed with a little chalk, and used with oakum made of the bark of reeds to fill up the seams in ships and boats, and becomes as hard as a piece of stone.

Small-fruited Canarium. Tree 50 feet.

SECT. II. PIME'LA (from πιμελη, *pimele*, fat; the trees yield a very fat oil and resin). D. C. prod. 2. p. 80. Drupe when mature containing a 3-celled nut.

4 C. DECUMA'NUM (Gært. fruct. 2. p. 99. t. 102.) leaflets 9-11, elliptical, quite entire, acute; racemes few-flowered, axillary; drupe containing a 3-celled putamen. ♄. S. Native of the Molucca Islands.—Rumph. amb. 2. t. 55. Flowers white. Fruit larger than the others; shell of nut 3-cornered.

Huge Canarium. Tree 80 feet.

5 C. PIME'LA (Kœn. ann. bot. 1. p. 361. t. 7. f. 1.) leaflets 9-11, oblong, acuminated, quite entire, somewhat unequal, smooth; stipulas wanting; racemes lateral, aggregate; flowers fascicled, naked; stamens connate into a membranous tube; drupe containing a somewhat 2-celled nut. ♄. G. Native of Cochin-china, China, and Java, in woods. Pimèla nìgra, Lour. fl. cochin. 407. Flowers white. Fruit black, sometimes pickled, and has somewhat the taste of an olive, but is heavy on the stomach.

Fat Canarium. Tree 50 feet.

6 C. A'LBUM (Ræusch. nom. D. C. prod. 2. p. 80.) leaflets 11-13, scabrous, ovate-lanceolate; racemes crowded, almost terminal; drupe containing a 3-celled nut. ♄. S. Native of China and Cochin-china, in woods. C. Sinénse, Rumph. amb. 2. p. 154.—Pimèla álba, Lour. cochin. 408. Flowers white. Fruit greenish-yellow; it is pickled and used like olives, and is similar both in taste and form, and is reckoned very wholesome, and considered good for digestion and provoking the appetite. Leaflets half a foot long.

White-fruited Canarium. Tree 40 feet.

7 C. DENTICULA'TUM (Blum. bijdr. 1162.) leaflets elliptic-oblong, acuminated, obsoletely denticulated above, smoothish; stipulas stem-clasping, jagged; panicle subterminal; flowers glomerate, sessile, bibracteolate; stamens connate into a membranous tube at the base. ♄. S. Native of Java, in woods, on the mountains of Salak, Parang, &c. where it is called *Kipella*.

Denticulated-leafletted Canarium. Tree.

8 C. HI'SPIDUM (Blum. bijdr. 1163.) leaflets oblong, acuminated, subcordate at the base, unequal-sided, quite entire, hispid beneath, as well as the fruit; stipulas petiolar, small; racemes subterminal, aggregate; flowers fascicled, naked; stamens seated on the margin of a villous disk. ♄. S. Native of Java, on mountains about Bantam, where it is called *Surian*.

Var. β, *scàbrum* (Blum. bijdr. 1163.) leaves larger, scabrous beneath; racemes compound. ♄. S. Native of Java, on the mountains of Salak.

Hispid Canarium. Tree.

9 C. ALTI'SSIMUM (Blum. bijdr. 1163.) leaflets oblong, cuspidate, subcordate at the base, quite entire, rather pilose on both surfaces, ciliated; stipulas petiolar, small, subulate; racemes axillary, simple; fruit hispid; stamens seated on the margin of a villous disk. ♄. S. Native of Java, on the mountains about Parang, where it is called *Kiharpan*.

Very-tall Canarium. Fl. Jan. Tree 70 feet.

10 C. LITTORA'LE (Blum. bijdr. 1164.) leaflets elliptic-oblong, acuminated, denticulated, tomentose on the veins beneath; stipulas none; panicle terminal, effuse; flowers densely glomerate, bracteate; stamens seated on the margin of a villous disk. ♄. S. Native of the Islands of Nusa and Kambanga on the sea shore.

Shore Canarium. Fl. Nov. Tree 50 feet.

Cult. For culture and propagation see *Boswéllia*, p. 81.

IX. HEDWI'GIA (in honour of John Hedwig, the celebrated muscologist; died 1799.) Swartz, fl. ind. occ. 2. p. 670. t. 13. Kunth. gen. tereb. p. 21. D. C. prod. 2. p. 80. but not of Hedw. Tetragástris, Gært. fruct. 2. p. 130. t. 109.

LIN. SYST. *Octándria, Monogýnia*. Flowers polygamous or hermaphrodite. Calyx 4-5-toothed, permanent. Petals 4-5, valvate in æstivation, connected together to the middle into a 4-5-cleft corolla. Stamens 8-10, adnate to the base of the corolla. Disk cup-shaped, 8-lobed. Ovary 4-celled, 8-10-furrowed. Style wanting. Stigma 4-furrowed, blunt. Berry 4-furrowed, 4-lobed at the bottom, containing 4 1-celled nuts (or from abortion only 2-3), with a thin coriaceous flesh. Seed pendulous, destitute of albumen. Cotyledons thick, fleshy, plano-convex. Radicle retracted, superior.—Balsamiferous West Indian trees, with impari-pinnate leaves, and stalked, coriaceous, quite entire leaflets. Flowers in panicled racemes.

1 H. BALSAMI'FERA (Swartz. l. c.) flowers 4-cleft, octandrous, with no glands between the stamens. ♄. S. Native of St. Domingo, in woods, on the mountains. Tetragástris O'ssea, Gært. fruct. l. c. Bursèra balsamífera, Pers. ench. 1. p. 413. Bois cochon, Nich. hist. 169. Flowers small, whitish. This tree is called in its native country *Bois de Cochon* or *Wild-boar's-tree*, because those animals are, when wounded, reported to strip off its bark and heal their wounds with the gum which exudes from it. This exudation is, according to Sloane, of a balsamic nature, very like balsam of Capaiva, both in scent and virtues. It is given in complaints of the chest or lungs, and is copiously procured by wounding the trunk of the tree.

Balsam-bearing Hedwigia. Tree 60 feet.

2 H. MEXICA'NA (D. C. prod. 2. p. 80.) flowers 5-cleft, decandrous, with roundish glands between the stamens. ♄. S. Native of Mexico. Knórrea Mexicàna, Moc. et Sesse, fl. mex. icon. ined. Flowers white. Fruit 4-seeded.

Mexican Hedwigia. Tree 56 feet.

Cult. For culture and propagation see *Boswéllia*, p. 81.

X. SORINDE'IA (meaning unknown). Pet. Th. gen. mad. p. 24. D. C. prod. 2. p. 80.

Lin. syst. *Polygàmia, Diœ'cia.* Flowers polygamo-diœcious. Calyx urceolate, 5-toothed. Petals 5, lanceolate, broadest at the base, valvate in the bud. Male flowers with about 20 stamens inserted in the bottom of the calyx (sometimes from 16 to 28). Hermaphrodite flowers with 5 fertile stamens? filaments short. Ovary conical. Stigmas 3, sessile. Drupe containing a thready, compressed, oblong nut. Embryo naked, thick.—African or East Indian shrubs, with impari-pinnate leaves, and alternate entire leaflets. Panicles branched, axillary or terminal. Flowers purple.

1 S. Madagascarie'nsis (D. C. prod. 2. p. 80.) ♄. S. Native of Madagascar, where it is called *Manguier à grappes*, from the fruit being similar to that of the Mango. A weak shrub, with alternate leaves, standing on woody petioles. Flowers small, in axillary racemes.

Madagascar Sorindeia. Clt. 1828. Shrub 12 feet.

2 S. Africa'na (D. C. prod. 2. p. 80.) Native of the western coast of Africa, along the banks of the river Congo. See R. Br. cong. p. 12.

African Sorindeia. Tree.

Cult. For culture and propagation see *Boswéllia*, p. 81.

XI. GARU'GA (called *Garuga* or *Garoogoo* by the Telingas). Roxb. hort. beng. p. 33. cor. 3. t. 208. D. C. prod. 2. p. 80.

Lin. syst. *Decándria, Monogýnia.* Flowers hermaphrodite. Calyx small, campanulate, 5-cleft. Petals 5, inserted in the calyx, connivent. Stamens 10, inserted with the petals. Glands 5, inserted between the pairs of stamens. Ovary ovate. Style 1, filiform. Stigma 5-lobed. Drupe globose, fleshy, containing 2 or more 1-seeded nuts.—Trees, with impari-pinnate leaves; leaflets almost sessile, crenate. Flowers yellowish, in axillary panicles.

1 G. pinna'ta (Roxb. cor. 3. t. 208.) leaves somewhat villous; leaflets oblong, lanceolate, bluntly crenate. ♄. S. Native of the East Indies, in mountainous districts. Rheed. mal. 4. p. 69. t. 33. Rheed's and Roxburgh's plants may be distinct species. A deciduous tree, the wood of which being soft and spongy is very little used. The fruit is eaten raw by the natives, but is chiefly used for pickling; it has a rough austere taste, which renders it unpalatable as taken from the tree, though very fit for pickling.

Pinnate-leaved Garuga. Clt. 1808. Tree 60 feet.

2 G. Java'nica (Blum. bijdr. 1165.) leaflets many pairs, oblong-lanceolate, acuminated, oblique at the base, serrated, tomentose beneath; flowers panicled; fruit densely villous. ♄. S. Native of Java, in mountain woods.

Java Garuga. Fl. May. Tree 60 feet.

3 G. Madagascarie'nsis (D. C. prod. 2. p. 81.) leaves smooth; leaflets acutely serrated. ♄. S. Native of Madagascar. This may be Roxburgh's G. pinnàta?

Madagascar Garuga. Tree 50 feet.

Cult. For culture and propagation see *Boswéllia*, p. 81.

XII. ELA'PHRIUM (from ελαφρος, *elaphros*, contemptible; trees without beauty, and with wood of no value). Jacq. amer. 105. D. C. prod. 1. p. 723. H. B. et Kunth. nov. gen. amer. 7. p. 27.

Lin. syst. *Octándria, Monogýnia.* Calyx 4-parted, permanent. Petals 4, inserted in the disk, spreading, broadest at the base. Stamens 8, inserted in the disk. Anthers 2-celled. Ovary superior, sessile, 2-celled, with 2 collateral ova in each cell attached to the central axis. Disk orbicular in the bottom of the calyx. Style short, crowned by a bifid stigma. Drupe pea-formed, 2-3-valved, soluble. Seeds suborbicular, with a double integument, without albumen. Cotyledons suborbicular, corrugated or plaited, with a superior radicle.—Unarmed balsamiferous trees or shrubs, having white smooth wood. Leaves crowded at the tops of the branches, impari-pinnate, and exstipulate, with dotless opposite leaflets, having the rachis usually winged. Racemes axillary, simple. Flowers insignificant, of a whitish-green colour or yellowish. Pedicels bracteate. Bark of the fruit containing balsam.

1 E. tomentòsum (Jacq. amer. 105. t. 71. f. 1-2.) leaves tomentose; leaflets 9, ovate, toothed; racemes few-flowered, shorter than the leaves. ♄. S. Native of Curacoa and the islands adjacent, in rocky gravelly places. Lam. ill. t. 304. f. 1. Fagàra octándra, Lin. mant. 40. Amỳris tomentòsa, Spreng. syst. 2. p. 219. A balsamic, glutinous, odorous resin flows from this tree, which much resembles that which flows from *Bursèra*.

Tomentose Elaphrium. Tree 20 feet.

2 E. gla'brum (Jacq. amer. 106. t. 71. f. 4.) leaves quite glabrous; leaflets oblong-lanceolate, bluntly toothed; racemes few-flowered, twice the length of the leaves. ♄. S. Native of Carthagena, in bushy places by the sea side. Lam. ill. 304. f. 2. Fagàra Elàphrium, Willd. spec. 1. p. 668. Amỳris Elàphrium, Spreng. syst. 2. p. 219.

Smooth Elaphrium. Clt. 1818. Tree 20 feet.

3 E. penicella'tum (Moc. et Sesse, fl. mex. ined. D. C. prod. 1. p. 724.) leaves subglabrous; leaflets oval-oblong, acuminated, coarsely toothed; petioles pilose at the base, and with fascicles of hairs at the origin of the pairs of leaflets; racemes few-flowered, much shorter than the leaves. ♄. S. Native of Mexico. Amỳris penicellàta, Spreng. syst. 2. p. 219.

Pencilled-haired Elaphrium. Tree 20 feet.

4 E. fagaroìdes (H. B. et Kunth, nov. gen. amer. 7. p. 27. t. 611.) branches angularly furrowed, flexuous, and are as well as the leaves smooth; leaflets 7, obtuse, serrate-crenate, terminal one elliptical-rhomboid, lateral ones unequal-sided; rachis wingless. ♄. S. Native of Mexico. Fruit 4-valved. Amỳris fagaroides, Spreng. syst. append. 148.

Fagara-like Elaphrium. Tree 12 feet.

5 E. glabrifòlium (H. B. et Kunth, nov. gen. amer. 7. p. 28.) branches twisted and flexuous, terete, tomentose; leaflets 7-9, obtuse, coarsely crenated, smooth, shining above, terminal one elliptic-oblong, lateral ones unequal-sided; rachis winged; wing subdentate. ♄. S. Native of Mexico, between Pazcuaro and the burning mount Jorullo, near Ario. E. glàbrum, Jacq. amer. 106.?

Smooth-leaved Elaphrium. Tree 12 to 20 feet.

6 E. Jorulle'nse (H. B. et Kunth, nov. gen. 7. p. 28. t. 612.) branches round, smooth; leaflets 15-17, oblong, obtuse, doubly crenated, wrinkled, and tomentose on both surfaces, hoary above, and rufescent beneath; rachis winged; wings doubly crenated. ♄. S. Native of Mexico, at the bottom of Mount Jorullo.

Jorullo Elaphrium. Tree 20 feet.

7 E. Jaquinia'num (H. B. et Kunth, nov. gen. amer.) branches terete, covered with rusty tomentum above; leaflets 7-9, coarsely crenated, wrinkled above, hairy and shining, but covered with rufescent tomentum beneath, younger ones rusty, terminal one rhomboid-ovate, lateral ones unequal-sided; rachis winged; wings entire. ♄. S. Native of South America, in the province of Venezuela, near La Victoria. E. tomentòsum, Jacq. amer. 105. t. 71.? Fagàra octándra, Lin.? A glutinous juice flows from this tree when cut or broken, which thickens to a resinous gum

on exposure to the air, which is generally used to erase cicatrices occasioned by ulcers or wounds. The wood and bark have a strong grateful scent.

Jacquin's Elaphrium. Tree 40 feet.

8 E. EXCE'LSUM (H. B. et Kunth, nov. gen. amer. 7. p. 30. t. 611.) branches terete, tomentose above; leaflets 5-9, obtuse, coarsely crenated, rugose, soft, pubescent above and rusty beneath, terminal one ovate-elliptic, lateral ones subelliptic, nearly equal at the base; rachis winged; wings crenate. ♄. S. Native of Mexico, between Acapulco and La Venta del Exido. E. copallíferum, Moc. et Sesse, fl. mex. ined. D. C. prod. 1. p. 724. Amỳris copallífera, Spreng. syst. 2. p. 219. A fragrant resin flows spontaneously from this tree, which is called gum-copal in Mexico.

Tall Elaphrium or Mexican Copal. Tree 50 feet.

9 E. ARIE'NSE (H. B. et Kunth, nov. gen. amer. 7. p. 31.) branches angularly furrowed, villous; leaflets 5-7 pairs, oblong, somewhat acuminated, crenate-serrated, hairy above, and covered with canescent hairs beneath; rachis somewhat winged ♄. S. Native of Mexico, between Pazcuaro and Mount Jorullo, near Ario.

Ario Elaphrium. Tree 30 feet.

10 E. GRAVE'OLENS (H. B. et Kunth, nov. gen. amer. 7. p. 31.) leaflets 7, oblong, acuminated, coarsely serrate-crenate, smooth; rachis winged at the top; wings entire. ♄. S. Native of South America, on the banks of the river Magdalena, where it is called *Capa o Carani*. Amỳris gravèolens, Spreng. syst. append. 148.

Strong-scented Elaphrium. Tree 40 feet.

11 E. LANUGINÒSUM (H. B. et Kunth, nov. gen. amer. 7. p. 31.) branches terete, rather flexuous, finely tomentose; branchlets woolly; leaflets 9-13, oblong, crenated, younger ones villously-tomentose above, and white and woolly beneath. ♄. S. Native of New Spain.

Woolly Elaphrium. Tree 40 feet.

Cult. For culture and propagation see *Boswéllia*, p. 81.

XIII. FAGARA'STRUM (from *Fagara* and *astrum*, an affixed signification, like; resembling *Fagara*).

LIN. SYST. *Hexa-Octándria, Monogýnia.* Flowers hermaphrodite. Calyx 3-4-parted, short. Petals 3-4. Stamens 6-8, alternate ones shortest; filaments thickened above the base. Anthers large. Ovary simple, tapering to the base into a stipe, which bears the petals and stamens at its base, tubercled, 3-4-lobed at the apex, 3-1-celled; cells 2-ovulate. Ovula suspended from the inner angle. Style prismatic, 3-4-angled, thick, smooth, 3-1-lobed at the apex. Fruit? Shrubs, with alternate, pinnate leaves, and alternate, oblique leaflets, full of pellucid dots. Flowers disposed in axillary panicles and racemes, with the peduncles and pedicels bracteate at the base.

1 F. INÆQUA'LE; petioles puberulous; leaflets stalked, ovate, irregularly crenated, glabrous; racemes few-flowered, much shorter than the leaves; flowers octandrous. ♄. G. Native of the Cape of Good Hope. Elàphrium inæquàle, D. C. prod. 1. p. 724.—Burch. cat. 3082 and 3051. Amỳris inæquàlis, Spreng. syst. 2. p. 218.

Unequal-leafletted Fagarastrum. Shrub.

2 F. CAPE'NSE; leaflets ovate, obtuse, erect, nearly sessile, crenated; branches prickly, flexuous; flowers octandrous. ♄. G. Native of the Cape of Good Hope. Fagàra Capénsis, Thunb. fl. cap. 1. p. 516. H. B. et Kunth, nov. gen. amer. 6. p. 6. Elàphrium Capénse, D. C. prod. 1. p. 724. Amỳris Capénsis, Spreng. syst. 2. p. 218.

Cape Fagarastrum. Shrub.

3 F. THUNBE'RGII; prickly; leaflets sessile, ovate, finely crenated; petioles prickly, with a narrow margin; flowers octandrous? ♄. G. Native of the Cape of Good Hope. Fagàra armàta, Thunb. fl. cap. 1. p. 141. Zanthóxylum Thunbérgii, D. C. prod. 1. p. 726.

Thunberg's Fagarastrum. Shrub.

4 F. ANISA'TA; leaflets 13, stalked, ovate-lanceolate, obsoletely toothed, unequal; panicles corymbose, axillary; flowers octandrous? ♄. G. Native of? Amỳris anisàta, Willd. spec. 2. p. 337.

Anise-scented Fagarastrum. Shrub.

Cult. For culture and propagation see *Boswéllia*, p. 81.

ORDER LXXVI. AMYRI'DEÆ (plants agreeing with *Amỳris* in important characters). R. Br. congo. 431. Kunth. in ann. scienc. nat. 2. p. 353. Lindl. introd. nat. p. 364.—Terebinthàceæ, Tribe V. Amyrídeæ, D. C. prod. 2. p. 81.—Terebinthàceæ, part. Juss. gen. 368.

Calyx small, regular, permanent, in 4-5 divisions. Petals 4- (f. 19. *a.*) 6, hypogynous, imbricate in æstivation. Stamens double the number of the petals, also hypogynous. Ovary superior, 1-celled, seated on a thickened disk, containing 2 pendulous ovula. Stigma sessile, capitate. Fruit indehiscent, somewhat drupaceous (f. 19. *b.*), 1-seeded, glandular. Seeds without albumen (f. 19. *c.*). Cotyledons fleshy. Radicle superior, very short.—Trees or shrubs, abounding in resinous juice, with opposite compound leaves, full of pellucid dots, and axillary and terminal panicles of flowers. Pericarp covered with granular glands, filled with aromatic oil. The general structure of this order is that of *Terebinthàceæ*, but the qualities more nearly resemble those of *Burseriàceæ*. In consequence of the leaves being full of dots filled with resinous oil, as well as in the hypogynous insertion of the petals and stamens, it comes nearer to *Aurantiàceæ*. The order contains fragrant shrubs. Gum elemi of the Island of Nevis is related to *Amỳris*, which Dr. Hamilton calls *Amỳris hexándra*, prod. fl. ined. 35. The gum resin called Bdellium is probably produced by a species of *Amỳris*, the Nioutout of Adanson, according to Verey, hist. nat. des. med. 291. is probably also a species of *Amỳris*. The layer of the liber or inner bark of a species of *Amỳris* was found by M. Gailliaud to be used by the Nubian Mahommedans as paper, on which they write their legends. Delile. cart. 13. *Amỳris ambrosiaca?* is said to be poisonous. The resin of Coumia is the produce of *Amỳris ambrosiaca*.

Synopsis of the Genera.

1 AMY'RIS. Calyx 4-toothed. Petals 4 (f. 19. *a.*). Stamens 8.

2 PACHY'LOBUS. Fruit egg-shaped, superior, 1-celled, containing a large embryo, with 3-parted, fleshy, angular, twisted cotyledons.

I. AMY'RIS (from *a* intensive, and *μυρον*, *myron*, balm; the whole of the trees in this genus smell strong of balm or myrrh). Lin. gen. no. 473. exclusive of some species, Kunth. gen. tereb. p. 22. D. C. prod. 2. p. 81.

LIN. SYST. *Octándria, Monogýnia.* Flowers hermaphrodite. Calyx 4-5-toothed, permanent. Petals 4 (f. 19. *a.*) -6, hypogynous, cuneate, unguiculate, imbricate in the bud. Stamens 8-12, shorter than the petals. Ovary 3-4-celled; cells 2-seeded, girded by a ring, seated on the thick disk-like torus. Style short, crowned by an obtuse stigma. Drupe (f. 19. *b.*) containing a 1-seeded chartaceous nut (f. 19. *c.*), some of the cells full of diaphanous mucilage.—Trees or shrubs, abounding in a resinous fluid. Leaves compound; leaflets full of pellucid dots. Flowers white, disposed in panicles. Drupe turgid, with an aromatic oil.

§ 1. *Americànæ. Leaves with* 1-3 *pairs of opposite leaflets, odd one stalked or sessile.*

1 A. MARI'TIMA (Jacq. amer. 107.) leaflets 3, sessile, odd one stalked, ovate, crenate, obtuse. ♄. S. Native of Jamaica and of Cuba, about the Havanna, on rocks by the sea-side. The shrub abounds in a juice which smells like rue.

Sea-side Amyris. Fl. June, July. Clt. 1810. Shrub 8 feet.

2 A. FLORIDA'NA (Nutt. in Sillim. journ. 5. 1822. p. 294.) leaflets 3, ovate, quite entire, obtuse, smooth; flowers somewhat panicled; berries almost globose, tapering to the base. ♄. G. Native of Eastern Florida. Leaves reticulately-veined, glandulary resinous, and fragrant. Berries black, the size of black pepper.

Florida Amyris. Shrub 10 feet.

3 A. SYLVA'TICA (Jacq. amer. 107.) leaflets 3, ovate, acuminated, somewhat crenate, all stalked, odd one longest. ♄. S. Native of Carthagena, St. Domingo, and St. Thomas, in shady woods by the sea-side. A. cymòsa, Reich. in Sieb. pl. exsic. fl. trinid. no. 29. is probably distinct from this. The whole shrub abounds in a turpentine juice, of a strong disagreeable smell. Gum elemi has erroneously been supposed to be yielded by this plant. Berry red, about the size of a pea.

Wood Amyris. Fl. June, July. Clt. 1793. Tree 15 feet.

4 A. BRASILIE'NSIS (Spreng. syst. 2. p. 217.) leaflets lanceolate, tapering to the base, rounded at the apex, mucronate, quite entire, veiny, shining above, discoloured beneath; petioles triquetrous; panicles axillary, shorter than the leaves. ♄. S. Native of Brazil.

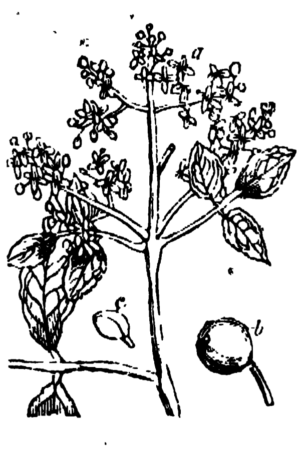
Brazilian Amyris. Clt. 1818. Tree.

5 A. DYA'TRIPA (Spreng. neue, entd. 3. p. 48.) leaflets 3, ovate, quite entire, obtuse, somewhat emarginate, all stalked, odd one longest. ♄. S. Native of St. Domingo. The specific name appears to be derived from *dyas*, two, and *tripes*, having three feet; perhaps in allusion to the stalked leaflets.

Dyatripa Amyris. Shrub 10 feet.

6 A. PLUMIE'RI (D. C. prod. 2. p. 81.) leaflets 3-5, all stalked, somewhat serrated, ovate, acuminated, villous beneath. ♄. S. Native of the Antilles.—Plum. ed. Burm. t. 100. A. elemífera, Lin. spec. p. 495.? but Catesby's figure is cited by the author, and therefore the country; this is referred to *Ptelea*. The fruit is the shape and size of an olive, but red, having an odoriferous pulp within it. Gum elemi is said to be extracted from this tree; it is brought to this country in roundish cakes, wrapped up in leaves. This resin is only used as an ingredient in a digestive ointment, called Unguentum elemi.

FIG. 19.



Plumier's Amyris or Gum-elemi-tree. Clt. 1820. Tree 20 ft.

7 A.? HEXA'NDRA (Hamilt. prod. fl. ind. occ. p. 34.) branched; leaves impari-pinnate, with 3 pairs of quite entire, ovate, bluntly and obliquely acuminated leaflets, which are somewhat decurrent down the petiole, smooth above, and reticulately veined beneath; flowers panicled, small, greenish, always hexandrous; panicles axillary and terminal; calyx cup-shaped, entire; petals 3, greenish, entire; ovary oblong, smooth, inferior; style short, with an obtuse stigma; drupe membranous, elliptic, acuminated at both ends, 1-valved. ♄. S. Native of the island of Nevis, in cold subhumid groves.—A tall tree, full of resinous fragrant juice, differing from *A. elemifera* in the leaves being smooth on both surfaces, not tomentose beneath. The tree is called *Gum Elemi-tree, Gum Elem-tree* in its native country.

Hexandrous Amyris. Fl. June, Sept. Tree 40 feet.

8 A. TOXI'FERA (Willd. spec. 2. p. 336.) leaflets 5-7, stalked, ovate, somewhat cordate, acuminated; racemes simple, about the length of the petioles. ♄. G. Native of Carolina (Cat. car. 1. t. 40.), as well as the West India islands. Lucínium, Pluk. t. 201. f. 3. A. balsamífera, Lin. spec. 496. exclusive of the synonyme of Sloane. Elemífera fòliis pinnàtis, Lin. hort. cliff. 486. The fruit hangs in bunches, of the shape of a pear, of a purple colour. A juice distils from the trunk of the tree, as black as ink, which the inhabitants of Carolina say is poisonous. The Janca-tree is said to be a very valuable timber tree, the wood bears a fine polish, and has a pleasant smell. The berries have much the taste of balsam of Capaiva. An infusion of the leaves has a very pleasant flavour, is highly cephalic, and is particularly restorative to weak eyes.

Poison-wood or White Candle-wood Amyris. Clt. 1820. Tr. 50 ft.

9 A. PINNA'TA (H. B. et Kunth, nov. gen. amer. 7. p. 37. t. 610.) leaflets 5-7, ovate, somewhat crenate, terminal one roundish-elliptical; panicles axillary, much branched. ♄. S. Native of South America, between the tropics. Branchlets and petioles puberulous. Leaves membranous, smooth. Fruit unknown.

Pinnate-leaved Amyris. Tree 20 feet.

§ 2. *Asiáticæ. Leaflets alternate, all stalked.*

10 A. HEPTAPHY'LLA (Roxb. hort. beng. p. 28.) leaflets 3-4 pairs, simple, obliquely-lanceolate, acuminated, entire; panicles branched, axillary, and terminal. ♄. S. Native of the East Indies, on the mountains bordering Silhet, where it is called *Karum-phul*. Flowers whitish-yellow. Berry oblong, 1-celled. Seed filling the berry. Disk fleshy, contracted in the middle, the lower swelling receiving the petals and stamens.

Seven-leaved Amyris. Clt. 1823. Tree.

11 A. NA'NA (Roxb. l. c.) leaflets 7, ovate-lanceolate, serrated; racemes simple, axillary, nearly the length of the leaves. ♄. S. Native of Amboyna.

Dwarf Amyris. Clt. 1822. Shrub 6 feet.

12 A. PUNCTA'TA (Roxb. hort. beng. ex Colebr. in Lin. trans. 15. t. 5. f. 3.) branches spreading; bark smooth, rusty; leaflets about 20 pairs, obliquely-oblong, crenulate, full of glandular dots, terminal one largest; petioles rather hairy; panicles terminal. ♄. S. Native of Chittagong. Flowers small, white. Disk fleshy, bearing the petals and stamens. Ovary 4-celled, tetragonal. Berry 1-celled, 1-seeded.

Dotted-leaved Amyris. Shrub.

† *Species not sufficiently known.*

13 A.? TECOMA'CA (D. C. prod. 2. p. 82.) leaves on long petioles, hanging down, trifoliate; leaflets oblong, acute, serrated; peduncles numerous, terminal, loosely panicled, dependent. ♄. S. Native of Mexico, where it is called *Tecomaca* and *Tacamahaca*, but it is distinct from the *Tacamahaca* of Hern. A. marítima, Moc. et Sesse, fl. mex. icon. ined.

Tecomaca Amyris. Clt. 1827. Tree 30 feet.

14 A.? PHILIPPÆ'A (Lunan, hort. jam. 1. p. 149.) petioles margined; leaflets 3, obovate, shining, obliquely veined. ♄. S. Native of Jamaica.

Philippean Amyris. Tree.

15 A. DENTA'TA (Willd. spec.? Blum. bijdr. 1160.) leaflets

stalked, 5-9, oblong-lanceolate, bluntly acuminated, repandly-crenulated at the top; racemes axillary, simple. ♄. S. Native of Java, where it is called *Katos.*

Toothed-leaved Amyris. Fl. Aug. Tree.

16 A.? ROBINSONII (D. C. prod. 2. p. 82.) leaves trifoliate; petioles margined; racemes lateral. ♄. S. Native of Jamaica. Lunan. hort. jam. 1. p. 169.

Robinson's Amyris. Shrub 8 feet.

17 A. BIPINNA'TA (Moc. et Sesse, fl. mex. icon. ined. D. C. prod. 2. p. 82.) leaves bipinnate at the base; leaflets numerous, small, ovate, quite entire; peduncles terminal, rather hairy, longer than the leaves. ♄. S. Native of Mexico.

Bipinnate-leaved Amyris. Shrub.

18 A. PAPYRIFERA (Gailliaud, voy. a Meroe. cent. ex Bull. scien. Aug. 1827. p. 285.) trunk arboreous, coated, with vertical, somewhat diaphanous lamina; flowers racemosely-pannicled, decandrous. ♄. G. Native of Africa, at the White River. The Nubian Mahomedans use the bark of this tree for writing their legends upon.

Paper-bearing Amyris. Tree.

Cult. The species of *Amyris* grow freely in a mixture of loam and peat, and cuttings root freely in sand, under a hand-glass, those of the stove species in heat.

II. PACHY'LOBUS (from παχυς, *pachys*, thick, and λοβος, *lobos*, a lobe; the lobes of the cotyledons are thick).

LIN. SYST. unknown. Fruit oval, black, superior, about the size of a hen's egg, 1-celled, containing a large embryo, having 2 3-parted cotyledons, the lobes large, thick, angular, and twisted.—A large tree with impari-pinnate, smooth leaves, with the leaflets nearly opposite, ovate, acuminated, entire, the young branches rather tomentose.

1 P. EDU'LIS. ♄. S. Native of the island of St. Thomas, in the Gulf of Guinea, where the fruit is much esteemed by the inhabitants, and sold in great quantities in the market of St. Ann de Chaves, under the name of *Safu:* in taste it is bitter and astringent. It is usually roasted. There is another species, which goes under the name of *Pasco*, which appears only to differ in having hairy leaves, and in the shape of the fruit. The whole description of this tree is given from memory, as we have had no specimen to examine.

Edible Safu. Fl. Nov. Tree 40 feet.

Cult. For culture and propagation see stove species of *Amyris.*

ORDER LXXVII. CONNARA'CEÆ (plants agreeing with *Connàrus* in important characters). Kunth, in ann. scienc. nat. 2. p. 359. Lindl. introd. nat. ord. 125. Terebinthàceæ, part. Juss. gen. 369. Terebinthàceæ, Tribe VII. Connaràceæ, D. C. prod. 2. p. 84.

Flowers hermaphrodite, rarely unisexual. Calyx 5-parted, regular, permanent, either imbricate or valvular in æstivation. Petals 5 (f. 20. *b.*), inserted in the calyx, imbricate, rarely valvate in æstivation. Stamens twice the number of the petals (f. 20. *c.*), hypogynous, those opposite the petals shorter than the others, usually monadelphous at the base (f. 20. *d.*). Ovary solitary or simple, or several together, each with a separate style, with an usually dilated stigma. Ovula 2, collateral, ascending. Capsules usually several, rarely single (f. 20. *k.*), dehiscent, splitting lengthwise internally. Seeds erect, in pairs, or solitary, with or without albumen, but usually furnished with aril. Radicle superior at the extremity most remote from the hilum. Cotyledons thick in the species without albumen, and leafy in those with albumen.—Trees or shrubs, with compound, dotted, alternate, exstipulate leaves, and terminal racemes or panicles of bracteate flowers. *Connàrus* can only be distinguished from *Leguminòsæ* by the relation the parts of the embryo have to the umbilicus of the seed (R. Brown, congo. 432.) that is to say by the radicle being at the extremity most remote from the hilum. The want of stipulas is, however, usually sufficient to distinguish them. It differs from *Terebinthàceæ* in the want of resinous juice.

Synopsis of the Genera.

1 CONNA'RUS. Calyx 5-parted. Petals imbricate in æstivation. Stamens somewhat monadelphous at the base. Carpels 5, each bearing a style, biovulate, some of them are usually abortive. Capsules sessile, 2-valved, 1-seeded; seeds exalbuminous. Leaves trifoliate or impari-pinnate.

2 OMPHALÒBIUM. Calyx 5-parted. Petals 5 (f. 20. *b.*), imbricate in æstivation. Stamens monadelphous (f. 20. *d.*), or somewhat polyadelphous at the base. Carpels 5, each bearing a style. Capsules 1-5, legume-formed (f. 20. *k.*), 2-valved, dehiscent. Seeds twin or solitary, exalbuminous. Leaves trifoliate or impari-pinnate.

3 EURY'COMA. Flowers polygamous. Calyx 5-parted. Petals 5, covered with glandular hairs. Stamens 5. Glands 10, twin, between the stamens. Carpels 5, joined at the base, 1-seeded. Seeds exalbuminous. Leaves pinnate.

4 CNE'STIS. Calyx 5-cleft, tomentose, valvate in æstivation. Stamens free, inserted in the calyx. Carpels 5, distinct, each bearing a style, coriaceous, 2-valved, legume-formed, opening on the back, usually prurient, 2-ovulate. Seed solitary in the capsule. Albumen fleshy. Leaves impari-pinnate.

† *A genus allied to Connaràceæ, but is not sufficiently known.*

5 TAPI'RIA. Calyx 5-parted. Petals 5. Stamens 10, both rising from the hypogynous disk. Stigmas 5, sessile. Capsule 5-furrowed, 5-valved, 5-seeded. Seeds arillate. Leaves impari-pinnate.

I. CONNA'RUS (κονναρος, *connaros*, is the name of a tree described at length by Athenæus). Lin. gen. no. 914. D. C. prod. 2. p. 84.—Roúrea, Aubl. guian. 1. p. 467. t. 187. Robérgia, Schreb. gen. no. 787. Malbráncia, Neck. elem. no. 1171.

LIN. SYST. *Decándria, Pentagýnia.* Calyx 5-parted, permanent, girding the fruit closely at the base; lobes ovate, imbricate in æstivation. Petals 5, also imbricate in æstivation. Stamens 10, somewhat monadelphous at the base, inserted in the base of the calyx. Ovaries 5, each bearing a style and containing 2 ova, 4 of which are almost always abortive, or reduced to the styles. Capsule baccate, sessile, 2-valved, bursting at the side, ovate, 1-seeded. Seed erect, inserted in the bottom of the cell, arillate at the base, destitute of albumen. Cotyledons thick.—Shrubs, with impari-pinnate leaves with 1 or many pairs of leaflets. Flowers disposed in racemose panicles, white.

1 C. MONOCA'RPUS (Lin. spec. 1. p. 678.) leaves trifoliate; leaflets ovate, acuminated, quite smooth; panicles terminal. ♄. S. Native of Ceylon. Lin. fl. zeyl. no. 248. exclusive of the synonym of Burm. Flowers yellowish.

One-fruited Connarus. Clt. 1768. Shrub 10 feet.

2 C. PUBE'SCENS (D. C. prod. 2. p. 85.) climbing; leaflets 5, oval, acute, smooth above, covered beneath with rather white pubescence. ♄. ◡. S. Native of French Guiana. Roúrea

frutéscens, Aubl. guian. 1. p. 467. t. 187. Robérgia frutéscens, Willd. spec. 2. p. 752. Flowers white, sweet-scented, disposed in axillary and terminal panicles. Fruit very like that of *C. monocárpus.*

Pubescent Connarus. Clt. 1822. Shrub 5 feet.

3 C. JAVA'NICUS (Blum. bijdr. 1166.) leaves ternate and pinnate, ovate, or elliptical-oblong, obtusely acuminated, veiny, smooth; racemes crowded, axillary; flowers pentagynous; stem sarmentose. ♄. S. Native of Java.

Java Connarus. Fl. May. Shrub 8 feet.

† *Species not sufficiently known.*

4 C.? GLA'BER (D. C. prod. 2. p. 85.) leaflets 3-5, oblong, somewhat cordate, acuminated, quite smooth; panicles axillary, twin, simple, much shorter than the leaves. ♄. S. Native of South America, on the banks of the river Orinoco, near Caycara. Roúrea glàbra, H. B. et Kunth, nov. gen. amer. 7. p. 41. Flowers white. Fruit unknown.

Smooth Connarus. Shrub 6 feet.

5 C.? SANTALOÌDES (Vahl. symb. 3. p. 87.) leaves with 2-4 pairs of ovate, acuminated, smooth leaflets, with an odd one; peduncles axillary, aggregate; flowers disposed in racemes, monogynous. ♄. S. Native of the East Indies. Santaloìdes, Lin. fl. zeyl. no. 408. Segments of calyx rounded (ex Lin.) acute (ex Vahl.). Flowers white. Fruit not sufficiently known. It is probably a species of *Omphalòbium.*

Santalum-like Connarus. Shrub 6 feet.

6 C. MIMOSOÌDES (Vahl. symb. 3. p. 87.) leaflets about 10 pairs, with an odd one, oval-oblong, emarginate; petioles and branchlets pubescent; racemes axillary; flowers monogynous. ♄. S. Native of the islands of Nicobar. This is also probably a species of *Omphalòbium.*

Mimosa-like Connarus. Shrub 6 feet.

Cult. A mixture of loam and peat will answer the species of this genus, and ripened cuttings will root in sand, under a hand-glass, in heat.

II. OMPHALO'BIUM (from ομφαλος, *omphalos*, a navel, and λοβος, *lobos*, a pod). Gært. fruct. 1. p. 217. t. 46. D. C. diss. prod. 2. p. 85.—Connàrus, species of authors.

LIN. SYST. *Monadélphia, Decándria.* Calyx 5-parted, permanent, girding the fruit loosely at the base; lobes oblong, acute, imbricate in æstivation. Petals 5 (f. 20. *b.*). Stamens 10 (f. 20. *c.*), monadelphous at the base (f. 20. *d.*), or somewhat polyadelphous. Carpels 5, each bearing a style, and containing 2 ova, some of them usually abortive. Capsules 1 (f. 20. *k.*) -5, legume-formed, 2-valved, dehiscent (f. 20. *k.*), narrowed or stipitate at the base. Seeds twin, but usually solitary, not inserted at the base, but in the lower part along the suture, arillate, without albumen. Cotyledons thick.—Trees and shrubs with imparipinnate leaves, having 1 or many pairs of leaflets. Racemes axillary, usually disposed in a terminal panicle.

§ 1. *Connaroìdea* (from their similarity to *Connàrus*, in having a solitary carpel). *D. C. prod.* 2. *p.* 85. *Carpels solitary* (f. 20. *k.*).

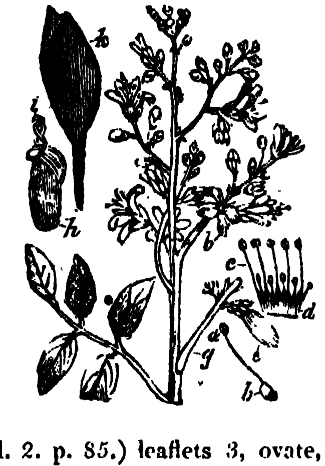
1 O. I'NDICUM (Gært. fruct. 1. p. 217. t. 46.) leaflets 3, ovate, somewhat acute, quite smooth on both surfaces, coriaceous; flowers panicled; carpels solitary, stipitate. ♄. S. Native of Ceylon. Rhús, &c. Burm. zeyl. 199. t. 89.? and therefore Connàrus Asiáticus, Willd. spec. 3. p. 691. Rhús Rædælijável, Mill. dict. no. 13.? Flowers panicled, and the stamens are, according to Gærtner, somewhat polyadelphous. Capsules nearly an inch and a half long, and evidently stalked. Radicle at the vertex of the seed.

Indian Omphalobium. Clt.? Shrub 6 feet.

2 O. AFRICA'NUM (D. C. prod. 2. p. 85.) leaflets 3, oval, acuminated, smooth on both surfaces, somewhat membranous and feather-nerved; flowers panicled; carpels solitary, stipitate. ♄. S. Native of Sierra Leone. Connàrus Africànus, Lam. dict. 2. p. 95. Cav. diss. 7. p. 375. t. 221. Connàrus venòsus, Smeathm. mss. Flowers white. Capsule about an inch and a half long, and evidently stipitate. Radicle under the top of the seed, usually germinating in a simple or branched root in the fruit (f. 20. *i.*).

African Omphalobium. Fl. Mar. Clt. 1822. Shrub 8 feet.

FIG. 20.



3 O. NERVÒSUM; leaflets 3, obovate, acuminated, 3-nerved at the base, pubescent beneath, smooth above, on long pubescent petioles; flowers terminal, panicled. ♄. S. Native of Sierra Leone.

Nerved-leaved Omphalobium. Shrub 10 feet.

4 O. GAUDICHA'UDI (D. C. prod. 2. p. 85.) leaflets 3, ovate, acuminated, quite smooth on both surfaces; fruit racemose; carpels solitary, stipitate, somewhat obovate, obtuse, smooth. ♄. S. Native of the Moluccas, in marshes by the sea-side at Rawak. Capsule 12-14 lines long, 7-8 broad. Radicle at the top of the seed.

Gaudichaud's Omphalobium. Shrub 6 feet.

5 O. LAMBE'RTII (D. C. prod. 2. p. 85.) leaflets 3, elliptical-oblong, acuminated, smooth on both surfaces, somewhat membranous; flowers panicled; carpels solitary, stipitate, incurved, a little striated, smooth. ♄. S. Native of Guiana, in the interior or sandy savannahs. Connàrus Guianénsis, Lamb. herb. Flowers white? Capsule 8-10 lines long, 5-8 broad. Radicle at the vertex of the seed.

Lambert's Omphalobium. Shrub 6 feet.

6 O. FASCICULA'TUM (D. C. prod. 2. p. 86.) leaves? fruit rising in fascicles from the branches; carpels solitary, stipitate, compressed. ♄. S. Native of French Guiana. Capsule an inch long, 5 lines broad. In the disposition of the flowers this species is very distinct.

Fascicled-flowered Omphalobium. Shrub 6 feet.

7 O. PATRI'SII (D. C. diss. with a figure,) leaflets 5-9, oval-oblong, acuminated, quite smooth on both surfaces, coriaceous; flowers panicled; carpels solitary, stipitate, obovate, blunt, smooth. ♄. S. Native of Cayenne. Leaves smooth, with 3-4 pairs of leaflets and an odd one. Carpels dehiscent. Seeds arillate.

Patris's Omphalobium. Shrub 6 feet.

8 O. THONNI'NGII (D. C. prod. 2. p. 86.) leaflets 3-5, elliptical, acute, smooth on both surfaces, somewhat membranous, feather-nerved, and almost veinless between the lateral nerves; panicle terminal; ovary hairy, solitary. ♄. S. Native of Guinea. Connàrus floruléntus, Thonn. in herb. Pucr. Leaves somewhat membranous. Flowers very numerous. Petals oblong-linear. Fruit unknown.

Thonning's Omphalobium. Shrub 6 feet.

9 O. PINNA'TUM (D. C. prod. [illegible] p. 86.) leaflets 3-5, oval-oblong, acute, quite smooth on both surfaces, feather-nerved, with the lateral veins confluent at the apex; panicle terminal, elongated; ovary solitary, downy; petals with two bristles at the base of each. ♄. S. Native of the East Indies. Connàrus pinnàtus, Lam. dict. 2. p. 95. ill. t. 572. Cav. diss. 7. p. 376. t. 222. Flowers white.

Pinnate-leaved Omphalobium. Shrub 6 feet.

10 O. SMEATHMA'NNI (D. C. prod. 2. p. 86.) leaflets 3-5, elliptical-oblong, acuminated, smooth above, somewhat ferrugineous and somewhat pubescent, feather-nerved, and finely reticulated; panicles terminal; ovary solitary, somewhat pubescent. ♄. S. Native of Sierra Leone. Leaflets 3 inches long, and about 1½ broad.

Smeathmann's Omphalobium. Shrub 12 feet.

11 O. PEROTTE'TII (D. C. prod. 2. p. 86.) leaflets elliptical-oblong, acuminated, smooth above and shining, but covered with short woolly ferrugineous down beneath; panicle terminal; carpels solitary, obovate, obtuse, somewhat stipitate, young ones clothed with deciduous rusty down, but they are smooth at length. ♄. S. Native of French Guiana. Leaflets 3-6 inches long and 1-2 inches broad.

Perottet's Omphalobium. Shrub 6 feet.

§ 2. *Cnestoídea* (plants agreeing with *Cnéstis* in having numerous carpels). *D. C. prod.* 2. *p.* 86. *Carpels numerous.*

12 O. VILLÒSUM (D. C. prod. 2. p. 86.) leaflets 3, oval, acute, tapering to the base, somewhat membranous, feather-nerved, smooth above, but clothed beneath with rusty velvety villi, as well as the panicles and carpels. ♄. S. Native of Sierra Leone. Cnéstis trifòlia, Lam. dict. 3. p. 34. Spondioìdes villòsa, Smeathm. herb. Lobes of calyx imbricate in æstivation. Carpels 1-5, tapering very much to the base. Cotyledons thick. Radicle superior. Albumen wanting.

Villous Omphalobium. Shrub 6 feet.

13 O. PENTA'GYNUM (D. C. prod. 2. p. 86.) leaflets 3, coriaceous, orbicular, acuminated, quite smooth on both surfaces, 3-nerved; panicles axillary and terminal; calyxes and ovaries villous. ♄. S. Native of Madagascar. Connàrus pentágynus, Lam. dict. 2. p. 95. Cav. diss. 7. p. 376. t. 223.

Five-styled Omphalobium. Shrub 6 feet.

Cult. See *Connàrus* for culture and propagation, p. 90.

III. EURY'COMA (from ευρυς, *eurys*, wide, and κομη, *kome*, hair; in allusion to the tufts of leaves at the tops of the branches). Jack. in Roxb. fl. ind. 2. p. 307. D. C. prod. 2. p. 86.

LIN. SYST. *Polygàmia, Diœ'cia.* Flowers polygamous. Calyx 5-parted. Petals 5, covered with glandular hairs. Stamens 5, with a pair of glands between each. Ovary 5-lobed, crowned by 5 joined styles, and 5 separate stigmas. Carpels 3-5, 1-seeded. Seeds destitute of aril and albumen.—A small tree, with pinnate, fastigiate leaves. Panicle axillary. Corolla purple.

1 E. LONGIFÒLIA (Jacq. et Wall. l. c.). ♄. S. Native of Sumatra and Singapore. Leaves 2 feet long. Flowers purple.

Long-leaved Eurycoma. Tree 20 feet.

Cult. See *Connàrus* for culture and propagation, p. 90.

IV. CNE'STIS (from κνεω, *kneo*, to scratch; in allusion to the capsules being covered with stinging hairs on the outside). Juss. gen. p. 374. Kunth, gen. tereb. D. C. prod. 2. p. 86.

LIN. SYST. *Decándria, Pentagýnia.* Calyx 5-cleft, downy on the outside, valvate in the bud. Petals 5, inserted in the bottom of the calyx as well as the 10 stamens, free. Carpels 5, (1-4) distinct, 1-styled, somewhat stipitate at the base, coriaceous, 2-valved, pod-formed, opening on the back, usually clothed with stinging hairs both inside and outside, with 2 ova in each carpel. Seeds solitary, rising from the base of the carpel, erect, destitute of aril. Albumen fleshy. Embryo straight. Cotyledons leafy. Radicle superior.—Usually scandent shrubs, with impari-pinnate leaves, and racemose panicles of flowers.

1 C. GLA'BRA (Lam. dict. 2. p. 23. ill. t. 387. f. 1.) leaflets 5-7 pairs, ovate-oblong, smooth; small racemes in fascicles; carpels obovate, obtuse, prurient. ♄. S. Native of the islands of the Mauritius and Bourbon.

Smooth Cnestis. Shrub 6 feet.

2 C. POLYPHY'LLA (Lam. dict. 2. p. 23. ill. t. 387. f. 2.) le with 8-9 pairs of ovate-oblong leaves, which are villous beneath: racemes tomentose; carpels very blunt, velvety. ♄. S. Native of Madagascar.

Many-leaved Cnestis. Clt. 1823. Shrub 8 feet.

3 C. FERRUGÍNEA (D. C. prod. 2. p. 87.) leaves with 8-10 pairs of oval-oblong leaflets, which are somewhat cordate at the base and acuminated at the apex, smooth above, but downy beneath from ferrugineous hairs as well as the petioles and branchlets. ♄. S. Native of Sierra Leone. Spondioìdes ferrugínea, Smeathm. herb.

Rusty Cnestis. Shrub 8 feet.

4 C. CORNICULA'TA (Lam. dict. 3. p. 23.) leaves with 4-5 pairs of oval-oblong, acuminated, smooth leaflets, but with the midrib beset with rusty hairs; carpels oblong, covered with stinging hairs, and drawn out at the apex into a long acumen. ♄. S. Native of Sierra Leone. Spondioìdes prùriens, Smeathm. Petals pale-red.

Horned-capsuled Cnestis. Shrub 5 feet.

5 C. RACEMÒSA; leaves pinnate; leaflets ovate-elliptic, entire, acuminated, smooth on both surfaces; racemes simple, lateral; capsules obovate, arched, very villous. ♄. S. Native of Sierra Leone.

Racemose-flowered Cnestis. Shrub 10 feet.

6 C. MONADE'LPHA (Roxb. hort. beng. p. 34.) leaves with 2-3 pairs of quite smooth, shining, ovate-lanceolate, acuminated leaflets. ♄. S. Native of the East Indies, in the province of Silhet.

Monadelphous Cnestis. Shrub 10 feet.

7 C.? PINNA'TA (Beauv. fl. d'ow. 1. p. 98. t. 60.) leaves impari-pinnate; leaflets ovate, acute; flowers corymbose, axillary, bibracteolate. ♄. S. Native of Guinea, in the kingdom of Waree. This is probably a species of *Omphalòbium.*

Pinnate-leaved Cnestis. Shrub 8 feet.

8 C. OBLÌQUA (Beauv. fl. d'ow. p. 98. t. 59.) leaflets 3, ovate, acuminated, lateral ones oblique at the base, the odd one a great distance from the lateral ones; flowers in panicles. ♄. S. Native of Guinea, in the kingdom of Waree.

Oblique-leafletted Cnestis. Shrub 6 feet.

Cult. See *Connàrus* for culture and propagation, p. 90.

V. TAPI'RIA (*Tapiriri* is the Caribbean name of the tree). Juss. gen. 372. D. C. prod. 2. p. 90.—Tapirìra, Aubl. guian. 1. p. 470. t. 188.—Salabérria, Neck. elem. no. 985.—Joncquètia, Schreb. gen. no. 785.

LIN. SYST. *Decándria, Pentagýnia.* Calyx 5-parted, deciduous, equal; sepals roundish. Petals 5, exserted from the hypogynous prominent disk, as well as the 10 stamens. Styles none. Stigmas 5. Capsule 5-furrowed, 5-valved, 5-seeded. Seeds arillate (perhaps the capsule is composed of 5 1-seeded carpels?).—A tree, with impari-pinnate leaves, having 2-3 pairs of almost opposite leaflets, and axillary and terminal panicles of flowers. This genus is excluded from *Connaràceæ* by S. Kunth, but a more apt place for its insertion in the natural system is not known to De Candolle.

1 T. GUIANE'NSIS (Aubl. l. c.). ♄. S. Native of Guiana, in the woods of Sinemari. Joncquètia paniculàta, Willd. spec. 2. p. 750. Flowers white.

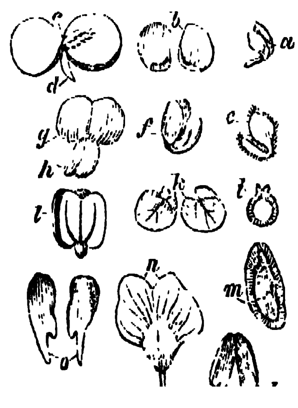
Guiana Tapiria. Tree 50 feet.

Cult. See *Connàrus* for culture and propagation, p. 90.

ORDER LXXVIII. LEGUMINO'SÆ (this order is composed of plants bearing legumes or pods like the pea). Juss. gen. 345. Gært. fruct. 2. p. 301. D. C. fl. franc. ed. 3. vol. 4. prof. med. ed. 2. p. 131. D. C. prod. 2. p. 93.—Papilionàceæ and Lomentàceæ, Lin. ord. ed. gies. p. 415.

Calyx constantly of 5 sepals (f. 31. *a.*), which are more or less connected at the base, forming a 5-cleft (f. 31. *a.*) or 5-toothed (f. 27. *a.*) calyx, never 5-sepalled, in the strict sense of the word, it is, however, sometimes composed of 1 (f. 52. *g.*) or 2 sepals from coalition or abortion (f. 43. *a.*), the teeth or segments of the calyx usually unequal, sometimes connected into 2 lips (f. 48. *a.*); the upper lip bidentate (f. 48. *a.*); the lower one trifid (f. 48. *a.*). Petals usually 5 (f. 27. *c.* f. 47. *c.*), generally unequal, inserted in the bottom of the calyx, rarely in the torus, usually variously imbricated in æstivation, rarely valvate, generally free, rarely joined into a gamopetalous corolla (sometimes, however, the petals are wanting, and sometimes the corolla is formed of 1, 2, 3, or 4 petals only). Stamens inserted with the petals, usually double the number of the petals, rarely triple or quadruple that number or fewer, sometimes all free (f. 54. *b.* f. 56. *c.* f. 24. *c.*), sometimes variously connected or monadelphous, with the staminiferous tube entire (f. 29. *c.*), or cleft in front (f. 27. *d.*), or diadelphous, usually with 9 joined and 1 free (f. 44. *d.*), rarely joined in 2 equal bundles, containing 5 stamens each, and more rarely connected into 3 bodies. Anthers 2-celled (f. 23. *f.*), sometimes some of them are changed into abortive threads. Ovary oblong (f. 23. *d.*) or ovate, sessile (f. 25. *d.*) or stipitate (f. 58. *d.*), usually free, rarely with the stipe adnate to the calyx. Style filiform (f. 25. *c.* f. 31. *d.*), rising from the top of the upper suture of the ovary, crowned by a terminal (f. 44. *c.*) or lateral stigma. Legume usually 2-valved (f. 29. *d.*), membranous, coriaceous, rarely fleshy or drupaceous, dehiscent (f. 29. *d.*) or indehiscent (f. 44. *g.*), 1-celled (f. 52. *h.*), sometimes longitudinally 2-celled from the upper suture being bent in so much, or often transversely many-celled in consequence of the seeds being separated by spongy or membranous substance (f. 49. *e.*), often separating into 1-celled joints (f. 41. *c.*). Seeds usually numerous (f. 29. *d.*), rarely solitary (f. 36. *c.*) or twin (f. 56. *c.*) from abortion, fixed to the upper suture of the legume (f. 56. *e.* f. 52. *h.* f. 29. *d.*), alternately inserted in both valves, usually oval (f. 29. *d.*) or kidney-shaped (f. 51. *e.*), hanging by various shaped funicles, rarely expanded into aril. Testa or spermaderm smooth, usually very smooth and hard. Endopleura usually tumid, appearing like albumen. Embryo sometimes straight (f. 21. *i. l. m.*), sometimes with the radicle curved back upon the edge of the cotyledons, and lying in the commisure formed by them (f. 21. *e. f. b.*), but in either case the radicle is directed towards the hilum (f. 21. *i. m.*). Cotyledons leafy, flat (f. 21. *a. f.*), changing through germination, or fleshy (f. 21. *c. g.*), (the flesh farinaceous or oily), in a few they are exserted from the spermaderm (f. 21. *c.*), others are inclosed in it, as the common pea, never changing through germination (f. 20.).

FIG. 21.



This order is composed of trees, shrubs, or herbs, with very variable habits. The leaves usually alternate and bistipulate, simple, but usually variously compound, generally pinnate or bipinnate, petiolate. Petioles usually bicallous at the base, sometimes the petiole is dilated into a leafy limb, when this is the case it is called a phyllodium. Flowers of various hues, axillary or terminal, disposed in racemes or panicles, rarely solitary.

Leguminòsæ is a vast and very natural order, diffused throughout the world, and is supposed by Humboldt to be a twelfth of all the phænogamous plants or vasculares, and we think he has not underrated it. This is the family to which the various kinds of pulse belong, and is one of the most familiar to the world. Their papilionaceous or pea flowers characterize the greater number, and their legumes or pea pods the remainder, with very few exceptions. As objects of ornament many are possessed of unrivalled beauty; for example, *Robìnia*, *Labúrnum*, *Wistària*, *Lupìnus*, *Astrágalus*, *Erythrìna* or *Coral-flower*, &c. Great, however, as is the beauty of the *Leguminòsæ* which can brave the inclemencies of the seasons of northern Europe, it must give way before the splendour and elegance of those of the tropics. The flowers of *Amhèrstia* and *Erythrìna* are of the deepest crimson, and borne in profusion upon some of the loftiest trees of the forest. But these are surpassed by the elegant fine-leaved *Acacias*, with their golden flowers, which cast a charm even over the most sterile deserts of Africa. While the forests of hot countries are thus indebted to species of this order for their timber, the meadows and pastures of the same latitudes are enamelled with the flowers of myriads of *Indigóferas*, *Hedysàrums*, and *Desmòdiums*, and animated by the wonderful motion of the sensitive plants. In our own country, the gayest part of our scenery is in many places indebted to the furze and broom, so in other countries the same effect is produced by other genera of *Leguminòsæ*; by *Lipària* and *Aspálathus* at the Cape of Good Hope, and by the *Pultenæ'as* and *Davièsias*, and similar genera in New Holland. The wood of the order is very hard and durable, with a yellow tinge, sometimes changing into green, as in the *Laburnum* of Europe, and in the better known Brazil-wood of commerce, produced by *Cæsalpìnia Brasiliénsis*.

The following remarks upon the properties of the order are made by M. de Candolle: The family of Leguminous plants, though established upon characters of primary importance, offers nevertheless so large a number of species, and such singular botanical anomalies, that it is easy to foresee that its properties will exhibit little uniformity. Still more exceptions may be anticipated, if one reflects that the chemical principle which is found most abundantly in every part of leguminous plants, and to which we must attribute their principal properties, is the extractive. It is probable that this principle, either from its own nature or from its peculiar power of uniting with different matters, or perhaps instead of being a simple principle, it is rather a compound of different matters; it is probable, I say, that this extractive principle exhibits much less uniformity in its results than any other. It is without doubt to the presence of the extractive principle in considerable quantities that many leguminous plants owe their purgative properties, which are common to several extracts, and which many chemists attribute to the acetate of potass, which they are almost universally found to contain. Thus the leaves and pods of *Càssia sénna*, and several other species, the *Colùtea arboréscens* of *Genista púrgans*, and of *Coronilla E'merus* act as brisk purgatives, and often cause pain in the bowels. The juice of *Coronílla vària* excites vomiting. It is perhaps from a different cause that the pulp, which is contained in the husks of leguminous plants, operates upon the human body, being gently laxative without causing the least pain; such is the character of *Cathartocárpus fístula*, *Tamaríndus I'ndica*, *Ceratónia síliqua*, and probably some species of *I'nga* and *Párkia*. There is a juice which surrounds the seeds in the tumid pods of *Gleditschia* and *Sophòra*, which differs altogether in its very astringent nauseous flavour. It is undoubtedly to a secretion from the external part of the seed, or of the pericarp, or some one of these modifications, that the singular property of the *Piscídia* and many *Galègas* is derived, which are employed in America to stupify fish, which are taken by this means as readily as by *Nux vomica*. The decoction of the root of *Galèga Virginiàna* is considered in America as a powerful vermifuge. It is perhaps to the extractive principle that the rubefacient powers of the fresh leaves of some leguminous plants are to be attributed, which act readily upon the skin if applied in plasters; as for example, the leaves of *Ornìthopus scorpioìdes* and *Morínga pterogospérma*. It appears that it is to the greater or less considerable mixture of the extractive principle with the fæcula contained in the seed, that the different properties of the pulse of leguminous plants may be attributed. If found in small quantities, the seed may serve as food for man and animals, as we see in French beans, scarlet runners, beans and peas, &c. If found in a more considerable quantity, it will render them purgative or emetic, as in *Cýtisus Labúrnum* and *Anagỳris fœ'tida*, &c., and most of those belonging to the subdivision *Phyllólobæ*. The seeds of leguminous plants also present many other anomalies more difficult to reduce to any fixed laws; thus some are found which contain a rather large portion of fixed oil, such as the seed of the *A'rachis hypogyæ'a* and *Morínga pterogospérma*, which produces oil of ben; there are some of which the smell and flavour are rather powerful, as the seed of *Dípterex odòra* or Tonquin bean; there are others, which, like the chick pea, have rather a bitter taste and exciting properties, and are on that account administered for the jaundice. There are others again, like those of the *Andìra*, which are so bitter as to be used in Java and Brazil as tonic, alexiteric, and vermifuge. In short, are not the aperient and diuretic qualities which are observable in the roots and herbage of many leguminous plants, such as broom, beans, *Onònis*, &c. to be attributed to a modification of this extractive principle? There are, in another view, roots which are tuberous, and furnish mankind with wholesome food, as *Láthyris tuberòsus*, *Dólichos tuberòsus*, and *D. bulbòsus*, which last the Indians use for food. The roots of liquorice have a sweet and mucilaginous taste, which, united to an acrid and rather exciting principle, causes it to be employed as a pectoral. It may be here added, that the sweet flavour of liquorice and its properties are not confined to the genus, but is found equally in the roots of many other plants of the order, as *A'brus precatòrius*, various species of *Trifòlium*, &c. The bark of some trees of leguminous plants is remarkable for its bitterness, and is used as febrifuges; the different kinds of *Geoffroya* and *Andìra* possess this bitter and febrifugal quality in a remarkable degree. In India the barks of the *Agàti grandiflòra* and of the *Guilandìna Bonducélla* are employed for the same purpose. The barks of many leguminous plants are also remarkable for their astringent qualities, caused by the quantity of tannin which they are found to contain; this is observable in the *Acàcia Cátechu* and *A. Arábica*, which are used for tanning leather. It is well known that almost all colouring matter proceeds from the extractive principle, and this principle abounds in *Leguminòsæ*. To this family belong the principal blue colours known by the name of Indigo, extracted from every kind of *Indigófera*, and from some *Tephròsias*; and the red colours are yielded by all the species of *Cæsalpinia*, and of *Hæmatóxylon* or Logwood. We may add the red juice which is drawn from the *Pterocárpus Dràco* and *Santalìnus*, under the name of Sandal and Dragon's blood; from *Butea*, under the name of Gum lac, and also from *Dalbérgia Monetària*. The red juice of *Erythrophlèum* or Gregree-tree, is used as an ordeal in Africa. These juices appear to differ in many particulars, but their history and analysis being unknown, it is impossible to form an estimate of the nature of their differences.

Among the exotic drugs employed in the arts, are the balsam of Copiva, produced by the *Copaifera*; the balsam of Peru, which Mutis says is produced by *Myrospérmum peruíferum*, and the balsam of Tolu from *Myrospérmum toluíferum*, the cachou, which has been found to be almost pure tannin, and which is supposed to be produced by *Acàcia Cátechu*. Of the same character is that remarkable resin that is yielded by *Hymenæ'a Coúrbaril*; gum Arabic, produced by the bark and roots of *Acàcia vèra*, *Sénegal*, *Arábica*, and others; gum tragacanth, obtained from *Astrágalus Créticus*, *gúmmifer*, and *vèrus*; and, finally, manna is secreted by *Alhàgi Mauròrum*.

It is remarkable that the botanical characters of *Leguminòsæ* should so strictly agree with the properties of their seeds; the latter may be divided into two sections, namely, the first *Sarcólobæ*, or those of which the cotyledons are thick (f. 21. *c. g.*), and filled with fecula, and destitute of cortical pores, and which, moreover, in germination do not undergo any change, but nourish the young plant by means of that supply of food which they already contain; second, the *Phyllólobæ*, or those of which the cotyledons are thin (f. 21. *a. f.*), with a very little fecula, and furnished with cortical pores, and which change at once into leaves at the time of germination, for the purpose of elaborating food for the young plant. All the seeds of *Sarcólobæ* are used as food in different countries, and none of those of *Phyllólobæ* are ever so employed.

M. de Candolle's arrangement of *Leguminòsæ* being here adopted, it will be useful to explain the principles on which it is founded. He divides *Leguminòsæ* into two grand divisions.

the first of which consists of plants, the radicle of whose embryo is curved back upon the edge of the cotyledons (f. 21. *b. e. f.*); the second, of those whose radicle and cotyledons are straight (f. 21. *i. k. l. m.*); the former is called *Curvémbriæ*, the latter *Rectémbriæ*. In the *Curvémbriæ* certain diversities in the structure of the calyx and corolla again divide into two principal forms, one of which, comprehending all the genera with papilionaceous flowers (f. 27.), is called *Papilionàceæ*, and the other consisting of a very small number of species with 1 or 2 petals or more, and an obscurely lobed calyx, is called *Swartzièæ* (f. 52.). The last is not subdivided, but the *Papilionaceæ* resolve themselves into two great tribes, namely, those with fleshy cotyledons (f. 21. *c.*) and catable pulse called *Sarcólobæ*, and those with foliaceous cotyledons (f. 21. *a. f.*), and seeds which are not catable, called *Phyllólobæ*, each of these is divisible by three upon slight differences in the fructification. In the *Rectémbreæ* two suborders, *Mimòseæ* (f. 53. f. 54.) and *Cæsalpineæ* (f. 56. f. 57.), are formed upon variations in the æstivation of the calyx and corolla; in the former it is valvate, in the latter imbricated; the first constitutes a single tribe, the latter divides into three. Having thus explained the principles upon which *Leguminòsæ* is arranged, the following synopsis of the genera will be intelligible.

Synopsis of the Genera.

DIVISION I.

CURVE'MBRIÆ. Radicle bent back upon the edge of the lobes of the cotyledons in embryo (f. 21. *b. c. f.*).

SUBORDER I.

PAPILIONA'CEÆ. Embryo with the radicle lying in the fissure of the cotyledons (f. 21. *b. e. f.*). Sepals imbricate in æstivation or somewhat valvate. Petals disposed in a papilionaceous manner (f. 24. *b.* f. 25. *b.* &c.). always irregular, the upper one is called a vexillum (f. 21. *n.*), the two side ones wings (f. 21. *o.*), and the lower one, which is usually composed of 2 petals, the keel (f. 21. *p.*). Stamens inserted in the bottom of the calyx, or perigynous.

§ 1. *Phyllólobæ. Cotyledons thin, leafy* (f. 21. *a. f.*).

TRIBE I.

SOPHO'REÆ. *Flowers papilionaceous* (f. 24. *b.* f. 22. *c.* &c.). *Stamens* 10, *unconnected* (f. 23. *f.* f. 24. *c.*). *Legume continuous, not articulated* (f. 22. *d.*). *Cotyledons flat, leafy* (f. 21. *a. f.*).

1 MYROSPE'RMUM. Calyx campanulate, 5-toothed, superior petal larger than the rest. Legume stipitate, naked at the base, and winged at the apex, indehiscent, 1-celled, 1-2-seeded. Seeds enveloped in balsamic juice. Trees, with pinnate leaves.

2 SOPHÒRA. Calyx 5-toothed (f. 22. *a.*), campanulate. Petals of keel usually concrete at the apex. Legume wingless, moniliform, many-seeded (f. 24. *d.*). Trees, with impari-pinnate leaves, and variable flowers.

3 EDWA'RDSIA. Calyx oblique, 5-toothed. Petals connivent. Keel long. Legume moniliform, 2-valved, 4-winged, many-seeded. Shrubs, with impari-pinnate leaves, and yellow flowers.

4 ORMÒSIA. Calyx 5-parted, bilabiate. Vexillum roundish, hardly longer than the keel and wings. Legume woody, compressed, 2-valved, 1-3-seeded. Trees, with impari-pinnate leaves, and blue or purple flowers.

5 VIRGI'LIA. Calyx 5-cleft. Petals about equal in length. Vexillum flat. Legume compressed, oblong, 2-valved, many-seeded. Trees, with impari-pinnate leaves, and purplish and yellow flowers.

6 MACRÓTROPIS. Calyx cup-shaped, inflated, 5-toothed. Keel longer than the vexillum. Legume straight, compressed or subterete, many-seeded. Shrubs, with impari-pinnate leaves and white flowers.

7 ANAGY'RIS. Calyx 5-toothed, somewhat bilabiate. Wings longer than the vexillum and keel. Legume on a short stipe, compressed, many-seeded, 2-valved. Shrubs, with trifoliate leaves and yellow flowers.

8 PIPTA'NTHUS. Calyx 5-toothed, somewhat bilabiate at the apex. Vexillum with subincurved edges. Wings involute at the apex. Keel obtuse, bifid. Legume linear, stipitate, many-seeded. A shrub, with trifoliate leaves and yellow flowers.

9 THERMÓPSIS. Calyx campanulate, 4-5-cleft, somewhat bilabiate, convex behind. Petals nearly equal. Vexillum with reflexed sides. Legume compressed, falcate or linear, many-seeded. Perennial herbs, with trifoliate leaves and yellow flowers.

10 BAPTÍ'SIA. Calyx half 4-5-cleft, bilabiate. Petals nearly equal. Vexillum with reflexed edges. Legume ventricose, pedicellate, many-seeded. Perennial herbs, with trifoliate, rarely simple leaves, and yellow and blue flowers.

11 CYCLÒPIA. Calyx 5-cleft, thrust in at the base. Stigma bearded. Vexillum large. Wings with a transverse plait. Keel mucronate. Legume compressed, pedicellate, 1-celled, many-seeded, coriaceous. Shrubs, with sessile trifoliate leaves and yellow flowers.

12 PODALY'RIA. Calyx 5-cleft, thrust in at the base. Vexillum large. Keel covered by the wings. Stamens rather connate at the base. Legume sessile, ventricose, many-seeded. Shrubs, with simple leaves and red or white flowers.

13 CHORIZE'MA. Calyx half 5-cleft, bilabiate. Keel ventricose, shorter than the wings. Legume ventricose, 1-celled, many-seeded, sessile or subsessile. Shrubs, with simple, toothed or entire leaves, and yellow and red flowers.

14 PODOLÒBIUM. Calyx 5-cleft, bilabiate. Vexillum spreading. Legume stalked, linear-oblong, smooth inside, 4-seeded. Shrubs, with simple, lobed or entire leaves, and yellow and red flowers.

15 OXYLÒBIUM. Calyx deeply 5-cleft (f. 23. *a.*), somewhat bilabiate. Vexillum spreading (f. 23. *b.*). Legume sessile (f. 23. *d.*) or subsessile, many-seeded, ventricose, ovate, acute. Little shrubs, with whorled leaves and yellow flowers.

16 CALLI'STACHYS. Calyx 5-cleft, bilabiate. Vexillum erect. Legume stipitate, woody, opening at the top, many-seeded. Shrubs, with entire, scattered, or whorled leaves, and yellow flowers.

17 BRACHYSE'MA. Calyx 5-cleft, ventricose. Vexillum shorter than the wings or keel. Legume ventricose, many-seeded. Procumbent or climbing shrubs, with simple entire leaves, and scarlet or greenish-yellow flowers.

18 GOMPHOLÒBIUM. Calyx 5-parted. Vexillum spreading.

Legume many-seeded, rather spherical, and very obtuse. Shrubs, with impari-pinnate or palmately 3-5-foliate leaves, and yellow flowers.

19 BURTÒNIA. Calyx deeply 5-cleft. Petals about equal in length. Legume roundish, rather ventricose. Shrubs, with awl-shaped, trifoliate, sessile leaves, and yellow flowers.

20 JACKSÒNIA. Calyx 5-parted. Petals and stamens deciduous. Legume rather ventricose, ovate or oblong, with the valves pubescent inside. Shrubs, almost leafless in the adult state, with filiform branches, and yellow flowers.

21 VIMINA'RIA. Calyx 5-toothed, angular. Petals equal in length. Legume valveless, ovate. Shrubs, in the adult state leafless. Flowers yellow.

22 SPHÆROLÒBIUM. Calyx 5-cleft, bilabiate. Legume spherical, 1-2-seeded, pedicellate. Shrubs, in the adult state nearly leafless, when present simple, with red or yellow flowers.

23 AÒTUS. Calyx 5-cleft, bilabiate. Petals and stamens deciduous. Legume 2-valved, 1-2-seeded. Shrubs, with simple narrow leaves and yellow flowers.

24 DILLWY'NIA. Calyx 5-cleft, bilabiate, tapering to the base. Vexillum large, 2-lobed. Legume ventricose, 1-2-seeded. Seeds strophiolate. Shrubs, with simple leaves and yellow flowers.

25 EUTA'XIA. Calyx 5-cleft, bilabiate. Vexillum broad. Legume rather ventricose, 1-2-seeded. Seed strophiolate. Shrubs, with simple leaves and yellow flowers.

26 SCLEROTHA'MNUS. Calyx 5-cleft, bilabiate, bibracteate at the base. Keel length of wings. Legume ventricose, pedicellate, 2-seeded. A shrub, with simple leaves and yellow flowers.

27 GASTROLÒBIUM. Calyx 5-cleft, bilabiate. Keel length of wings. Legume ventricose, 2-seeded. Seeds strophiolate. Shrubs, with simple leaves, disposed 4 in a whorl, and yellow flowers.

28 EUCHI'LUS. Calyx deeply 5-cleft, bibracteolate at the base, bilabiate, lower lobes setaceous. Keel length of wings. Legume compressed, pedicellate, 2-seeded. Seed strophiolate. Shrubs, with opposite simple leaves and yellow flowers.

29 PULTENÆ'A. Calyx 5-cleft, somewhat bilabiate (f. 24. *a.*), bibracteolate at the base. Legume sessile (f. 24. *d.*), 2-seeded. Shrubs, with simple alternate leaves.

30 DAVIE'SIA. Calyx angular, 5-toothed. Keel shorter than the wings. Legume compressed, angular, opening elastically at the lower suture, 2-seeded, pedicellate. Seeds strophiolate. Spiny or unarmed shrubs, with simple leaves, sometimes leafless, and yellow flowers.

31 MIRBE'LIA. Calyx 5-cleft, bilabiate. Legume 2-seeded, longitudinally 2-celled, from the suture being bent inwards above. Shrubs, with ternately verticillate leaves and purple flowers.

TRIBE II.

LO'TEÆ. *Corolla papilionaceous* (f. 25. *b.*). *Stamens* 10, *monadelphous* (f. 25. *c.* f. 29. *c.*) *or diadelphous, that is to say,* 9 *joined, and* 1 *free. Legume continuous,* 1-*celled* (f. 29. *d.*), *rarely* 2-*celled, from the upper suture being bent inwards. Cotyledons flat, foliaceous* (f. 21. *a. f.*).

SUBTRIBE I. GENI'STEÆ. *Legume* 1-*celled* (f. 26. *d.* f. 29. *d.*). *Stamens usually monadelphous* (f. 25. *c.* f. 27. *d.* f. 29. *c.*). *Leaves simple or palmately trifoliate, rarely pinnate. Stems usually shrubby.*

32 HÒVEA. Calyx 5-cleft, bilabiate (f. 25. *a.*). Keel obtuse (f. 25. *f.*). Stamens monadelphous (f. 25. *c.*), upper one more or less free. Legume sessile (f. 25. *d.*), roundish, ventricose, 2-seeded. Seeds strophiolate. Shrubs, with alternate simple leaves and purplish flowers.

33 PLAGIOLÒBIUM. Calyx bilabiate (f. 26. *a.*), upper lip broad, retuse, lower one 3-parted. Keel obtuse (f. 26. *c.*). Stamens diadelphous, 9 joined, and 1 free. Legume oblique (f. 26. *d.*), coriaceous, ventricose, 2-seeded. Seeds strophiolate. Shrubs, with simple spiny-toothed leaves, and blue flowers.

34 PLATYLÒBIUM. Calyx 5-cleft, bracteate, bilabiate. Stamens all connected. Legume pedicellate, compressed, flat, many-seeded, winged on the back. Shrubs, with opposite simple leaves and yellow flowers, with the base of the vexillum red.

35 BOSSLE'A. Calyx 5-cleft (f. 27. *a.*), bilabiate. Stamens monadelphous (f. 27. *d.* f. 28. *b.*). Legume compressed (f. 28. *c.*), pedicellate (f. 27. *e.*), many-seeded, with the margins thickened on both sides. Seeds strophiolate. Shrubs, with flat or terete branches, and alternate simple leaves, when present, and yellow flowers, with the keel usually red or brown.

36 GOÓDIA. Calyx 5-cleft, bilabiate. Vexillum large, flat. Stamens all connected. Legumen pedicellate, compressed. Seeds strophiolate. Shrubs, with alternate, stalked, trifoliate leaves, and yellow flowers.

37 SCO'TTEA. Calyx bracteate, 5-toothed. Stamens all connected. Vexillum very short. Legume stalked, compressed, thickened at the sutures. Seeds 3-4, strophiolate. Shrubs, with toothed simple leaves and reddish flowers.

38 TEMPLETÒNIA. Calyx 5-toothed. Stamens all connected, the tenth sometimes free. Keel oblong, rather longer than the wings. Legume pedicellate, compressed, many-seeded. Seeds strophiolate. Shrubs, with alternate, simple, wedge-shaped leaves and scarlet flowers.

39 RA'FNIA. Calyx cleft in 5 lobes to the middle, lowest lobe setaceous. Keel obtuse. Vexillum roundish. Stamens monadelphous. Legume lanceolate, compressed, many-seeded. Shrubs, with alternate simple leaves and yellow flowers.

40 VASCÒA. Calyx half 5-cleft. Lobes acute, not spinose. Vexillum roundish. Stamens monadelphous. Legume compressed, sessile, many-seeded. Shrubs, with simple, stem-clasping leaves, upper ones opposite, lower ones alternate, and yellow flowers.

41 BORBÒNIA. Calyx 5-cleft; lobes spiny at apex. Corolla villous. Vexillum emarginate. Keel obtuse. Stamens monadelphous. Legume linear, flat, many-seeded. Shrubs, with simple, alternate, stem-clasping leaves and yellow flowers.

42 ACHYRÒNIA. Calyx 5-toothed, lower tooth elongated and bifid. Stamens diadelphous. Legume compressed, many-seeded. Shrubs, with habit of last genus, with yellow flowers.

43 LIPA'RIA. Calyx thrust in at the base, 5-lobed, lower lobe very long, elliptic, petaloid. Corolla smooth. Keel acute.

Stamens diadelphous. Legume ovate, few-seeded. Shrubs, with lanceolate leaves, which are pungent at the apex, and fulvous flowers.

44 Priestle'ya. Calyx 5-lobed, subilabiate. Corolla smooth. Wings falcate. Stamens diadelphous. Legume sessile, compressed, 4-6-seeded. Shrubs, with simple leaves and yellow flowers.

45 Ha'llia. Calyx 5-cleft. Keel obtuse. Stamens monadelphous, entire. Legume membranous, 2-valved, 1-seeded. Suffruticose herbs, with simple leaves and purple flowers.

46 Heyla'ndia. Calyx 5-cleft. Keel obliquely truncate, acuminated. Stamens monadelphous, cleft in front. Legume compressed, 1-seeded. Suffruticose herbs, with cordate, roundish leaves and yellow flowers.

47 Crotala'ria. Calyx 5-lobed, subilabiate. Vexillum cordate, large. Keel falcate, acuminated. Stamens monadelphous. Style bearded laterally. Legume turgid, with ventricose valves, usually many-seeded. Herbs or shrubs, with simple or palmately compound leaves and usually yellow flowers, rarely purplish.

48 Cla'vulum. Calyx 5-cleft, somewhat bilabiate. Vexillum somewhat plicate. Keel large, short. Wings short. Stamens monadelphous, with the tube cleft. Style acute. Legume inflated, many-seeded.

49 Hypocaly'ptus. Calyx 5-lobed, thrust in at the base. Stamens monadelphous. Legume compressed, lanceolate. A smooth shrub, with trifoliate leaves and purple flowers.

50 Vibórgia. Calyx tubular, 5-toothed. Vexillum obovate. Keel obtuse. Stamens monadelphous, cleft in front. Legume compressed, 1-seeded, winged on the upper side, and with ventricose valves. Shrubs, with trifoliate leaves and yellow flowers.

51 Loddige'sia. Calyx rather inflated, acutely 5-toothed. Vexillum shorter than the wings or keel. Stamens monadelphous. Ovary oblong, 2-4-ovulate, compressed. Shrubs, with trifoliate leaves and reddish-white flowers.

52 Dichi'lus. Calyx tapering at the base, 5-toothed, deeply bilabiate; teeth all acute. Vexillum shorter than the obtuse keel. Stamens monadelphous, with the sheath cleft in front. Ovary linear, 8-ovulate. A shrub, with trifoliate leaves and white or yellow flowers.

53 Lebe'ckia. Calyx 5-cleft; lobes acute. Stamens monadelphous, with the sheath cleft in front. Legume cylindrical, many-seeded. Shrubs with the habit of *Genísta*, with simple or trifoliate leaves and yellow flowers.

54 Sarcophy'llum. Calyx 5-parted, regular, 2 superior teeth divaricate. Keel obtuse. Stamens monadelphous. Legume compressed, elongated, falcate, many-seeded. A shrub, with fascicles of filiform fleshy leaves and yellow flowers.

55 Aspa'lathus. Calyx 5-toothed. Vexillum stipitate. Stamens monadelphous, with the sheath cleft in front. Legume oblong, few-seeded. Shrubs, with fascicled leaves, usually trifoliate and sessile, and usually yellow flowers.

56 U'lex. Calyx 5-toothed, bibracteate, 2-parted. Stamens monadelphous. Legume short, turgid, few-seeded. Shrubs, with spiny branches and leaves, and yellow flowers

57 Stauraca'nthus. Calyx 5-toothed, bilabiate. Stamens monadelphous. Legume long, exserted, flat, many-seeded. Shrub with the habit of *U'lex*, with yellow flowers.

58 Spa'rtium. Calyx spathaceous, cleft above, 5-toothed, subilabiate. Vexillum roundish. Keel acuminated. Stamens monadelphous. Legume compressed, many-seeded. Shrub, with lanceolate, scattered leaves and yellow flowers.

59 Geni'sta. Calyx 5-toothed, bilabiate (f. 29. *d.*). Vexillum obtuse (f. 29. *a.*). Keel oblong (f. 29. *b.*). Stamens monadelphous (f. 29. *c.*). Legume compressed, rarely somewhat turgid (f. 29. *d.*), few or many-seeded. Unarmed or spiny shrubs, with simple or trifoliate leaves and yellow flowers.

60 Cy'tisus. Calyx bilabiate, upper lip usually entire, lower one 3-toothed. Vexillum large. Keel obtuse. Stamens monadelphous. Legume compressed, many-seeded. Shrubs or trees, with trifoliate leaves, and yellow, purple, or white flowers.

61 Adenoca'rpus. Calyx 5-cleft, obconical, usually glandular, bilabiate. Keel obtuse. Stamens monadelphous. Legume oblong, flat, covered with pedicellate glands. Shrubs, with trifoliate leaves and yellow flowers.

62 Onónis. Calyx campanulate, 5-cleft, with the segments linear. Vexillum large. Stamens monadelphous, one of which is sometimes nearly free. Legume usually turgid, few-seeded. Herbs or shrubs, with simple, trifoliate, rarely impari-pinnate leaves and variable flowers.

63 Requie'nia. Calyx 5-toothed, acute. Keel obtuse. Stamens monadelphous, with the sheath cleft in front. Legume oval, compressed, 1-seeded. Shrubs, with bistipulate, obcordate, simple leaves.

64 Anthy'llis. Calyx tubular, 5-toothed, more or less inflated after flowering. Petals about equal in length. Stamens monadelphous. Legume ovate, 1-2-seeded, rarely oblong-linear and many-seeded, covered by the calyx. Shrubs or herbs, with trifoliate or impari-pinnate leaves, and yellow, white, or red flowers.

Subtribe II. Trifolie'æ. *Legume 1-celled* (f. 30. *c.* f. 31. *c.*). *Stamens diadelphous* (f. 31. *b.*). *Stems herbaceous, rarely frutescent. Leaves usually palmately 3-5-foliate, rarely impari-pinnate, primordial ones alternate.*

65 Medica'go. Calyx subcylindrical, 5-cleft. Keel remote from the vexillum (f. 30. *b.*). Legume many-seeded, of various forms, usually spirally twisted (f. 30. *c.*). Herbs or shrubs, with yellow or red flowers.

66 Hymenoca'rpus. Calyx subcylindrical, 5-cleft. Keel remote from the vexillum. Legume membranous, compressed, arched. Herbs, with yellow flowers.

67 Trigone'lla. Calyx campanulate, 5-cleft. Keel small, but with the wings and vexillum spreading, appearing like a 3-petalled corolla. Legume oblong, compressed, or cylindrical, many-seeded. Herbs, with yellow and white flowers.

68 Pocóckia. Calyx campanulate, 5-toothed. Keel shorter than the wings and vexillum. Legume longer than the calyx, membranous, compressed, winged. An upright herb, with yellow flowers.

69 MELILÒTUS. Calyx tubular, 5-toothed. Keel shorter than the wings or vexillum. Legume longer than the calyx, coriaceous, 1 or many-seeded, of various forms. Herbs, with yellow or white flowers.

70 TRIFÒLIUM. Calyx tubular, 5-cleft (f. 31. *a.*). Keel shorter than the wings and vexillum. Legume small (f. 31. *c.*), hardly dehiscent, shorter than the calyx, usually ovate, 1-2-seeded, rarely oblong, 3-4-seeded, and a little longer than the calyx. Herbs, with variable flowers.

71 ACROPÒDIUM. Calyx 5-cleft. Vexillum short, hispid. Wings bidentate. Stamens diadelphous. Legume ovate-oblong, usually 2-seeded, stalked. A subshrub, with fascicled leaves, and 3-flowered axillary racemes.

72 DORY'CNIUM. Calyx subcampanulate, bilabiate, rather gibbous at the base. Wings shorter than the vexillum. Keel almost mutic. Stigma capitate. Herbs or subshrubs, with white or red flowers.

73 LÒTUS. Calyx tubular, 5-cleft. Wings and vexillum nearly equal. Keel beaked. Legume cylindrical or compressed, wingless. Stigma subulate. Herbs, usually with yellow flowers.

74 TETRAGONÒLOBUS. Calyx tubular, 5-cleft. Wings shorter than the vexillum. Keel beaked. Stigma funnel-shaped, at length obliquely beaked. Legume furnished with 4 marginal wings. Herbs, with red or yellow flowers.

75 HOSA'CKIA. Calyx campanulate, 5-cleft (f. 32. *a.*). Wings equal in length to the vexillum (f. 32. *b.*). Keel beaked. Stigma capitate. Legume cylindrical, or rather compressed, straight. Herbs, with impari-pinnate leaves, and variegated flowers.

76 CARMICHÆ'LIA. Calyx cup-shaped, 5-toothed. Vexillum broad. Ovary many-seeded. Legume few-seeded, with the valves separating at both margins, leaving the dissepiments upon the plant after the seeds have fallen. A shrub, with flat branches and blue flowers, and the leaves pinnate when present.

77 CYAMÒPSIS. Calyx turbinately-tubular, 5-cleft; lobes lanceolate-awl-shaped, 2 upper ones remote. Flowers with a roundish vexillum, oblong wings, and a 2-petalled, straight, acute keel, all nearly equal in length. Stamens monadelphous. Stigma capitate. Legume compressed, many-seeded. An herb, with purple flowers.

SUBTRIBE III. CLITÒRIÆ. *Legume 1-celled* (f. 34. *c.*). *Stamens usually diadelphous* (f. 31. *d.*). *Stems herbaceous or suffrutescent, usually climbing. Leaves various, primordial ones opposite. Flowers usually blue, red, or purple, rarely yellow.*

78 PSORA'LEA. Calyx tubular, 5-cleft, usually glandular; lobes acuminated, lowest one longest. Legume valveless, 1-seeded, length of calyx. Shrubs or herbs. Flowers blue.

79 INDIGÓFERA. Calyx 5-cleft; lobes acute. Vexillum roundish, emarginate (f. 33. *a.*). Keel having an awl-shaped spur on both sides. Legume terete (f. 33. *c.*), flat, or tetragonal, 2-valved, rarely few-seeded, usually many-seeded. Herbs or shrubs, with simple, impari-pinnate or trifoliate leaves, and red, blue, or white flowers.

80 OU'STROPIS. Calyx tubular, 5-cleft. Wings equal in length to the vexillum. Keel blunt, with an auricle on each side. Legume compressed, 2-valved, 3-4-celled; cells 1-seeded. A prostrate herb, with trifoliate leaves, and heads of red flowers.

81 CLITÒRIA. Calyx bibracteate at the base, 5-cleft (f. 34. *a.*). Vexillum large (f. 34. *b.*). Stamens and petals inserted above the base of the calyx. Style rather dilated at the apex. Legume linear (f. 34. *c.*), compressed, 2-valved, 1-celled, many-seeded. Climbing herbs, with trifoliate or impari-pinnate leaves. Flowers large, white, blue, or purple.

82 NEUROCA'RPUM. Calyx tubular, with 5 acuminated, nearly equal teeth, and furnished with 2 bracteas at the base. Vexillum large, roundish. Keel obtuse. Legume stipitate, compressed, sub-tetragonal, from the middle nerve of the valves being rather prominent, 4-8-seeded. Usually climbing subshrubs, with trifoliate leaves, and large white or purplish flowers.

83 MARTIU'SIA. Calyx tubular, somewhat bilabiate, with 5 acute teeth, lowest one longest. Corolla none. Stamens 4, 2 fertile and 2 sterile, distinct. Legume stipitate, compressed, somewhat tetragonal in consequence of the valves being furnished with a prominent middle nerve. A climbing shrub, with trifoliate leaves.

84 COLOGA'NIA. Calyx tubular, 5-cleft, bibracteate at the base, somewhat bilabiate. Vexillum roundish. Ovary stipitate, linear, very hispid, girded by the disk. Style smooth, obtuse. Procumbent or twining herbs, with simple or trifoliate leaves, and violaceous flowers.

85 GALA'CTIA. Calyx bibracteate at the base, 4-cleft. Petals 5, oblong, distinct, with the vexillum broader than the rest. Stigma obtuse. Legume terete or compressed, many-seeded, elongated. Climbing herbs or subshrubs, with trifoliate or impari-pinnate leaves, and usually red flowers.

86 ODÒNIA. Calyx 4-parted. Vexillum erectly spreading. Wings having a tooth each at the apex. Keel 2-parted, reflexed, remote from the vexillum. Legume compressed, usually 8-seeded. A twining herb, with trifoliate leaves.

87 STEGANÒTROPIS. Calyx 5-toothed, bibracteate, permanent. Vexillum cucullate, bicallous at the base, and spurred behind, inclosing the wings and keel, which are membranous. Style membranous, dilated and bearded at the apex. Legume linear, many-seeded. A twining herb, with ternate leaves, and 2-flowered peduncles.

88 VILMORÍNIA. Calyx cylindrical, 4-toothed, somewhat bilabiate. Wings shorter than the keel. Style acute. Legume stalked, lanceolate, compressed, tapering. A shrub, with impari-pinnate leaves, and purple flowers.

89 DÍPLONYX. Calyx urceolate, bilabiate. Vexillum reflexed, standing on a glandular claw. Wings biauriculate. Keel biauriculate. Stamens diadelphous. Legume terete, many-seeded. A twining shrub, with impari-pinnate leaves, and axillary racemes of violaceous flowers.

90 BARBIE'RIA. Calyx tubular, 5-cleft, bibracteate at the base. Wings shorter than the keel, and keel shorter than the vexillum. Style bearded at the apex. Stigma obtuse. Legume linear, villous, many-seeded. A shrub, with impari-pinnate leaves, and scarlet-purplish flowers.

91 KIESE'RIA. Calyx campanulate, gibbous at the base, 5-toothed, lower tooth longer and keeled. Vexillum orbicular.

Stamens diadelphous. Style villous in front. Legume linear, compressed, hooked at the end, many-seeded. A tomentose herb, with pinnate leaves, and racemes of white flowers.

92 Gròna. Calyx 4-cleft; upper lobe emarginate. Wings obtuse. Vexillum obcordate. Keel concave, adnate to the middle of the wings. Stigma simple. Legume linear, compressed, many-seeded. A prostrate shrub, with simple leaves, and purple flowers.

93 Collæ'a. Calyx 5-cleft; upper lobe a little broader than the rest. Petals unguiculate. Vexillum biauriculate at the base. Stigma capitate. Legume compressed, tomentose, 4-6-seeded. Shrubs, with trifoliate leaves, and purple flowers.

94 Oto'ptera. Calyx 5-cleft, 2 superior lobes approximate. Vexillum large, roundish. Wings oblong, furnished with an auricle on the stipe. Keel 2-edged. Stigma bilabiate, obtuse. Ovary linear, straight, compressed, many-ovulate. A twining shrub, with trifoliate leaves, and purplish flowers.

95 Puera'ria. Calyx bilabiate, upper lip entire or hardly bidentate, lower one trifid. Keel obtuse. Vexillum obovate. Stamens monadelphous. Legume compressed, stipitate, many-seeded. Climbing shrubs, with trifoliate leaves, and yellowish flowers.

96 Duma'sia. Calyx obliquely truncate, toothless, bibracteate at the base. Claws of petals length of calyx. Keel obtuse. Legume tapering to the base, compressed, few-seeded. Climbing herbs, with trifoliate leaves, and purplish or yellow flowers.

97 Glycìne. Calyx 5-cleft, somewhat bilabiate. Style acute. Legume linear, compressed, straight, many-seeded, hooked at the end. Climbing herbs, with trifoliate leaves, and usually yellowish flowers.

98 Chæto'calyx. Calyx bilabiate, with awl-shaped segments, those of the upper lip recurved and those of the lower lip adpressed, beset with glandular bristles. Vexillum roundish, emarginate. Keel conforming to the wings. Ovary linear, many-seeded. Style filiform, villous. A climbing shrub, with imparipinnate leaves, and yellow flowers.

Subtribe IV. Gale'geæ. *Legume* 1-*celled* (f. 36. *c*. f. 37. *c*.). *Stamens diadelphous, rarely monadelphous. Stems herbaceous, shrubby, or arboreous. Leaves alternate or opposite, usually impari-pinnate.*

99 Petaloste'mum. Calyx 5-cleft or 5-toothed. Petals unguiculate, like each other in shape. Stamens 5, monadelphous. Vexillum conduplicate, free. Legume covered by the calyx, 1-seeded, indehiscent. Herbs, with white or purple flowers.

100 Da'lea. Calyx 5-cleft (f. 36. *a*.), or 5-toothed. Wings and keel adnate to the base of the stamens (f. 36. *b*.). Vexillum short, free. Stamens 10, monadelphous. Legume ovate, 1-seeded (f. 36. c.), shorter than the calyx. Herbs, with white or blue flowers.

101 Glycyrrhi'za. Calyx tubular, 5-cleft, bilabiate, especially the 2 upper lobes are joined together, higher up than the others. Vexillum ovate-lanceolate. Keel 2-edged or 2-petalled, acute. Legume ovate or oblong, compressed, 1-4-seeded. Herbs, with sweet roots, and bluish or white flowers.

102 Gale'ga. Calyx of 5 awl-shaped, equal teeth. Vexillum obovate-oblong. Keel obtuse. Stamens monadelphous. Stigma dot-formed. Legume terete, tomentose. Herbs, with blue, red, or white flowers.

103 Callótropis. Calyx of 5 equal filiform teeth. Vexillum erect, ovate. Wings shorter than the keel, which is incurved. Style incurved, tipped by a hairy stigma. Stamens diadelphous, the 9 joined ones incurved. Legume stipitate, compressed, tapering to both ends, many-seeded. Herbs, with blue flowers.

104 Tephrósia. Calyx 5-toothed (f. 37. *a*.). Vexillum large (f. 37. *b*.), roundish, silky or pubescent outside, reflexed. Wings adhering to the obtuse keel. Stamens either monadelphous or diadelphous. Legume compressed, linear, many-seeded (f. 37. c.). Shrubs or herbs, with purple or white flowers.

105 Amórpha. Calyx 5-toothed. Vexillum ovate, concave. Wings and keel wanting. Stamens exserted, monadelphous at the base. Legume compressed, ovate, or lunulate, 1-2-seeded. Shrubs, with bluish-purple flowers.

106 Eysenha'rdtia. Calyx campanulate, 5-toothed, upper teeth more remote, lowest one longest. Vexillum oblong, distinct from the keel. Ovary biovulate. Style hooked at the apex. A tree, with white flowers.

107 Nissólia. Calyx campanulate, 5-toothed. Stamens monadelphous, with a dorsal fissure, or diadelphous. Legume stipitate, ending in a leafy wing, 1 or many-seeded. Climbing shrubs.

108 Mulle'ra. Calyx campanulate, 5-toothed, circumcised at the base after flowering. Petals deciduous. Stamens 8-10, monadelphous, falling off with the calyx. Legume moniliform; links 1-5, distinct, indehiscent, 1-seeded. A tree.

109 Lonchoca'rpus. Calyx urceolate, 5-toothed. Vexillum orbicular, about equal in length with the wings and keel. Stamens monadelphous and diadelphous. Legume on a short stipe, flat, membranous, 4-8-seeded. Trees, with purplish flowers.

110 Robìnia. Calyx 5-toothed; teeth lanceolate, 2 superior ones shorter and approximate. Vexillum large. Keel obtuse. Stamens deciduous. Style bearded in front. Legume nearly sessile, many-seeded, margined at the seminiferous suture. Spiny trees, with white or rose-coloured flowers.

111 Poitæ'a. Calyx obliquely truncate, 5-toothed, 2 upper teeth very short. Petals connivent. Vexillum retuse, shorter than the wings, but with the keel longer than the wings. Stamens a little exserted. Legume stipitate, mucronate, compressed, many-seeded. Shrubs, with white or red flowers.

112 Sabìnea. Calyx cup-shaped, with a truncate somewhat entire margin. Keel very blunt, rather shorter than the vexillum. Legume compressed, elongated, mucronate, many-seeded. Shrubs, with abruptly-pinnate leaves, and purplish flowers.

113 Course'tia. Calyx 5-cleft, 2 superior lobes shorter than the rest, and joined together a little higher. Vexillum obcordate. Keel obtuse, shorter than the wings. Style bearded at the apex. Stigma capitate. Legume compressed, 5-8-seeded, mucronate. Woolly trees, with abruptly pinnate leaves, and yellow flowers.

114 Sesba'nia. Calyx 5-cleft, or 5-toothed (f. 38. *a*.). Vexillum roundish, complicated (f. 38. *b*.), larger than the keel,

which is obtuse, and 2-edged at the base. Sheath of stamens biauriculate at the base. Legume elongated, slender (f. 38. *c.*). Shrubs or herbs, with abruptly pinnate leaves, and usually with yellow flowers.

115 Aga'ti. Calyx campanulate, bluntly 5-toothed. Vexillum oval-oblong, shorter than the oblong wings. Keel large, straight. Sheath of stamens furnished with large auricles. Legume stipitate, compressed, transversely many-celled. Trees, with abruptly pinnate leaves, and red flowers.

116 Glottídium. Calyx 5-toothed, somewhat bilabiate, lower teeth longer than the rest. Vexillum kidney-shaped. Legume stipitate, compressed, 1-celled, 2-seeded. Herbs, with simple and abruptly-pinnate leaves, and yellow flowers.

117 Piscídia. Calyx campanulate, 5-cleft. Keel obtuse. Legume stalked, linear, having 4 membranous wings, with the seeds interrupted by spongy substance. Trees, with white flowers variegated with red.

118 Daubentònia. Calyx campanulate, 5-toothed. Keel very blunt. Vexillum roundish, stipitate. Legume stalked, oblong, compressed, furnished with 4 wings, and with the seeds interrupted by spongy substance. Shrubs, with abruptly pinnate leaves, and yellow or scarlet flowers.

119 Coryne'lla. Calyx somewhat bilabiate, 5-toothed. Petals with short claws. Keel obtuse. Style clavate. Legume lanceolate, compressed, marginate, many-seeded. Shrubs, with abruptly pinnate leaves and purplish flowers.

120 Caraga'na. Calyx tubular, 5-toothed. Wings and vexillum about equal in length. Stigma truncate. Legume sessile and subterete, many-seeded. Shrubs, with abruptly pinnate leaves, and yellow and white flowers.

121 Halimode'ndron. Calyx campanulate, 5-toothed. Keel obtuse. Wings acute, auricled. Legume stipitate, inflated, ovate, few-seeded, depressed at the seminiferous suture. A shrub, with abruptly pinnate leaves, and purplish flowers.

122 Diphy'sa. Calyx 5-cleft, 2 upper lobes roundish. Vexillum obovate, reflexed. Wings flat. Keel falciform. Legume linear, compressed, 5-6-seeded, furnished with a large membranous vesicle at each side on the sutures, opposite each other. Shrubs, with yellow flowers.

123 Calo'phaca. Calyx 5-cleft; lobes acuminated. Keel obtuse. Style hairy, incurved at the apex. Legume sessile, oblong, nearly terete, mucronate, hairy. A shrub, with yellow flowers.

124 Colu'tea. Calyx 5-toothed. Vexillum bicallous, larger than the obtuse keel. Stigma lateral, hooked. Style bearded behind. Legume stipitate, boat-shaped, inflated. Shrubs, with yellow flowers.

125 Sphærophy'sa. Calyx 5-toothed. Vexillum broad. Keel obtuse. Style bearded lengthwise. Legume stipitate, inflated, spherical. Herbs, with red flowers.

126 Swainsònia. Calyx bicallous, 5-toothed. Vexillum large. Keel obtuse, rather longer than the wings. Style bearded lengthwise behind. Shrubs, with purple, scarlet, and white flowers.

127 Lesse'rtia. Calyx half 5-cleft. Vexillum broad. Keel obtuse. Stigma capitate. Style with a transverse beard in front. Legume indehiscent, compressed, or inflated. Herbs or subshrubs, with nodding purple flowers.

128 Sutherla'ndia. Calyx 5-toothed. Vexillum with replicate sides. Keel oblong. Wings very short. Style bearded lengthwise behind. Legume inflated. Shrubs, with scarlet flowers.

Subtribe V. Astraga'leæ. *Legume* (f. 39. *c.* f. 40. *c.*) *bilocular or half bilocular from one of the sutures being bent innards lengthwise. Stamens diadelphous,* 9 *joined and* 1 *free. Stems herbaceous or suffrutescent. Leaves impari-pinnate, primordial ones alternate.*

129 Pha'ca. Calyx 5-toothed (f. 39. *a.*), 2 upper teeth remote. Keel obtuse (f. 39. *b.*). Stigma capitate. Legume somewhat turgid (f. 39. *c.*), 1-celled, upper suture tumid, seminiferous. Herbs, with yellow or white flowers.

130 Oxy'tropis. Calyx 5-toothed (f. 40. *a.*). Keel ending on the back in a mucrone. Legume turgid (f. 40. *c.*). Herbs, with radicle spikes of white or blue flowers.

131 Astra'galus. Calyx 5-toothed. Keel obtuse. Herbs or subshrubs, with blue, purple, red, white, or yellow flowers.

132 Guldenstæ'dtia. Calyx campanulate, bibracteate at the base, 5-cleft, 2 superior segments broadest. Vexillum entire, about the length of the wings. Keel minute. Legume subcylindrical, 1-celled, many-seeded. Stemless herbs, with simple or impari-pinnate leaves, and red or violaceous flowers.

133 Bise'rrula. Calyx 5-cleft. Keel obtuse. Legume depressed, flat, sinuately toothed on the back. An herb, with blue flowers.

Tribe III.

Hedysa'reæ. *Embryo with the radicle bent back upon the edge of the cotyledons* (f. 21. *c. f.*). *Corolla papilionaceous* (f. 42. *b.*). *Stamens rarely free, usually monadelphous* (f. 43. *c.*) *or diadelphous,* 9 *joined and* 1 *free* (f. 44. *d.*), *or* 5 *in each bundle. Legume dividing transversely into* 1-*seeded cells or joints* (f. 41. *e.*). *Cotyledons flat* (f. 21. *f.*). *This tribe is easily distinguished from the rest in the legumes dividing transversely into joints or cells.*

Subtribe I. Coronílleæ. *Flowers umbellate* (f. 41. *b.* f. 42. *b.*). *Legume terete* (f. 41. *e.*) *or compressed. Stamens diadelphous,* 9 *joined and* 1 *free.*

134 Scorpiu'rus. Calyx with 5 acute lobes. Keel 2-edged. Style acute. Legume revolute, rather spiral, 3-6-jointed, muricated. Herbs, with simple leaves, and yellow flowers.

135 Coronílla. Calyx 5-toothed (f. 41. *a.*), 2 upper teeth approximate. Petals unguiculate. Keel acute. Legume rather terete, many-jointed (f. 41. *e.*). Shrubs or herbs, with impari-pinnate leaves, and yellow, white, or purple flowers.

136 Astrolòbium. Calyx 5-toothed. Keel small, compressed. Legume rather terete, many-jointed. Herbs with impari-pinnate leaves, and yellow flowers.

137 Orni'thopus. Calyx bracteate, 5-toothed. Keel small,

compressed. Legume compressed, many-jointed. Herbs, with impari-pinnate leaves, and white or rose-coloured flowers.

138 Hippocre'pis. Calyx 5-cleft (f. 42. *a.*), lobes acute. Keel 2-edged (f. 42. *d.*). Style acute. Legume curved, many-jointed (f. 42. *e.*). Herbs, with impari-pinnate leaves, and yellow flowers.

139 Securi'gera. Calyx bilabiate, lower lip 3-parted, upper one bidentate. Petals unguiculate. Keel acute. Legume compressed, ending in a long beak. An herb, with impari-pinnate leaves, and yellow flowers.

Subtribe II. Euhedysa'reæ. *Flowers disposed in racemes* (f. 43. *g.* f. 44. *c.*). *Legumes compressed* (f. 43. *i.* f. 44. *g.*).

140 Di'phaca. Calyx 5-cleft, bibracteate at the base. Stamens disposed in two 5-anthered bodies. Legume compressed, jointed. A shrub, with impari-pinnate leaves.

141 Picte'tia. Calyx 5-cleft, 2 upper lobes obtuse, 3 lower ones spiny. Vexillum roundish, complicated. Keel obtuse, a little shorter than the wings. Stamens diadelphous (9-1). Legume stipitate, compressed, few-seeded. Shrubs, with impari-pinnate leaves and yellow flowers.

142 Ormoca'rpum. Calyx bracteate, 5-cleft; lobes acute. Vexillum broad, entire. Keel obtuse, 2-edged. Stamens diadelphous (9-1). Legume stipitate, many-jointed. Shrubs, with simple or impari-pinnate leaves, and yellow flowers.

143 Amícia. Calyx 5-cleft, very unequal. Vexillum orbicular. Wings applied to the keel. Stamens monadelphous, with the sheath cleft in front. Legume linear, compressed, many-jointed. Climbing shrubs, with abruptly-pinnate leaves, and yellow flowers.

144 Poire'tia. Calyx bilabiate; upper lip bidentate, lower one 3-toothed. Vexillum semiorbicular, emarginate, with reflexed sides. Wings spreading. Stamens 8-10, monadelphous, with the tube cleft above. Stigma capitate. Legume compressed, 3-4-jointed. Climbing shrubs, with abruptly-pinnate leaves.

145 Plana'rium. Calyx subcampanulate. Stamens diadelphous. Legume stipitate, compressed, 8-jointed, marked with a prominent nerve on the sides. A climbing shrub, with impari-pinnate leaves.

146 Myriade'nus. Calyx inclosed in 2 opposite, leafy bracteas, 5-toothed. Legume many-seeded. An herb, with abruptly-pinnate leaves, and yellow flowers.

147 Zórnia. Calyx bilabiate; upper lip emarginate; lower one trifid. Vexillum with revolute edges. Keel bifidly lunulate. Stamens monadelphous. Legume compressed, 3-5-jointed. Leaves with 2-4 leaflets, and yellow flowers.

148 Stylosa'nthes. Calyx long, tubular, 5-parted, unequal. Petals inserted in the tube of the calyx. Keel minute, bifid at the apex. Style very long. Stamens monadelphous, with the tube cleft. Stigma capitate, hispid. Legume 2-jointed. Herbs or subshrubs, with trifoliate leaves, and yellow flowers.

149 Ade'smia. Calyx 5-cleft; lobes acute. Vexillum complicated above the wings when young. Keel curved and truncate at the apex. Stamens distinct, but approximate. Legume compressed, many-jointed. Herbs, with abruptly-pinnate leaves, and usually yellow flowers.

150 Æchynómene. Calyx 5-cleft, bilabiate; upper lip bifid or bidentate, lower one 3-toothed. Stamens 10, diadelphous in 2 equal bundles. Legume compressed, jointed, straight. Herbs or shrubs, with impari-pinnate leaves, and usually yellow flowers.

151 Smíthia. Calyx bipartite. Stamens diadelphous, divided in 2 equal bundles. Legume plicate, jointed, inclosed in the calyx. Herbs, with impari-pinnate leaves, and yellow flowers.

152 Lou'rea. Calyx campanulate, 5-cleft (f. 43. *a.*), when in fruit inflated. Vexillum obcordate (f. 43. *d.*). Keel obtuse (f. 43. *b.*). Legume 4-6-jointed (f. 43. *i.*), plaited, or rather spiral (f. 43. *i.*). Herbs, with simple or trifoliate leaves, and white or purple flowers.

153 Ura'ria. Calyx 5-cleft; segments setaceous. Legume with few joints, plaited, or rather spiral. Herbs or subshrubs, with impari-pinnate, ternate, or simple leaves, and purplish or yellow flowers.

154 Nicolsònia. Calyx 5-parted; segments subulate, bearded. Corolla shorter than the calyx. Legume straight, exserted, compressed, many-jointed. Herbs, with trifoliate leaves, and bluish-purple flowers.

155 Desmòdium. Calyx bibracteolate at the base, obscurely bilabiate; upper lip bifid, lower one 3-parted (f. 44. *a.*). Vexillum roundish (f. 44. *c.*). Keel obtuse (f. 44. *b.*), shorter than the wings. Legume compressed, many-jointed (f. 44. *g.*); joints separating at maturity. Herbs or shrubs, with trifoliate, rarely simple leaves, and purple, blue, or white flowers.

156 Dice'rma. Calyx bibracteolate, bilabiate; upper lip entire, lower one trifid. Vexillum obovate, about equal in length to the keel and wings. Keel obtuse. Legume 2-3-jointed. Shrubs, with trifoliate leaves, and yellow flowers.

157 Tavernie'ra. Calyx bibracteolate, half 5-cleft; segments lanceolate-linear. Vexillum somewhat obovate. Wings shorter than the calyx. Keel obtuse. Style long, flexuous. Legume of 2 orbicular, flat joints. Shrubs, with simple or trifoliate leaves, and rose-coloured or yellow flowers.

158 Hedy'sarum. Calyx 5-cleft; segments linear-awl-shaped. Vexillum large. Keel obliquely truncate, longer than the wings. Legume many-jointed, compressed. Herbs or subshrubs, with impari-pinnate leaves, and rather large, purple, white, or cream-coloured flowers.

159 Onobry'chis. Calyx 5-cleft; segments subulate. Keel obliquely truncate. Wings short. Legume sessile, compressed, 1-seeded, echinated, crested or winged. Herbs, with impari-pinnated leaves, and red or white flowers.

160 Eleiòtis. Calyx campanulate, truncate, hardly 5-toothed. Vexillum obovate. Keel obtuse. Legume compressed, 1-celled, 1-seeded, rather membranous. Herbs, with trifoliate leaves, and yellow flowers.

161 Lespede'za. Calyx 5-parted, bracteate at the base. Keel transversely obtuse. Legume 1-seeded, compressed, unarmed. Herbs and subshrubs, with trifoliate leaves, and purplish or cream-coloured flowers.

162 E'benus. Calyx 5-cleft, with the tube at length rather

ventricose; segments linear-awl-shaped, equal in length to the corolla. Wings small, shorter than the tube of the calyx. Stamens monadelphous. Legume roundish, 1-2-seeded. Leaves usually impari-pinnate, and flowers red.

163 Flemi'ngia. Calyx acutely 5-cleft; lower segment longest. Vexillum striated. Legume sessile, oval, turgid, 2-valved, 1-celled, 2-seeded. Herbs or subshrubs, with simple or trifoliate leaves, and red or purple flowers.

Subtribe III. Alha'geæ. *Flowers disposed in racemes* (f. 45. *h.*) *or spikes. Legumes rather terete* (f. 45. *d.*).

164 Alha'gi. Calyx 5-toothed. Petals equal in length. Vexillum obovate, complicate. Keel straight, obtuse. Style filiform, acute. Legume stipitate, terete, few-seeded, not articulated. Subshrubs or herbs, with simple leaves, and red flowers.

165 Alysica'rpus. Calyx campanulate, 5-cleft (f. 45. *a.*). Legume many-jointed, terete (f. 45. *d.*) or somewhat compressed. Herbs, with simple leaves, and yellow or purple petals, which are hardly longer than the calyx.

166 Bremontie'ra. Calyx campanulate, subtruncate, hardly 5-toothed. Corolla 3 times longer than the calyx. Legume many-jointed, somewhat compressed. Shrubs, with simple leaves, and small purple flowers.

§ 2. Sarcólobæ. *Embryo with thick fleshy cotyledons* (f. 21. *b.*).

Tribe IV.

Viciéæ. *Corolla papilionaceous* (f. 46. *d.*). *Stamens diadelphous* (f. 46. *g.*), *that is, 9 joined together, and 1 free. Cotyledons thick, mealy, not changing even in germination, when above the earth, but remaining inclosed in the spermaderm. Radicle curved inwards* (f. 21. *f.*). *The leaves of all are abruptly pinnate (except in Cìcer), and the common petiole either terminates in a bristle or tendril, and it is not articulated above the stem.*

167 Cìcer. Calyx 5-lobed, with the tube rather gibbous at the base, 2 or 4 of the upper lobes lying over the vexillum. Legume turgid, few-seeded. Tendrilled herbs, with white flowers, and impari-pinnate or abruptly-pinnate leaves.

168 Fa'ba. Character the same as that of *Vìcia*, but the legume is large and coriaceous, containing large flat seeds, and the leaves are almost without tendrils, and the stem is erect. Flowers white or red.

169 Vìcia. Calyx tubular, 5-cleft (f. 46. *a.*) or 5-toothed, 2 superior teeth shortest. Style villous at the apex (f. 46. *f.*). Legume many-seeded (f. 46. *h.*). Usually climbing herbs, with the leaves generally ending in a branched tendril (f. 46. *i.*). Flowers white, purple, or yellow.

170 E'rvum. Calyx 5-cleft, with linear acute segments, about equal in length to the corolla. Stigma smooth. Legume oblong, 2-4-seeded. Tendrilled herbs, with small white flowers.

171 Pìsum. Calyx 5-cleft; segments leafy, 2 superior ones shortest. Style compressed, keeled, villous above. Legume rather compressed. Seeds globose. Climbing tendrilled herbs, with white or purple flowers.

172 La'thyrus. Calyx campanulate, 5-cleft, 2 superior lobes shortest. Style flattened, dilated at the apex, villous or pubescent in front. Legume many-seeded. Usually climbing tendrilled herbs, with purple, white, or yellow flowers.

173 O'chrus. Calyx campanulate, 5-cleft, 2 upper segments conniving. Vexillum furnished with a tooth on each side. Style flattened, villous above. Legume few-seeded, winged on the seminiferous suture. An herb, with bifoliate tendrilled leaves, and solitary white flowers.

174 O'robus. Calyx campanulate, 5-cleft, 2 superior lobes shortest. Style slender, linear, villous at the apex. Legume, cylindrical, many-seeded. Erect herbs, with the leaves having one or many pairs of leaflets, and with the common petiole ending in a bristle. Flowers of various hues.

175 Platy'stylis. Calyx campanulate, 5-cleft, 2 superior lobes shortest. Style broad-spatulate, villous at the apex. Legume oblong, many-seeded. Erect herbs, with abruptly-pinnate few-paired leaves, ending in a simple tendril at the apex. Flowers bluish-purple.

Tribe V.

Phaseòleæ. *Corolla papilionaceous* (f. 47. *c.* f. 48. *b.*). *Stamens monadelphous* (f. 47. *g.*), *but usually diadelphous* (f. 48. *e. f.*), *that is, 9 joined together, and 1 free. Legume many-seeded* (f. 49. *c.*), *dehiscent, with a cellular transverse membrane between each seed, usually subdivided, but not articulated. Radicle bent in above the fissure of the lobes of the cotyledons* (f. 21. *e. f.*). *Cotyledons not changing by germination* (f. 21. *c*), *but grow into thick leaves, and when above the earth they are usually exserted beyond the spermaderm. Primordial leaves opposite, the rest with the leaflets usually pinnately, rarely palmately disposed.*

176 A'brus. Calyx obsoletely 5-lobed, upper lobe broadest. Vexillum acute. Stamens 9 joined, the 10th wanting. Stigma obtuse. Legume compressed, 4-6-seeded. Seeds intercepted by cellular substance. Twining shrubs, with abruptly-pinnate leaves.

177 Swee'tia. Calyx 4-cleft; lobes lanceolate, acuminated. Vexillum wedge-shaped. Keel bluntly 2-edged. Stamens diadelphous. Legume linear, compressed, many-seeded. Twining slender herbs, suffruticose at the base, with trifoliate leaves, and purple flowers.

178 Macra'nthus. Calyx tubular, 4-cleft; lobes acute, 2 lateral ones shortest. Vexillum emarginate, concave. Stamens diadelphous. Style pilose. Stigma obtuse. Legume straight, nearly terete, thick, many-seeded. A twining herb, with trifoliate leaves, and white flowers.

179 Ròthia. Calyx 5-cleft, 2 superior segments coadunate and arched. Vexillum deflexed. Keel 2-edged. Stamens monadelphous, with the sheath cleft behind. Legume linear-ensiform, many-seeded. A prostrate herb, with trifoliate leaves, and sulphur-coloured flowers.

180 Tera'mnus. Calyx bilabiate, upper lip longest and bifid, lower one 3-parted. Keel small. Stamens monadelphous, 5 alternate ones sterile. Stigma sessile, capitate. Legume linear, compressed, 2-valved, many-seeded. Twining subshrubs, with trifoliate leaves, and axillary racemes of small reddish flowers.

181 Amphicárpæa. Calyx campanulate, 4-toothed; teeth equal, obtuse. Vexillum broad, incumbent. Stamens diadelphous. Style filiform, crowned by a capitate stigma. Legume compressed, stipitate, 1-4-seeded. Twining herbs, with trifoliate leaves, and apetalous flowers.

182 Kennédya. Calyx bilabiate (f. 47. *a.*), upper lip bidentate, lower one trifid. Vexillum recurved (f. 47. *b.*). Stamens diadelphous (f. 47. *g.*). Stigma obtuse (f. 47. *f.*). Legume linear, compressed, transversely many-celled. Twining shrubs, with simple or trifoliate leaves, and scarlet, red, or purple flowers.

183 Rhynchósia. Calyx 5-cleft, somewhat bilabiate. Corolla usually shorter than the calyx. Stamens diadelphous, free, filaments jointed at the base. Style filiform, bent. Legume sessile, compressed, rather falcate, 2-seeded. Climbing herbs or shrubs, with simple or trifoliate leaves, and yellow flowers.

184 Euriósma. Calyx 5-cleft, subbilabiate. Stamens diadelphous. Vexillum silky or villous. Legume straight, 1-celled. Subshrubs, with trifoliate leaves, and yellow flowers.

185 Fagélia. Calyx 5-cleft; segments linear, acute, 2 upper ones adhering together a greater length than the others. Vexillum reflexed. Keel obtuse, longer than the wings. Stamens diadelphous. Legume ovate, cylindrical, turgid, 6-seeded. Decumbent or twining shrubs, beset with clammy hairs, having trifoliate leaves, and yellowish flowers.

186 Wistária. Calyx campanulate, somewhat bilabiate (f. 48. *a.*), upper lip with 2 short teeth, lower one with 3 subulate lobes. Vexillum bicallous. Wings conforming to the keel (f. 48. *b.*). Keel 2-edged. Stamens diadelphous (f. 48. *c. f.*). Legume coriaceous (f. 48. *c.*). Climbing shrubs, with impari-pinnate leaves, and lilac-blue flowers.

187 Ápios. Calyx campanulate, 5-toothed, the tooth under the keel elongated and acute. Keel falcate, linear. Stamens diadelphous. Stigma emarginate. Legume many-seeded. Seeds intercepted by dissepiments. A climbing herb, with tuberous roots, impari-pinnate leaves, and brownish-purple flowers.

188 Phaséolus. Calyx campanulate, bilabiate, upper lip bidentate, lower one 3-parted. Keel, as well as the diadelphous stamens and style, twisted together, rarely incurved. Legume compressed or cylindrical, many-seeded. Seeds intercepted by cellular substance. Twining herbs or subshrubs, with trifoliate leaves, and scarlet, red, or white flowers.

189 Cyrtótropis. Calyx bilabiate, upper lip 1-toothed, lower one tridentate. Vexillum reflexed. Keel linear, falciform. Wings wedge-shaped, short. Stamens diadelphous. Legume sessile, linear, compressed, many-seeded. Seeds separated by spongy substance. A twining herb, with impari-pinnate leaves, and pendulous racemes of flesh-coloured flowers.

190 Sója. Calyx bibracteate at the base, 5-cleft, with 2 of the teeth approximate or joined at the base. Vexillum ovate, with a short unguis. Keel oblong, straight. Stamens diadelphous. Legume 2-5-seeded. Seeds intercepted by cellular substance. Hispid climbing herbs, with trifoliate leaves, and violaceous flowers.

191 Dólichos. Calyx bibracteolate at the base, campanulate, 5-toothed, 2 of which are approximate or joined. Vexillum roundish, having 2-4 callosities at the base. Wings oblong, obtuse. Keel obtuse. Stamens diadelphous. Style bearded above the middle. Legume compressed. Seeds intercepted by cellular substance. Climbing herbs or shrubs, with trifoliate leaves, and white or purple flowers.

192 Tæniocárpum. Calyx bilabiate, 5-cleft, upper lip bidentate, lower one 3-parted. Vexillum ovate. Wings spurred. Keel obtuse, compressed. Stamens 10, diadelphous. Legume hispid, compressed, many-celled, somewhat articulated.

193 Vígna. Calyx 4-cleft. Vexillum broad, reflexed, with callosities at the base. Wings rhomboid. Stamens diadelphous. Legume terete, incurved. Twining herbs, with trifoliate leaves, and yellow flowers.

194 Láblab. Calyx tubular, 4-cleft, 3 lower ones acute. Vexillum with 4 callosities at the base. Stamens diadelphous. Style compressed, bearded below. Legume compressed. Seeds separated by cellular substance. Twining herbs, with trifoliate leaves, and white or purple flowers.

195 Pachyrhízus. Calyx urceolate, 4-lobed, upper lobe broader and emarginate. Vexillum roundish. Stamens diadelphous. Legume compressed, 7-8-seeded. Twining subshrubs, with trifoliate leaves, and violaceous flowers.

196 Paróchetus. Calyx 4-cleft. Vexillum 2-lobed. Keel obtuse, covering the wings. Stigma obtuse. Legume many-seeded. Creeping herbs, with trifoliate leaves, and shewy purple flowers.

197 Dióclea. Calyx bibracteate at the base, 4-cleft, 2 lateral segments narrowest. Vexillum obovate-oblong, reflexed. Stamens diadelphous. Stigma subclavate. Legume linear, compressed, winged on the upper suture. Twining shrubs, with trifoliate leaves, and red flowers.

198 Psophocárpus. Calyx urceolate, unequally bilabiate. Vexillum roundish, reflexed, bearing 2 callosities at the base. Wings stipitate. Keel oblong, 2-edged. Stamens diadelphous. Legume oblong, 4-winged, 7-8-seeded. A tuberous rooted herb, with trifoliate leaves, and bluish flowers.

199 Canavália. Calyx tubular, bilabiate (f. 49. *b.*), lower lip 3-toothed, upper lip with 2 large rounded lobes. Vexillum large (f. 49. *d.*), bicallose at the base. Wings stipitate, oblong, auriculate. Keel 2-petalled (f. 49. *c.*). Stamens monadelphous (f. 49. *a.*). Legume compressed (f. 49. *e.*), 3-keeled, with a membrane between each seed. Twining herbs or subshrubs, with trifoliate leaves, and large purplish flowers.

200 Ámphodus. Calyx bilabiate, upper lip bidentate, lower one trifid. Vexillum reflexed, with a tooth on each side at the base. Wings and keel linear. Stamens diadelphous. Legume compressed, many-seeded. A climbing plant, with trifoliate leaves, and dark-red flowers.

201 Mucúna. Calyx campanulate, bilabiate, lower lip trifid, upper one entire. Vexillum shorter than the wings and keel. Keel acute. Stamens diadelphous. Legume hispid, oblong, torose, having cellular substance between the seeds. Twining herbs or subshrubs, with trifoliate leaves, and large, purplish, white, or yellow flowers.

202 Calopógonum. Calyx bractless, inclosing the corolla, 5-cleft; segments elongated, rather unequal, pinnately bearded. Legume straight, depressed, rather hooked, pilose, 8-seeded. A herbaceous twining plant, with trifoliate leaves.

203 Caja'nus. Calyx campanulate, 5-cleft. Segments awl-shaped. Vexillum large, bicallous at the base. Keel obtuse, straight. Stamens diadelphous. Legume oblong, compressed, torulose. Seeds each intercepted by a membrane. Shrubs, with trifoliate leaves, and yellow flowers.

204 Lupìnus. Calyx bilabiate. Vexillum reflexed on the sides. Keel acuminated. Stamens monadelphous, the sheath entire, bearing 5 small round anthers, and 5 oblong ones, which are later of coming to perfection. Style filiform, crowned by a bearded roundish stigma. Legume coriaceous, compressed, torulose. Erect herbs, with digitate leaves, composed of 5-9 leaflets, rarely simple, and racemose-spikes of blue, white, or yellow flowers.

205 Cylísta. Calyx 4-cleft, larger than the corolla, upper segment emarginated or bifid, lower one largest. Corolla shorter than the calyx. Keel 2-edged. Stamens diadelphous. Legume 2-seeded. Climbing shrubs, with trifoliate leaves, and yellow flowers.

206 Erythrìna. Calyx tubular (f. 50. *a.*), with a truncate subdentate mouth (f. 50. *a.*) or spathaceous. Vexillum oblong (f. 50. *b.*), very long. Wings and dipetalous keel shorter than the vexillum (f. 50. *c.*). Stamens diadelphous (f. 50. *c.*), straight. Legume long (f. 50. *d.*), torulose, many-seeded (f. 50. *d.*). Trees or shrubs, rarely herbs, with trifoliate leaves, and racemes of scarlet flowers.

207 Rudólphia. Calyx tubular, bilabiate, upper segment obtuse, lower one acute, 2 lateral ones very short. Vexillum oblong-linear, very long. Wings shorter than the calyx, very narrow. Stamens diadelphous. Legume compressed, many-seeded. Climbing shrubs, with simple leaves, and scarlet flowers.

208 Bu'tea. Calyx campanulate, 5-toothed, 2 upper teeth approximate. Vexillum lanceolate, spreading, equal in length to the wings and keel. Stamens diadelphous. Legume stipitate, compressed, membranous, 1-seeded at the apex. Trees, with trifoliate leaves, and large scarlet flowers.

TRIBE VI.

Dalbergie'æ. *Corolla papilionaceous* (f. 51. *b.*), *perigynous. Stamens variously connected. Embryo with the radicle bent back upon the edge of the cotyledons* (f. 21. *e. f.*). *Cotyledons fleshy* (f. 21. *c.*). *Legume* 1-3-*seeded* (f. 51. *d.*), *indehiscent. Usually climbing shrubs, with impari-pinnate, rarely trifoliate leaves, or reduced to the terminal leaflet.*

209 De'rris. Calyx tubular, 5-toothed. Keel lunate. Stamens 10, monadelphous. Legume membranous, compressed, 1-seeded. Climbing shrubs, with trifoliate or impari-pinnate leaves, and white flowers.

210 Endespe'rmum. Calyx bibracteate at the base, bilabiate, upper lip 2-lobed, lower one 3-toothed. Wings and keel unguiculate. Stamens 9, monadelphous. Legume stipitate, leafy, indehiscent, 1-seeded. A climbing shrub, with abruptly or impari-pinnate leaves, and bluish flowers.

211 Ponga'mia. Calyx cup-shaped, 5-toothed. Petals unguiculate. Stamens 10, monadelphous, with the tube cleft in front. Legume substipitate, compressed, indehiscent, beaked, 1-2-seeded. Trees, with impari-pinnate leaves, and white flowers.

212 Dalbe'rgia. Calyx campanulate, 5-toothed (f. 51. *a.*). Stamens 8-10, monadelphous, with the tube cleft in front, sometimes disposed in 2 equal bundles. Legume stipitate (f. 51. *d.*), membranous, compressed, tapering to both ends, 1-3-seeded (f. 51. *d.*). Usually climbing shrubs, with impari-pinnate leaves, and red, white, or blue flowers.

213 Pteroca'rpus. Calyx 5-toothed. Stamens 10, monadelphous or diadelphous. Legume indehiscent, suborbicular, girded by a wing, 1-seeded. Trees or shrubs, with impari-pinnate leaves, and usually yellow flowers.

214 Drepanoca'rpus. Calyx bibracteate at the base, 5-toothed. Stamens 10, monadelphous, with the tube cleft in front or equally diadelphous. Legume compressed, indehiscent, wingless, falcate, 1-seeded. Shrubs, with impari-pinnate leaves.

215 Ecastaphy'llum. Calyx campanulate, somewhat bilabiate, upper lip emarginate, lower one trifid. Stamens 8-10, equally diadelphous. Legume nearly orbicular, membranous, indehiscent, 1-seeded. Shrubs, with impari-pinnate or simple leaves.

216 Ameri'mnum. Calyx 5-toothed, somewhat bilabiate. Stamens 10, monadelphous, with the tube cleft in front. Legume 2-valved, 1-seeded, with the upper suture straight, and a little winged. Shrubs, with simple leaves, and whitish flowers.

217 Bry'a. Calyx 5-toothed. Stamens monadelphous. Legume 2-jointed; joints 1-seeded. Trees with simple leaves.

218 Degue'lia. Calyx bilabiate, upper lip entire, lower one trifid. Wings and keel equal in length, larger than the vexillum. Stamens 10, diadelphous, one of which is free. Legume globose, 2-valved, 1-seeded. Seeds covered with farina. A climbing shrub, with impari-pinnate leaves.

SUBORDER II. OR TRIBE VII.

Swartzie'æ. *Sepals closely joined into a globose or oblong alabastrum before expansion* (f. 52. *b.*), *but at length ruptured, valvately* (f. 52. *g.*). *Petals few, irregular* (f. 52. *c.*) *or wanting, and are, as well as the stamens, hypogynous* (f. 52. *d.*). *Radicle incurved. Cotyledons thick. Germination unknown. Leaves simple or simply pinnate. This is a very distinct tribe, agreeing with* Deta'rium *in the valveless calyx, with* Mimo'seæ *in the hypogynous stamens, and in habit with* Dalbergie'æ.

219 Swa'rtzia. Calyx ovate, globose, ruptured valvately. Petals few or wanting. Stamens 10-15-25, 2-4 of which are larger and sterile, the rest connected at the base. Legume stipitate, 2-valved, few-seeded. Seeds arillate. Trees or shrubs, with simple or pinnate leaves, and white flowers.

220 Ba'phia. Calyx calyptriform, ruptured under the keel. Vexillum spreading, somewhat roundish. Wings linear, length of vexillum. Stamens 10, distinct. Legume falciform, 6-seeded. A tree, with impari-pinnate leaves, and white flowers.

221 Zolle'rnia. Calyx entire, cleft laterally, reflexed (f. 52. *g.*). Petals 5, nearly equal (f. 52. *c.*). Stamens 9 (f. 52. *d.*) -13. Legume stipitate (f. 52. *e.*), 1-celled, 2-valved (f. 52. *h.*), few-seeded. Trees or shrubs, with simple leaves, and axillary racemes of yellow flowers.

Division II.

Recte'mbriæ. Radicle and cotyledons straight (f. 21. *i. k. l. m.*).

Suborder III. or Tribe VIII.

Mimòseæ. *Embryo straight* (f. 21. *m.*), *with the radicle bent a little above the lobes. Flowers regular* (f. 53. *a.*), *usually polygamous* (f. 53. *b.*), *rarely all hermaphrodite* (f. 54. *b.*). *Sepals 4-5, equal, valvate in æstivation, usually connected at the base into a 4-5-toothed calyx* (f. 54. *a.*). *Petals 4-5, equal* (f. 53. *a.*), *also valvate in æstivation, usually hypogynous. Stamens inserted with the petals, rarely in the bottom of the calyx, sometimes free* (f. 53. *b.* f. 54. *b.*), *sometimes more or less connected at the base, equal in number to the petals, or multiple that number* (f. 53. *b.*). *Embryo straight. Funicle usually twisted. Leaves abruptly-pinnate or bipinnate. Cotyledons all foliaceous, except in* Enta'da, *and some species of* I'nga.

222 Enta'da. Flowers polygamous. Petals 5, distinct. Stamens 10-25. Anthers glandular at the apex. Legume compressed, 2-jointed; joints 1-seeded. Cotyledons fleshy. Climbing unarmed shrubs, with bipinnate or conjugately-pinnate leaves, with the rachis usually ending in a tendril, and numerous spikes of white flowers.

223 Mimòsa. Flowers polygamous. Corolla 4-5-cleft, funnel-shaped. Stamens 4-5-10-15, inserted in the bottom of the corolla, or in the stipe of the ovary. Legume compressed, one or many jointed; joints 1-seeded. Leaves conjugately digitate, or doubly pinnate. Flowers white or red, in small round heads.

224 Gagnebìna. Flowers hermaphrodite. Calyx 5-toothed. Petals 5, distinct. Stamens 10. Legume flat, indehiscent, winged on the sutures, transversely many-celled; cells 1-seeded. Elegant shrubs, with bipinnate leaves, and axillary cylindrical spikes of yellow flowers.

225 I'nga. Flowers polygamous. Calyx 5-toothed. Corolla 5-cleft. Stamens indefinite, exserted, monadelphous. Legume compressed, 1-celled. Seeds covered with pulp or farina. Trees or shrubs, usually unarmed, with variously pinnate leaves, and spikes or heads of red or white flowers.

226 Pa'rkia. Flowers hermaphrodite. Calyx tubular, bilabiate, imbricate in æstivation. Petals 5, nearly equal, rather imbricate in æstivation. Stamens 10, monadelphous. Legume compressed, many-seeded. Seeds covered with farinaceous substance. Trees, with bipinnate leaves, and pendulous globular heads of crimson flowers.

227 Schra'nkia. Flowers polygamous. Petals connected together into a 5-cleft corolla. Stamens 8-10, free. Legume echinated, tetragonal, and as if it were 4-valved, the valves separating lengthwise. Seeds numerous. Herbs, with bipinnate leaves, and globose heads of rose-coloured flowers.

228 Darlingtònia. Flowers hermaphrodite. Petals 5, distinct. Stamens 5. Legume lanceolate, few-seeded. Herbs, with bipinnate leaves, and heads of white flowers.

229 Desma'nthus. Flowers polygamous. Calyx 5-toothed. Petals 5, distinct. Stamens 10, rarely 5, in the lower flowers sterile, membranous or filiform. Legume 2-valved. Herbs or shrubs, with bipinnate leaves, and pedunculated spikes of white flowers with yellow filaments.

230 Adenanthe'ra. Flowers hermaphrodite. Calyx 5-toothed. Petals 5, sessile. Stamens 10; anthers each tipped with a deciduous pedicellate gland. Legume compressed, transversely many-celled, rather torulose, membranous. Trees or shrubs, with bipinnate leaves, and racemose spikes of flowers.

231 Prósopis. Flowers polygamous. Calyx 5-toothed. Petals 5, free. Stamens 10, hardly connate at the base. Legume filled with pulp, torulose. Unarmed or prickly trees or shrubs, with bipinnate leaves, and loose spikes of yellow flowers.

232 Lagony'chium. Flowers hermaphrodite. Calyx 5-toothed. Petals free. Stamens 10, free. Legume stipitate, indehiscent, subdidymous, filled with pulp. A prickly shrub, with bipinnate leaves.

233 Aca'cia. Flowers polygamous (f. 53. *c.* f. 54. *b.*). Calyx 4-5-toothed (f. 54. *a.*). Petals 4-5, connected or free (f. 53. *a.*) Stamens from 10 to 200. Legume dry, 2-valved. Unarmed or prickly trees or shrubs, with very variable leaves, and spikes or heads of white or yellow, rarely red, flowers.

234 Erythrophle'um. Flowers hermaphrodite, regular. Calyx 5-cleft. Petals 5, equal. Stamens perigynous. Legumen compressed, 2-valved, many-seeded. Large unarmed trees, with bipinnate leaves, and terminal racemes of flowers.

Suborder IV.

Cæsalpi'neæ. *Flowers more or less irregular, sometimes papilionaceous, but usually regular* (f. 55. *c.* f. 56. *b.*). *Petals irregularly imbricate in æstivation, sometimes wanting, always free* (f. 55. *c.* f. 56. *b.*). *Stamens more or less unequal* (f. 56. *c.* f. 57. *d.*), *always perigynous, usually free, rarely with the filaments concrete, as in tribe* Geoffre'æ. *Embryo straight* (f. 21. *g. h. l. m.*), *with a large plumule.*

Tribe IX.

Geoffre'æ. *Petals perigynous, unequal, disposed in a papilionaceous manner* (f. 55. *c.*), *imbricate in æstivation. Stamens monadelphous or diadelphous. Cotyledons fleshy or oily* (f. 21. *l.*). *This is an artificial tribe, and perhaps should have been brought in among the* Papiliona'ceæ, *but it agrees with* Cassie'æ *in the embryo being straight.*

235 Ara'chis. Calyx tubular, bilabiate. Corolla resupinate. Stamens inserted in the calyx with the petals, 9 joined and 1 free, the last is sterile. Legume ovate-oblong, obtuse, indehiscent, 2-4-seeded. Seeds thick. Herbs, with abruptly pinnate leaves, and yellow flowers.

236 Voandze'ia. Flowers polygamous. Calyx campanulate. Wings horizontal. Stamens diadelphous. Legume roundish,

fleshy, 1-seeded. An herb, with trifoliate leaves and yellow flowers.

237 Pera'ltea. Calyx bibracteolate, bilabiate, lower lip trifid, upper one bidentate. Stamens diadelphous. Legume compressed, 4-8-seeded. Subshrubs, with impari-pinnate leaves and large purplish flowers.

238 Brononia'rtia. All as in *Perâltea*, but the legume has a longer stipe, and the seminiferous suture is without a margin.

239 Andìra. Calyx campanulate, 5-toothed. Vexillum roundish, emarginate, longer than the keel. Stamens diadelphous, 9 joined, and 1 free. Legume stipitate, orbicular, &c. hard, 1-celled, 1-seeded. Trees, with impari-pinnate leaves, and terminal panicles of purple flowers.

240 Geoffròya. Calyx campanulate, somewhat bilabiate, half 5-cleft. Wings and keel about equal in length, shorter than the vexillum. Stamens diadelphous, 9 joined, and 1 free. Legume drupaceous, egg-shaped, 1-celled, 1-seeded. Trees, with impari-pinnate leaves, and axillary racemes or panicles of yellowish flowers.

241 Bro'wnea. Calyx with 2 connate bracteas at the base, constituting a sheath (f. 55. *a.*). Calyx 5-cleft (f. 55. *b.*). Petals 5 (f. 55. *c.*), unguiculate (f. 55. *e.*). Stamens 10-15, monadelphous, with the sheath cleft in front. Legume 1-celled, many-seeded, acinaciform, compressed. Trees, with abruptly pinnate leaves, and rose-coloured flowers, rising in fascicles from the buds.

242 Di'pterix. Calyx 3-5-cleft, 2 upper segments largest, wing-formed, 1-3 lower ones small. Corolla papilionaceous. Stamens 8-10, monadelphous, with the sheath cleft in front. Legume somewhat compressed, thick, 2-valved, 1-seeded. Trees, with abruptly pinnate leaves and panicled flowers.

Tribe X.

Cassie'æ. *Lobes of calyx imbricate before expansion* (f. 57. *a.*). *Petals perigynous* (f. 56. *b.* f. 57. *b.*), *nearly equal, rarely sub-papilionaceous, imbricate in æstivation. Stamens distinct* (f. 57. *c.* f. 56. *c.*). *Legume usually dry and 2-valved* (f. 58. *g.* f. 56. *e.*). *Cotyledons leafy, rarely fleshy. Leaves bi or tripinnate, sometimes abruptly or impari-pinnate, sometimes simple. Habit variable.*

243 Mori'nga. Petals 5, nearly equal. Stamens 10, unequal, sometimes 5 of which are sterile. Legume siliqueformed, 3-valved. Trees, with bi-tripinnate leaves.

244 Gledi'tschia. Flowers unisexual or hermaphrodite. Calyx 3-4-5-cleft. Petals 3-4-5, the 2 lowest ones joined into a keel. Stamens equal in number to the petals, and opposite the sepals. Legume transversely many-celled, rarely 1-celled, 1-seeded. Spinose trees, with abruptly pinnate or bipinnate leaves, and spikes of greenish flowers.

245 Gymnócladus. Flowers dioecious. Calyx tubular, 5-cleft. Petals 5, equal. Stamens 10, inclosed. Legume oblong, thick, pulpy inside. An unarmed tree, with bipinnate leaves, and racemes of white flowers.

246 Anòma. Calyx 5-cleft. Petals 5, equal. Stamens 10, the 5 alternate ones sterile. Legume oblong, thick, 2-valved, 1-celled, many-seeded. A tree, with opposite bipinnate leaves, and panicles of white flowers.

247 Guilandìna. Calyx urceolate, 5-cleft. Petals 5, sessile, nearly equal. Stamens 10, villous at the base. Legume ovate, echinated, 2-valved, 1-3-seeded. Seeds bony, shining. Trees or shrubs, beset with hooked prickles, with abruptly bipinnate leaves, and racemose spikes of yellow flowers.

248 Coulte'ria. Calyx turbinate, 5-cleft, lower segment largest, edged with glandular teeth. Petals 5, upper one largest. Stamens 10, bearded at the base, with a nectariferous gland on the upper side of the ovary. Stigma ciliated with glands. Legume compressed, spongy, hardly dehiscent, transversely many-celled. Seeds 4-6. Spinose shrubs or trees, with abruptly pinnate leaves, and racemes of yellow flowers.

249 Cæsalpi'nia. Calyx 5-cleft, lower segment largest and arched. Petals 5, unequal, unguiculate, upper one shortest. Stamens 10, villous at the base, ascending. Legume unarmed, compressed, 2-valved, many-seeded. Prickly or unarmed trees or shrubs, with abruptly bipinnate leaves, and yellow flowers.

250 Poincia'na. Calyx 5-cleft, unequal, lower segment arched. Petals 5, unguiculate, upper one difformed. Stamens 10, long, hairy at the base. Legume compressed, 2-valved, many-celled. Trees or shrubs, with abruptly bipinnate leaves, and usually with variegated flowers.

251 Mezoneu'rum. Calyx 5-cleft; lower segment arched, the other suborbicular. Petals 5, unguiculate, upper one smallest. Stamens 10, declinate, villous at the base. Legume leafy, flat, ovate-oblong, indehiscent, 1-celled, many-seeded, expanded into a wing on the upper suture. Prickly trees, with abruptly bipinnate leaves.

252 Richa'rdia. Calyx campanulate, 5-toothed. Petals 6-10, unequal, sub-papilionaceous. Stamens 10, declinate, cohering by a beard below the middle. Legume samaroid, expanded into a wing. A genus hardly known.

253 Labi'chea. Calyx 5-cleft, regular, deciduous. Petals 5, roundish, obovate, nearly equal. Stamens 2, hypogynous, very short. Anthers 2-celled, bursting by a sub-operculate pore. Ovary on a short stipe, ovate-oblong, 2-ovulate. Style subulate. Stigma simple. A shrub, with impari-pinnate leaves, and terminal racemes of flowers.

254 Hoffmanse'ggia. Calyx 5-cleft. Petals 5, unguiculate, glandular at the base, upper one broadest. Stamens 10, covered with glandular hairs, one usually abortive. Legume linear, compressed, many-seeded. Herbs or subshrubs, with impari-bipinnate leaves, and racemes of yellow flowers.

255 Melanosti'cta. Calyx 5-cleft. Petals 5, nearly equal, tapering to the base, length of calyx. Stamens 10, villous at the base. Legume compressed, ovate-oblong, hairy. Subshrubs, with impari-bipinnate leaves.

256 Poma'ria. Calyx 5-cleft (f. 56. *a.*). Petals 5 (f. 56. *b.*), unguiculate, upper one concave and shorter. Stamens 10 (f. 56. *c.*), declinate, hairy at the base. Legume oblong (f. 56. *d.*), compressed, 2-seeded (f. 56. *e.*). Shrubs, with abruptly bipinnate leaves.

257 HÆMATO'XYLON. Calyx 5-cleft. Petals 5, hardly longer than the calyx. Stamens 10, pilose at the base. Legume compressed, acuminated at both ends, 1-celled, 2-seeded, with the valves ruptured longitudinally in the middle. A tree, with abruptly pinnate or bipinnate leaves.

258 PARKINSÒNIA. Calyx 5-cleft. Petals 5, upper one roundish, unguiculate. Stamens 10, declinate. Legume linear, acuminated at both ends, torose. A spiny shrub, with pinnate leaves and yellow flowers.

259 CA'DIA. Calyx campanulate, 5-cleft, beset with glands on the inside of the tube. Petals 5, equal, inserted in the calyx. Stamens 10, joined at the base. Legume linear, many-seeded, stipitate. An unarmed shrub, with impari-pinnate leaves and whitish flowers.

260 ZUCCA'GNIA. Calyx turbinate, 5-cleft, lower segment longest. Petals 5. Stamens 10, pilose at the base. Stigma funnel-shaped. Legume subovate, compressed, 1-seeded, hairy. A clammy shrub, with abruptly pinnate leaves and red flowers.

261 CERATÒNIA. Flowers polygamous or dioecious. Calyx 5-parted. Petals wanting. Stamens 5. Stigma sessile, orbicular. Legume broad, indehiscent, many-seeded, transversely many-celled, pulpy inside. Trees, with abruptly pinnate leaves.

262 CASTANOSPE'RMUM. Calyx coloured, somewhat bilabiate. Wings and keel about equal in length. Stamens 10, free. Legume large, 2-valved, 4-seeded, spongy inside, stipitate. Seeds large. A tree, with large impari-pinnate leaves, and racemes of coloured flowers.

263 HARDWI'CKIA. Sepals 4-5, hardly connected at the base. Corolla none. Stamens 8-10. Stigma peltate. Legume lanceolate, 1-seeded, dehiscent at the apex. Trees, with abruptly pinnate leaves and yellowish flowers.

264 JONE'SIA. Calyx bibracteate at the base, coloured, funnel-shaped, 4-lobed. Petals wanting. Stamens 8, sometimes only 6-7, exserted. Legume 4-8-seeded, compressed, acinaciform. Trees, with abruptly pinnate leaves, and orange-coloured flowers.

265 TACHIGA'LIA. Calyx 5-cleft, unequal, obtuse. Petals 5, inserted in the mouth of the calyx, unequal. Stamens 10, exserted, villous at the base, unequal. Legume compressed, membranous, indehiscent, 1-seeded. Trees, with abruptly-pinnate leaves and yellow flowers.

266 BARY'XYLUM. Sepals 5, hardly connected at the base, equal. Petals 5, rather unguiculate. Stamens 10, unequal, hypogynous? Anthers 4-celled. Legume rather terete, curved, many-seeded. Trees, with abruptly-pinnate leaves and yellow flowers.

267 MOLDENHAWE'RA. Calyx 5-cleft. Petals 5, on long claws. Stamens 10, smooth, one of which is sterile, longer, and furnished with hairs. Legume linear-oblong. A tree, with pinnate and bipinnate leaves and yellow flowers.

268 HUMBÓLDTIA. Calyx 4-cleft. Petals 5, inserted in the mouth of the calyx. Stamens 5, smooth. Legume oblong, compressed. Trees, with abruptly pinnate leaves.

269 HETEROSTE'MON. Calyx 4-cleft, bibracteate at the base. Petals 3, inserted in the mouth of the calyx. Stamens 8, declinate and monadelphous at the base, and pilose above, 3 lower ones longest and fertile, and 4 bearing barren 2-lobed anthers. Legume flat, tapering to both ends, many-seeded. Trees, with abruptly pinnate leaves, winged petioles, and large flowers.

270 AMHE'RSTIA. Calyx tubular, 5-toothed, with the stamens inserted in it near the apex, bibracteate at the base, valvate in æstivation. Petals unequal, upper one large, unguiculate, obcordate, lateral ones wedge-shaped, 2 lower ones awl-shaped. Stamens diadelphous, 9 joined, and 1 free, adhering to the pedicel of the ovary. Anthers versatile. Legume stalked, flat, oblong, few-seeded. A tree, with abruptly pinnate leaves, and pendulous racemes of shewy scarlet flowers, some of the petals tipped with yellow.

271 TAMARI'NDUS. Calyx 5-cleft, unequal. Petals 3, 2 of which are ovate, and the middle one cucullate. Stamens 9-10, 2 or 3 longer, monadelphous, and fertile, 7 short and sterile. Legume stalked, acinaciform, compressed, 3-6-seeded, pulpy inside. Trees, with abruptly pinnate leaves.

272 CA'SSIA. Sepals hardly connected at the base (f. 57. *a.*), more or less unequal. Petals 5, unequal (f. 57. *b.*). Stamens 10, free (f. 57. *c. d.*), unequal, 3 upper ones abortive (f. 57. *d.*); anthers bursting by 2 pores at the apex (f. 57. *f.*). Legume compressed, transversely many-celled; cells 1-seeded. Shrubs or herbs, with abruptly pinnate leaves and yellow flowers.

273 DELA'RIA. Calyx 5-toothed, spathaceous. Vexillum large, spreading. Stamens 10. Stigma acute. Legume elongated, few-seeded. Shrubs, with simple leaves.

274 CHAMÆFI'STULA. The same as *Cássia*, but the legume is terete, and hardly dehiscent and pulpy inside. Trees and shrubs, with abruptly-pinnate leaves and yellow flowers.

275 CATHARTOCA'RPUS. The same as *Cássia*, but differs in the long terete, woody, indehiscent pod, which is filled with pulp inside. Trees, with abruptly-pinnate leaves and racemes of yellow flowers.

276 EXÓSTYLIS. Calyx clavate, 5-cleft, 3 of the segments revolute. Petals 5, nearly equal, imbricately conniving, inserted in the middle of the calyx. Stamens 10, nearly equal, dilated at the base; anthers sagittate, cuspidate. Style elongated, simple. Legume thick, many-seeded. A tree, with impari-pinnate leaves, and racemes of rose-coloured flowers.

277 METROCY'NIA. Calyx 5-cleft. Petals 5. Stamens 10, hairy. Legume short, somewhat reniform, 1-seeded, warted or plicate. A tree, with abruptly-pinnate leaves.

278 AFZE'LIA. Calyx 4-cleft. Petals 4, unguiculate, upper one largest. Stamens 10, 2 upper ones sterile. Legume woody, many-celled. Seeds arillate. A genus hardly known.

279 MELANÓXYLON. Calyx deeply 5-cleft. Petals 5, nearly equal. Stamens 10, hairy. Legume compressed, falcate. Seeds with winged aril. A tree, with impari-pinnate leaves, and panicled racemes of rusty flowers.

280 ACO'SMIUM. Calyx campanulate, 4-5-cleft. Petals 5, spreading. Stamens 10, inserted in the bottom of the calyx. Ovary elongated, perhaps a legume. A tree, with impari-pinnate leaves, and racemes of yellow flowers.

281 SCHÓTIA. Calyx 5-cleft. Petals 5, lateral ones incum-

bent. Stamens 10, smooth. Ovary pedicellate. Trees, with abruptly-pinnate leaves, and racemes of vermillion flowers.

282 Copai'fera. Calyx 4-cleft, unequal. Petals wanting. Stamens 10. Legume stipitate, coriaceous, compressed, 2-valved, 1-seeded. Seed arillate. Trees, with abruptly-pinnate leaves.

283 Cynome'tra. Calyx 4-parted; segments reflexed, pencilled at the apex. Petals 5, equal. Stamens 10; anthers bifid at the apex. Legume roundish, fleshy, indehiscent, tubercled, 1-seeded. Trees, with bifoliate leaves, and red flowers, rising from the trunk.

284 In'tsia. Calyx campanulate, 5-parted. Petal one, unguiculate. Stamens 9, 3 of which are fertile, longer, and declinate. Legume compressed, 3-4-seeded. Trees, with abruptly or impari-pinnate leaves.

285 Epe'rua. Calyx urceolate, 4-cleft. Petal one, fringed, inserted in the middle of the calyx. Stamens 10, long, villous, and rather monadelphous at the base. Legume compressed, falciform, 1-4-seeded. A tree, with abruptly-pinnate leaves and red flowers.

286 Parivòa. Calyx bibracteolate, 3-5-parted. Petal one, large, convolute, inserted in the calyx. Stamens 10, 9 joined at the base, and 1 free. Legume thick, compressed, 1-seeded. A tree, with abruptly-pinnate leaves and purple flowers.

287 Anthonòta. Calyx 4-cleft, unequal, girded by a 2-lobed bractea at the base. Petal one, on a long claw, emarginate. Stamens 10, 3 of which are very long. Legume compressed, hardly dehiscent, 1-celled, many-seeded. A tree, with abruptly-pinnate leaves.

288 Ou'tea. Calyx 5-cleft, bibracteate at the base. Petals 5, one of which is very large and undulated. Stamens 3-4, free, one sterile. Legume compressed, 1-seeded. Trees, with abruptly-pinnate leaves.

289 Voua'pa. Calyx 4-cleft, bibracteate at the base. Petal one, flat. Stamens 3. Legume stalked, 1-seeded. Trees, with bifoliate leaves.

290 Hymenæ'a. Calyx bibracteate at the base, 4-5-parted. Petals 5, glandular. Stamens 10, distinct, inflated in the middle. Legume woody, mealy inside, 1-celled, many-seeded. Trees, with bifoliate leaves.

291 Schne'lla. Calyx 5-toothed. Petals 5, unguiculate, nearly equal. Stamens 10. Style none. Legume truncate. Shrubs, with 2-lobed leaves and white flowers.

292 Bauhi'nia. Calyx 5-cleft. Petals 5, upper one distant from the rest. Stamens 10, sometimes 9 of which are sterile (f. 58. *c.*), and joined, and 1 free (f. 58. *e.*) and bearing an anther, sometimes all monadelphous at the base and fertile, or 5 or 3 fertile. Legume (f. 58. *g.*) 2-valved, 1-celled, many-seeded (f. 58. *h.*). Shrubs, with 2-lobed leaves.

293 Ce'rcis. Calyx urceolate, 5-toothed. Petals 5, unguiculate, sub-papilionaceous, all distinct, the wings largest. Stamens 10, free, unequal. Legume oblong, compressed, 1-celled, many-seeded. Trees, with simple cordate leaves.

294 Palo'vea. Calyx girded by a 2-lobed bractea, 4-5-lobed. Petals 3-4. Stamens 9, rising from the tube of the calyx. Legume compressed, 6-7-seeded. A shrub, with simple leaves.

295 Aloe'xylon. Calyx 4-parted; lower lobe falcate and longer than the rest. Petals 5, unequal. Stamens 10, distinct. Style filiform. Legume woody, falcate, 1-seeded. A tree, with simple, alternate leaves, and terminal flowers.

296 Ama'ria. Calyx 5-cleft. Petals 5, equal, keeled. Stamens 10, monadelphous. Legume long, compressed, torose, many-seeded. Shrubs, with simple leaves.

297 Bowdi'chia. Calyx 5-toothed. Petals 5, free, lateral ones longest, therefore disposed in a papilionaceous manner. Stamens 10, free. Legume compressed, membranous, winged, many-seeded, indehiscent. A tree, with impari-pinnate leaves and violaceous flowers.

298 Cru'dya. Calyx bibracteate at the base, 4-cleft. Petals wanting. Stamens 8-10, inserted in the tube of the calyx, free. Legume coriaceous, 1-2-seeded. Trees, with impari-pinnate leaves.

299 Dia'lium. Calyx 5-parted, 2 exterior lobes rather broadest. Petals wanting. Stamens 2, inserted in the upper side of the receptacle. Legume velvety, 1-2-seeded, pulpy inside. Trees, with impari-pinnate leaves.

300 Coda'rium. Calyx 5-parted. Petal one, linear-lanceolate. Stamens 2, inserted in the calyx. Legume velvety, 1-seeded, filled with mealy pulp inside. Trees, with impari-pinnate leaves.

301 Vata'irea. Flowers unknown. Legume coriaceous, roundish, compressed, 1-celled, 1-seeded. Seed large, flat. A tree, with impari-pinnate leaves.

Tribe XI.

Detarieæ. *Calyx 4-lobed, globose before expansion, with valvate lobes. Petals wanting. Stamens 10-25, perigynous, nearly free. Legume fleshy. Cotyledons thick. Trees, with impari-pinnate leaves. It differs from all the other tribes of this order in the drupaceous fruit, and therefore comes near to* Rosa'ceæ.

302 Deta'rium. Stamens 10, distinct. Drupe orbicular, 1-celled, 1-seeded. A tree, with impari-pinnate leaves.

303 Cordy'la. Stamens 30-35, somewhat monadelphous at the base. Legume stipitate, 1-celled, many-seeded. A tree, with impari-pinnate leaves.

† *Genera belonging to Leguminòsæ, but they are not sufficiently known, and are therefore not received among the tribes.*

304 Crumi'nium. Calyx cup-shaped, truncate. Legume compressed, flat, many-seeded, margined on both sides.

305 Phyllolòbium. Calyx campanulate, 5-cleft; teeth equal, awl-shaped. Corolla papilionaceous, the vexillum a little larger than the other petals. Legume turgid, compressed at the sutures, falcate, 6-10-seeded, opening at one of the sutures. A flexuous herb, with impari-pinnate leaves and whitish flowers.

306 Amphinòmia. Calyx ventricose, 5-cleft; segments lan-

ceolate, spreading. Petals 5, unguiculate. Stamens 10, monadelphous. Style lateral. Legume roundish, 1-celled, 2-valved, many-seeded, the most of which are abortive. A decumbent hairy herb, with trifoliate leaves.

307 Sarcódum. Calyx cup-shaped, 3-toothed. Vexillum ovate, ascending. Wings short. Keel falcate. Stamens diadelphous. Legume fleshy, terete, many-seeded. A climbing shrub, with pinnate leaves, and spikes of rose-coloured flowers.

308 Vare'nnea. Calyx tubular, 5-toothed, unequal. Vexillum wedge-shaped, emarginate. Wings falcate, concave above. Keel of 2 spatulate petals, concave above. Stamens 10, diadelphous, 9 joined, and one free. Legume compressed, rather falcate, 1-seeded. A shrub, with impari-pinnate leaves, and racemes of white flowers.

309 Crafórdia. Calyx campanulate, 5-cleft. Vexillum large, reflexed. Wings adpressed, auricled at the base. Keel obtuse, longer than the wings. Stamens 10, diadelphous. Legume linear, torulose, usually 2-seeded. Leaves impari-pinnate. Flowers white.

310 Ammode'ndron. Calyx calyculate. Legume flat, membranous, winged, 1-seeded in the middle. A spiny shrub, with bifoliate leaves.

311 Laca'ra. Calyx campanulate, 5-toothed. Petals 5, unequal, unguiculate. Stamens 10, free, inserted at the bottom of the calyx, pilose at the base. Legume? pilose. A shrub, with simple leaves.

312 Harpaly'ce. Calyx bilabiate, deciduous, bibracteolate at the base; lips equal, entire. Corolla papilionaceous. Vexillum obovate. Wings auricled. Keel 2-edged, twisted. Legume compressed, narrow at the base, 4-5-seeded. A subshrub, with impari-pinnate leaves, and large rose-coloured flowers.

313 Diplo'trion. Calyx tubular, 5-toothed. Corolla papilionaceous. Stamens 10, monadelphous. Legume 1-celled, many-seeded, spirally involute. A hairy annual herb, with trifoliate leaves and heads of yellow flowers.

314 Rivi'ria. Flowers unknown. Legume stipitate, obliquely-elliptic, flattish, mucronate, 2-valved, 1-seeded. Cotyledons thick. A tree, with impari-pinnate leaves, with the rachis winged.

Division I.

CURVE'MBRIÆ (from *curvus*, curved, and embryo, (f. 21. *b. e. f.*). Radicle curved back upon the edge of the cotyledons.

Suborder I.

PAPILIONA'CEÆ (from *papilio*, a butterfly; in allusion to the disposition of the petals resembling that of a butterfly f. 22. f. 23. &c.). Lin. ord. nat. 32. D. C. prod. 2. p. 94. Curvémbryæ, Bronn dis. p. 131. Cyteophýtum, Neck. elem. 3. p. 1. Leguminòsæ, Batsch. tabl. aff. 95.

Embryo with the radicle curved back upon the edge of the cotyledons, lying above the commissure formed by the lobes (f. 21. *b. e. f.*). Sepals usually imbricate in æstivation, rarely somewhat valvate. Petals disposed into a papilionaceous corolla or a pea flower (f. 24. *b.* f. 25. *b.*, &c.), therefore always irregular. Stamens inserted in the bottom of the calyx (f. 22. *c.*), or perigynous.—Plants with simple, trifoliate or simply pinnate leaves.

§ 1. *Phyllólobæ* (from φυλλον, *phyllon*, a leaf, and λοβος, *lobos*, a lobe; in reference to the lobes of embryo or cotyledons being foliaceous). *D. C. Cotyledons thin, foliaceous* (*f.* 21. *a. f.*).

Tribe I.

SOPHO'REÆ (plants agreeing with *Sophòra* in important characters). Spreng. anl. 2. p. 741. Bronn. diss. p. 131. D. C. legum. mem. V. prod. 2. p. 94.

Corolla papilionaceous (f. 22. *c.* f. 24. *b.*). Stamens free (f. 23. *f.* f. 24. *c.*). Legume continuous (f. 22. *d.*), never articulated. Cotyledons flat, leafy (f. 21. *a. b.*). This is a very natural tribe, known by its papilionaceous flowers, free stamens, and unarticulated pods.

I. MYROSPE'RMUM (from *μυρον*, *myron*, myrrh, and *σπερμα*, *sperma*, a seed; the seeds and cells yield a balsam that has a strong smell). Jacq. amer. (1736) p. 120. Lam. ill. 341. D. C. leg. mem. V. prod. 2. p. 94. Myróxylon, Lin. fil. suppl. 233. but not of Forst. et Toluífera, Lin. gen. 524.

Lin. syst. *Decándria, Monogýnia.* Calyx campanulate, 5-toothed. Petals 5, the upper one larger than the rest. Stamens 10, free. Ovary stipitate, oblong, membranous, 2-6-ovulate, bearing a lateral, ascending, filiform style towards the apex. Legume with a naked stipe at the base, but amply winged at the apex, samaroid, indehiscent, 1-celled, 1-2-seeded, bearing the style laterally towards the apex. Seed enwrapped in balsamic resin. Radicle incurved in the first section, in the rest unknown. Cotyledons thick and flat.—American trees, with abruptly-pinnate leaves, and with the leaflets usually full of pellucid dots, the glands or dots are oblong-linear, as in *Samýdeæ.* The terminal leaflet usually solitary. Perhaps a proper tribe.

Sect. I. Calu'sia (meaning unknown). Bert. ined. D. C. prod. 2. p. 94. Myrospérmum, H. B. et Kunth. nov. gen. amer. 6. p. 572. Stamens with permanent filaments.

1 M. frute'scens (Jacq. amer. 120. t. 174. f. 34.) leaves membranous, deciduous; legume with a reticulately-veined wing; style permanent. ♄. S. Native of South America, in bushy places at Carthagena and St. Martha, on the declivities of mountains in Caraccas, as well as on the banks of the Rio Guarico. H. B. et Kunth, nov. gen. amer. t. 570. and 571. Leaflets 7-8 pairs, alternate, somewhat crenulated, oval, emarginate, marked with pellucid lines. Legume nearly 2 inches long, with the stipe inclosed in the calyx. According to Jacquin this is an inelegant shrub. Leaves alternate, pinnate, deciduous, with commonly 3 pairs of leaflets and an odd one, which are quite entire and smooth. Flowers of a whitish rose-colour, disposed in terminal, simple, or bifid racemes. The seeds and the cell of the legume yield a balsam that has a strong unpleasant smell.

Shrubby Balsam-seed. Shrub 10 feet.

Sect. II. Myróxylon (from *μυρον*, *myron*, myrrh, and ξυλον, *xylon*, wood; the wood is resinous and sweet-scented). Mutis, Lin. fil. et Kunth. Stamens deciduous.

2 M. pube'scens (D. C. prod. 2. p. 95.) branches and petioles hairy; leaflets ovate-lanceolate or oblong, rather membranous, smooth above and pubescent beneath, rather acuminated, emarginate. ♄. S. Native of South America, near Carthagena and Popayan. Myróxylon pubéscens, H. B. et Kunth, nov. gen. amer. 6. p. 374. M. peruiferum, Lamb. ill. cinch. 92. t. 1. Leaves rather membranous, marked with line-like dots. An elegant tree, with white flowers disposed in terminal racemes. The bark is filled with white resin, which, according as it abounds more or less, changes the colour to citron-yellow, red, or dark chesnut; the smell and taste are grateful, balsamic, and aromatic, resembling those of Red Peruvian Balsam, and sold in druggists' shops under the name of white balsam. The legume contains 1

seed, which is crescent-shaped, projecting from the cell, and between this and the lining of the pericarp is filled with a yellow liquid balsam, which in time dries and becomes a hard resin. The tree grows in the mountains of Panatahuas, in the forests of Puzuzo, Muna, Cuchero, and in many other countries near the river Maranon, in low, warm, and sunny situations. The natives of these countries call the tree by the name of *Quinquino*, and its bark and fruit by that of *Quinquina*, a plant very different to the Quina. The Indians of Puzuzo and the above-mentioned countries do not collect the balsam of this tree, they only collect the barks most filled with resin, condensed into drops and lumps, and the fruits, in order to sell them in the neighbouring provinces, both of which are used for the purpose of perfuming cloth and apartments. It is called perfume of quinquina, to distinguish it from the true perfume, which is a composition of Benzoin, storax, and ambergris, these substances being formed into a paste, from which they make pastiles. The fruit as well as the bark being reduced to a coarse powder, they mix it with oil of maria, carana, jacamaca, lera, or sebo, and make with it little plasters, which they apply upon the temples and behind the ears, to mitigate the pains of the head-ache and the tooth-ache. It closes recent wounds, strengthens the brain, mitigates pains proceeding from agues, and dissipates the shivering produced by fevers. The balsam of quinquino is procured by incision at the beginning of spring, when the showers are gentle, frequent, and short; it is collected into bottles, where it keeps liquid for some years, in which state it is called white liquid balsam. But when the Indians deposit this liquid in mats or calabashes, which is commonly done in Carthagena, it hardens into a resin and is then denominated dry white balsam. The wood of the quinquino is compact, heavy, and durable, but is difficult to work on account of its uneven grain. It is never exposed to attacks of worms, wherefore the Indians make use of the trunks for beams and stanchions.

Pubescent Myrrh-seed, White Balsam, or Quinquino. Fl. Aug. Sept. Tree 40 feet.

3 M. PERUI'FERUM (D.C. prod. 2. p. 95.) leaflets coriaceous, permanent, and are as well as the branches glabrous; legume with a very thick wing; style deciduous. ♄. S. Native of Peru, New Granada, Colombia, Mexico. Myróxylon peruíferum, Lin. fil. suppl. 233. Bert. amœn. p. 26. t. 1. H. B. et Kunth, nov. gen. amer. 6. p. 374. M. pedicellàtum, Lam. dict. 4. p. 191. ill. t. 341. f. 1. Flowers white, disposed in axillary racemes. Legume coriaceous, with the stipe inclosed in the calyx, about 3 inches long. There are varieties of this tree, or perhaps distinct species, differing in having quite entire or crenated, oval, or ovate, obtuse or emarginate leaflets, marked with oblong or roundish pellucid dots. The lower leaflets alternate, and the upper ones more or less opposite, to the number of 2-5 pairs. It is a very beautiful tree, with a smooth bark full of resin, as are all parts of the plant. The leaves are abruptly pinnate, usually with about 2 pairs of ovate-lanceolate, entire, emarginate leaflets, which are full of transparent, linear, resinous dots. The balsam of Peru is the produce of this tree, according to Joseph Cælastine Mutis. This balsam, when brought to us, is of the consistence of thin honey, of a reddish-brown colour, inclining to black, an agreeable aromatic smell, and a very hot biting taste. It is said to be obtained by boiling the cuttings of the twigs in water, and skimming off with a spoon the balsam, which swims on the top. Peruvian balsam consists of a volatile oil, resin, and benzoic acid; it is accordingly entirely soluble in alcohol and in essential oils. Water dissolves part of the benzoic acid, and fixed oil combines with the resin. It may be suspended in water by trituration with mucilage and yoke of eggs. Balsam of Peru is a very warm aromatic medicine, considerably hotter and more acrid than copaiva. Its effects are stimulating and tonic. Hence its use in some kinds of asthmas, gonorrhœas, dysenteries, suppressions of the uterine discharges, and other disorders proceeding from debility. It is also employed externally for cleansing and healing wounds and ulcers, and sometimes against palsies, and rheumatic pains.

Balsam of *Peru*-tree. Tree 40 feet.

4 M. TOLUI'FERUM (Ach. Rich. ann. sc. nat. 1824. jun. p. 172.) branches and leaves glabrous; leaflets oblong, acuminated, equal-sided, rounded at the base. ♄. S. Native of South America, on the mountains of Tolu, Turbaco, and on the banks of the river Magdalena, between Carapata and Mompox. Balsàmum Tolutànum, C. Bauh. pin. 401. Toluífera Balsàmum, Mill. dict. Lin. mat. med. 201. Woodv. med. bot. 3. p. 526. t. 193. Myróxylon toluíferum, H. B. et Kunth, nov. gen. amer. 6. p. 375. A large spreading tree, with very thick, rough, brown bark. Leaves oblong-ovate. Flowers yellowish, disposed in small axillary racemes. The balsam of Tolu is the produce of this tree; it flows from incisions made in the bark, during the hot season, and is brought to us in little gourd shells. It is of a yellowish-brown colour, inclining to red; in consistence thick and tenacious; by age it grows hard and brittle. The smell of this balsam is extremely fragrant, somewhat resembling that of lemon, its taste warm and sweetish. Lewis says that he has sometimes procured benzoic acid from it. It yields very little volatile oil, although it impregnates the distilled water strongly with its flavour. By dissolving a proper quantity of sugar in this water a more elegant syrup is obtained than that prepared in the common way with a decoction of the balsam; in its medical virtues it agrees with other balsams.

Balsam of *Tolu*-tree. Clt. 1733. Tree 40 feet.

Cult. Fresh imported seeds of any of the species will grow, if sown in a pot immediately on their arrival in this country, and placed in a hot-bed. The plants are to be potted off separately when they are 3 inches high, in a mixture of peat and loam; young cuttings will also root, if planted in sand, with a hand-glass placed over them, in heat.

II. SOPHO'RA (altered from *sophero*, the Arabic name of a papilionaceous flowering tree). R. Br. hort. kew. ed. 2. vol. 3. p. 2. D. C. leg. mem. 5. prod. 2. p. 95.—Sophòræ, spec. Lin. gen. no. 508. exclusive of some anomalous species.

LIN. SYST. *Decándria, Monogýnia.* Calyx 5-toothed (f. 22. *a.*), campanulate at the base, or somewhat attenuated. Petals of the keel usually concrete at the apex. Legume somewhat moniliform (f. 22. *d.*), wingless, many-seeded.—Trees, shrubs, or herbs, with impari-pinnate leaves, which are usually exstipulate and terminal, simple racemes or panicles of yellow, white, or blue flowers.

SECT. I. EUSOPHÒRA (from ευ, *eu*, well or good, and *sophora;* genuine species). D. C. prod. 2. p. 95. Stamens 10, free.

1 S. JAPÓNICA (Lin. mant. 68.) arboreous; leaflets 11-13, oblong-ovate, acute, glabrous; panicle terminal, loose; legumes glabrous. ♄. H. Native of Japan. Red. in Duh. ed. nov. 3. t. 21. S. Sinica, Rosier. journ. phys. 14. p. 248. D. C. leg. t. 4. f. 1. germ. Flowers beautiful cream-coloured. Legume with from 1-7 rather distant contractions, when young replete with an austere pulp inside. An elegant tree when in flower, and well fitted for ornamental plantations.

Var. β, variegàta; leaves variegated.

Var. γ, péndula; branches pendulous.

Japan Sophora. Fl. Aug. Sept. Clt. 1763. Tr. 30 to 40 ft.

2 S. CHINE'NSIS (Lodd. cat. Loud. hort. brit. p. 162.). We have not been able to obtain a description of this species. It is

usually confounded in gardens with the preceding. ♄. H. Native of China.

China Sophora. Fl. Aug. Sept. Clt. 1763. Tr. 30 to 40 ft.

3 S. GLAU´CA (Lesch. ined. D. C. ann. sci. nat. 4. p. 98.) shrubby; leaflets 19-23, elliptic, mucronate, velvety, and glaucous on the upper surface, but villous beneath; racemes terminal, crowded. ♄. S. Native of the East Indies, on the mountains of Nelligery, where it is called by the natives *Houbbey*. Branches, petioles, and peduncles velvety. Flowers purplish.

Glaucous Sophora. Clt. 1818. Shrub 7 feet.

4 S. TOMENTÒSA (Lin. spec. 533.) arboreous; leaflets 15-19, oval-roundish, clothed with hoary tomentum on both surfaces, as well as the calyxes; racemes terminal, elongated. ♄. S. Native of the Caribbee Islands and the East Indies? Lam. ill. t. 325. f. 2. S. occidentàlis, Lin. spec. 533.—Plum. ed Burm. t. 101. Trew. ehr. t. 59. —Browne, jam. 289. t. 31. f. 1.—Sloane, jam. 2. p. 40. t. 107. f. 3. Flowers yellow.

Tomentose Sophora. Fl. June, Jul. Clt. 1739. Sh. 7 to 8 ft.

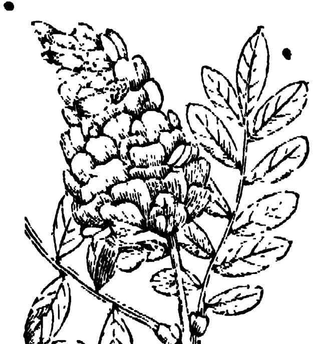
5 S. CRASSIFÒLIA (Jaum, in Duh. ed. nov. 3. p. 87.) arboreous; leaflets 15-19, oblong, obtuse, oblique at the base, dilated on the inner side, pubescent beneath; racemes terminal, elongated. ♄. S. Native of Senegal. Very like *S. tomentòsa*. Leaves coriaceous, pale.

Thick-leaved Sophora. Clt. 1818. Tree.

6 S. HAVANE´NSIS (Jacq. amer. 118. t. 173. f. 1. a flower) shrubby; leaflets 25, oblong-ovate, obtuse, emarginate, and are as well as the branches villous; raceme terminal, elongated. ♄. S. Native of Cuba, about the Havannah, in bushy places. Flowers yellow.

Havannah Sophora. Fl. Aug. Clt. 1823. Shrub 6 feet.

FIG. 22.



7 S. SECUNDIFLÒRA (Lag. in D. C. cat. hort. monsp. 148.). shrubby; leaflets 9-13, elliptic-oblong, obtuse, coriaceous, smoothish; racemes terminal, crowded with secund flowers. ♄. S. Native of New Spain. Broussonètia secundiflòra, Ort. dec. 5. p. 61: t. 7. Virgília secundiflòra, Cav. icon. 5. t. 401. Flowers rather large, blue. Legume, according to Lagasca is moniliform. A beautiful shrub.

Side-flowered Sophora. Clt. 1820. Shrub 6 feet.

8 S. MACROCA´RPA (Smith, in Rees' cycl. no. 6.) arboreous; leaves with 13-19 elliptic-oblong, obtuse, coriaceous leaflets, which are silky beneath; racemes short, axillary. ♄. G. Native of Chili, where it is called *Mayo*. Lodd. bot. cab. t. 1125. Legume silky, wingless. An elegant shrub with yellow flowers. Allied to *Edwárdia*.

Long-fruited Sophora. Clt. 1822. Shrub 8 to 10 feet.

9 S. LITTORA´LIS (Schrad. in Neuw. reis. no. 9. goett. anz. 1821. p. 709.) shrubby: leaflets few pairs, roundish-elliptic, glabrous above, but strigosely-canescent beneath; racemes terminal. ♄. S. Native of Brazil. Pluk. alm. t. 104. f 3. S. arenicola, Nees, in flora, 1821. p. 297. Flowers probably yellow.

Sea-shore Sophora. Clt. 1820. Shrub 6 feet.

10 S. HEPTAPHY´LLA (Lin. spec. 533.) arboreous; leaflets 7, glabrous. ♄. S. Native of the East Indies. This is a very obscure species and perhaps the same as *S. flavéscens*.—Rumph. amb. 4. p. 50. t. 22. Flowers yellow.

Seven-leafletted Sophora. Shrub 6 feet.

11 S. FLAVE´SCENS (Ait. hort. kew. 2. p. 43.) herbaceous; leaflets 9-13, ovate-oblong, smoothish; racemes terminal. ♃. H. Native of Siberia. S. macrospérma, Jaume, in Duh. ed. nov. 3. p. 87. ex herb. Juss. S. glàbra, Mœnch. ex Steud. Stipulas awl-shaped. Flowers yellowish. Stamens distinct. Legume slender, tomentose.

Yellowish-flowered Sophora. Fl. June, July. Clt. 1785. Pl. 2 to 3 feet.

12 S. GALEGOÌDES (Pall. astrag. p. 118. t. 88.) herbaceous; leaflets 9-13, ovate, acute, rather large, smoothish; racemes terminal. ♃. H. Native of Eastern Siberia, particularly at Lake Baical. Flowers of a violet colour.

Galega-like Sophora. Fl. June, Jul. Clt. 1817. Pl. 2 to 3 ft.

SECT. II. DISEMÆ´A (δις, *dis*, twice, and *σημα*, *sema*, a standard; vexillum bifid). Lindl. bot. reg. 1185. Petals imbricate. Calyx 5-toothed, equal. Stamens irregularly monadelphous at the base.

13 S. VELUTÌNA (Lindl. bot. reg. 1185.) shrubby; leaflets 23, alternate, elliptic, mucronate, velvety on both surfaces, as well as the peduncles and branches; racemes cylindrical, terminal; petals imbricate; vexillum bifid. ♄. F. Native of Nipaul. Flowers in long racemose spikes, pale-purple. This species being very shewy, it would be worth attention to graft it on the common *Sophòra Japónica*, by which means it would be rendered so hardy as to stand our winters in open shrubberies, for which purpose it would be a very desirable addition.

Velvety Sophora. Fl. May, Jun. Clt. 1820. Shrub 4 to 6 ft.

SECT. III. PSEUDOSOPHÒRA (from ψευδης, *pseudes*, false, sophòra; called false sophoras because the stamens are diadelphous, and not monadelphous, as in the preceding section). D. C. prod. 2. p. 96. Stamens 10, somewhat diadelphous, that is 9 joined at the base and the tenth free.

14 S. ALOPECUROÌDES (Lin. spec. 533.) herbaceous; leaflets 15-25, oblong, young ones silky on both surfaces, adult ones only on the under surface; racemes terminal. ♃. H. Native of Siberia, Iberia, Tauria, and Persia. Pall. astr. t. 87.—Dill. hort. elth. f. 136.—Buxb. cent. 3. t. 46. S. álbicans, Jaume, in Duh. ed. nov. 3. p. 86. There is a variety of this plant with the leaves less villous. Racemes many-flowered. Flowers yellowish. Legume moniliform, tapering to both ends, sometimes only 1-seeded from abortion. Root creeping much. The plant seldom or ever flowers in England from the shortness of the summer.

Fox-tail Sophora. Fl. Sept. Oct. Pl. 3 to 4 feet.

15 S. SERÍCEA (Nutt. gen. amer. 1. p. 280.) herbaceous, dwarf; leaflets 21, cuneate-oval, or subelliptic, silky below; spikes nearly sessile. ♃. H. Native of elevated plains on the banks of the Missouri. Astràgalus carnòsus, Pursh, fl. sept. amer. 2. p. 740. ex Nutt. Patrínia serícea, Rafin. in journ. phys. aug. 1819. p. 97.? Calyx 5-toothed and stamens diadelphous. ex Nutt. 4-toothed, and stamens free, ex Rafin. Keel mucronate, Nutt. Flowers white.

Silky Sophora. Fl. June, July. Clt. 1820. Pl. 1 foot.

† *A species not sufficiently known.*

16 S. ACUMINA´TA (Desf. journ. bot. 1814. 1. p. 75.) leaflets 39-41, lanceolate, acute, pubescent, rather cinereous; legume tomentose, moniliform. ♃.? H. Native of North America.

Acuminated-leafletted Sophora. Pl. ?

Cult. The *S. Japónica* and *S. Chinénsis* are very handsome trees, well adapted to stand singly in lawns; while young they require a little protection in winter. These may be raised from layers, but they are generally increased by seeds. The stove species will thrive well in a light loamy soil, and cuttings will root if planted in a pot of sand, with a hand-glass placed over them, in heat. The hardy herbaceous kinds will grow well in a dry light soil, and they are easily increased by dividing them at the root in spring, or by seed, which sometimes ripen.

III. EDWA'RDSIA (in honour of Sydenham Edwards, a celebrated English botanical draughtsman, who executed most of the drawings in the first volumes of the Botanical Register). Salisb. Lin. trans. 9. p. 299.

Lin. syst. *Decándria, Monogýnia.* Calyx obliquely 5-toothed, with the upper side cleft. Petals 5, distinct, conniving into a papilionaceous corolla. Keel long. Stamens 10, with the filaments deciduous, according to Salisbury, and inserted into a cup-shaped, 10-angled torus. Legume moniliform, 1-celled, 2-valved, 4-winged, many-seeded. Shrubs or little trees, with impari-pinnate, exstipulate leaves, having numerous pairs of leaflets, which fall off late in the autumn. Flowers golden, axillary, disposed in short racemose spikes.

1 E. MICROPHY'LLA (Salisb. l. c.) leaves with 12-15 pairs of obovate-roundish, emarginate leaflets, smooth or pubescent beneath; petals of keel elliptic, hooked on the back. ♄. F. Native of New Zealand. Sophòra microphýlla, Ait. hort. kew. 2. p. 43. Lam. ill. t. 325. Jacq. hort. schœnbr. t. 269. Sophòra tetráptera, Lin. fil. suppl. 230. Leaflets 25-41, 2-3 lines long. This is a magnificent shrub when in flower, displaying large pendulous bunches of golden flowers.

Small-leaved Edwardsia. Fl. May, June. Clt. 1722. Shrub 6 to 10 feet.

2 E. GRANDIFLÒRA (Salisb. l. c.) leaflets 17-21, oblong-linear, somewhat lanceolate, rather villous beneath; petals of keel broadly falcate. ♄. F. Native of New Zealand. Sophòra tetráptera, Ait. hort. kew. 2. p. 43. Mill. icon. 1. Curt. bot. mag. 167. Lam. ill. t. 325. f. 3. Red. in Duh. ed. nov. 3. t. 20. E. macrophýlla, Wanderoth, l. c. Leaflets 13-19, 5-10 lines long. This is an elegant tree when in flower, bearing large pendulous clusters of golden flowers, which rise in spring before the leaves.

Great-flowered Edwardsia. Fl. April, May. Clt. 1772. Shrub 6 to 10 feet.

3 E. MYRIOPHY'LLA (Wanderoth, in Schlecht. Linnæa 5. p. 202.) arborescent; leaves having 20 pairs of obovate, entire, emarginate leaflets, the odd one emarginate, smooth, or pubescent beneath. ♄. F. Native of New Zealand. E. mínima, Lodd. cat. Flowers yellow.

Many-leafletted Edwardsia. Fl. May, June. Clt. 1818. Shrub 4 to 6 feet.

4 E. CHRYSOPHY'LLA (Salisb. l. c. t. 26. f. 1.) leaflets 17, obovate, younger ones clothed with yellow pubescence; petals of keel elliptic, with the dorsal margin straight. ♄. G. Native of the Sandwich Islands. Leaflets 8-10 lines long. Ker. bot. reg. 738. Flowers smaller than those of the preceding species, yellow.

Golden-leaved Edwardsia. Fl. May, June. Clt. ? Shrub 6 to 10 feet.

5 E. NÍTIDA (D. C. prod. 2. p. 97.) leaflets 21-25, elliptic, somewhat obovate, retusely emarginate, silky on both surfaces; wings of flower oblong, with the dorsal margin straight; legume villous. ♄. S. Native of the Island of Bourbon. Sophòra nítida, Smith, in Rees' cycl. no. 7. S. serícea, Jaume, in Duh. ed. nov. 3. p. 86.

Shining Edwardsia. Clt. 1820. Shrub 8 feet.

6 E. DENUDA'TA (D. C. prod. 2. p. 97.) leaflets 17-21, elliptic, obtuse, retusely emarginate, pale beneath, and clothed with silky pubescence, smooth above, younger ones as well as branchlets sericeous. ♄. S. Native of the Island of Bourbon. Sophòra denudàta, Bory. voy. 2. p. 399. Sophòra retùsa, Pers. ench. 2. p. 452. Calyx clothed with rusty shining wool, and the legume tomentose.

Naked Edwardsia. Shrub.

Cult. This is a genus of elegant shrubs. The four first species are hardy enough to survive our winters, in the open air, when they are not too severe, but it is much better to protect them under a frame in winter; they are generally propagated by seeds, which usually ripen; they may also be increased by young cuttings planted in sand, with a hand-glass placed over them. The stove species, or those natives of the Island of Bourbon, will grow freely in a mixture of loam, peat, and sand, and young cuttings of them will root readily if planted in a pot of sand, with a hand-glass placed over them, in heat.

IV. ORMO'SIA (from *ορμος, ormos*, a necklace; the seeds of *O. coccinea*, are strung for necklaces; they are red, and have a black spot at one end). Jacks. in Lin. trans. 10. p. 360. R. Br. in hort. kew. ed. 2. vol. 3. p. 3.

Lin. syst. *Decándria, Monogýnia.* Calyx bilabiate, upper lip 2-lobed, lower one 3-parted. Vexillum roundish, hardly longer than the wings and keel. Stamens 10, with the filaments dilated at the base. Style incurved, crowned by 2 approximate stigmas. Legume woody, compressed, 2-valved, young ones 5-6-ovulate, 1-2-seeded. South American trees, with the branches clothed with rusty villi. Leaves large, impari-pinnate, usually with 4 or 6 pairs of leaflets. Stipulas distinct from the petioles. Flowers panicled, blue, or purplish.

1 O. DASYCA'RPA (Jacks. l. c. t. 26.) leaflets acuminated, glabrous on both surfaces; legumes tomentose. ♄. S. Native of the Caribbee Islands. Sophòra monospérma, Swartz. fl. ind. occ. 2. p. 722. Podalýria, Poir. dict. 5. p. 440. Flowers large, blue. Legume containing only 1 large, round, spherical, scarlet seed, which has a large black spot at one end. Browne calls the tree the Red Bead-tree.

Thick-fruited Bead-tree. Fl. June, July. Clt. 1793. Tree 10 to 20 feet.

2 O. COCCÍNEA (Jacks. l. c. t. 25.) leaflets somewhat ovate, thick, with revolute margins, glabrous on both surfaces; legume glabrous, shining. ♄. S. Native of Guiana and Brazil. Robínia coccínea, Aubl. guian. 2. p. 773. Flowers blue. Seeds scarlet, with a black spot at one end, as in the preceding.

Scarlet-seeded Bead-tree. Fl. June, July. Clt. 1823. Tree 10 to 20 feet.

3 O. COARCTA'TA (Jacks. l. c. t. 27.) leaflets unequal, glabrous above, but covered with rusty hairs beneath. ♄. S. Native of Guiana. Seeds colour and shape of those of the two preceding, but much smaller.

Coarctate Bead-tree. Tree.

Cult. For culture and propagation see stove species of *Edwárdsia.*

V. VIRGI'LIA (dedicated to the poet Virgil, whose Georgics contain many things interesting to botanists). Lam. ill. t. 326. Pers. ench. 1. p. 453. R. Brown, in hort. kew. ed. 2. vol. 3. p. 4.

Lin. syst. *Decándria, Monogýnia.* Calyx 5-cleft. Petals 5, about equal in length. Vexillum with the edges not reflexed. Stigma beardless. Legume compressed, oblong, 2-valved, many-seeded.—Trees or shrubs with impari-pinnate leaves, and with the flowers disposed in racemes.

1 V. CAPE'NSIS (Lam. ill. 326. f. 2.) stamens deciduous, woolly at the base; ovaries as well as legumes tomentose; keel acuminated; leaflets numerous, opposite, linear-lanceolate, mucronate, pubescent beneath. ♄. G. Native of the Cape of Good Hope. Sophòra Capénsis, Burm. fl. cap. prod. 12. Lin. mant. 67. Sophòra oroboìdes, Berg. cap. 142. Hypocalýptus Capénsis, Thunb. fl. cap. 570. Galèga sericea β. Lam. ex herb. Juss. Podalýria Capénsis, Andr. bot. rep. 347. Virgílìa Capénsis. Sims, bot. mag. 1590. Flowers large, pink, rather

darker towards the base of the vexillum, disposed in dense racemes.

Cape Virgilia. Fl. July, Aug. Clt. 1767. Sh. 3 to 10 feet.

2 V. INTRU'SA (R. Br. in Ait. hort. kew. 3. p. 4.) stamens permanent; ovaries smooth; calyx thrust in at the base; leaflets oval, obtuse, mucronate. ♄. G. Native of the Cape of Good Hope. Flowers pale-yellow.

Thrust-in-calyxed Virgilia. Fl. May, June. Clt. 1790. Shrub 4 to 8 feet.

3 V. AU'REA (Lam. ill. t. 326. f. 1.) stamens permanent; ovaries tomentose; legumes glabrous; leaflets oppòsite, oval, obtuse, mutic, smoothish. ♄. G. Native of Abyssinia. Robínia subdecándra, Lher. stirp. nov. t. 75. Podalýria aúrea, Willd. spec. 2. p. 502. D. C. leg. t. 4. f. 2. germ. Flowers large, golden, drooping. The roots taste like liquorice. The bark affords a yellow dye.

Golden-flowered Virgilia. Fl. July. Clt. 1777. Shrub 6 ft.

4 V. SYLVA'TICA (D. C. prod. 2. p. 98.) stamens permanent; ovaries glabrous; leaflets opposite, 6-7 pairs, oval, obtuse, glabrous; panicle terminal. ♄. G. Native of the Cape of Good Hope. Sophòra sylvática, Burch. cat. geogr. 3138. Legume plano-compressed, glabrous, tapering to both ends. Flowers yellow.

Wood Virgilia. Fl. June, Aug. Clt. 1816. Shrub 6 feet.

5 V. LU'TEA (Michx. fil. arb. amer. 3. p. 266. t. 3.) stamens deciduous, smooth; ovaries puberulous: legumes stipitate, glabrous: leaflets 9-11, alternate, ovate, acuminated, glabrous. ♄. H. Native of North America, between the mountains of Cumberland and the Mississippi. Delaun. herb. amat. t. 197. Flowers yellow, disposed in pendulous racemes. The whole tree strongly resembles the *Robínia pseudacàcia*. The bark affords a yellow dye.

Yellow-flowered Virgilia. Fl. June, July. Clt. 1812. Tree 10 to 16 feet.

6 V. ROBINIOÌDES (D. C. prod. 2. p. 98.) leaves with 3 pairs of leaflets and an odd one, obovate, obtuse, glaucous, smooth; racemes axillary, length of leaves, clothed with adpressed pubescence; pedicels very short. ♄. G. Native of the Cape of Good Hope. Robínia Capénsis, Burm. fl. cap. 22. Branches glabrous, terete. Stipulas callous, small. Flowers yellow.

Robinia-like Virgilia. Fl. June, Aug. Clt. 1818. Shrub 6 ft.

7 V.? RUBIGINÒSA (D. C. in ann. sc. nat. 4. p. 98.) stamens permanent; ovaries tomentose; leaflets oval-oblong, acuminated, opposite, glabrous; racemes panicled, and are, as well as the branches, rusty and velvety. ♄. S. Native of Guadaloupe. Flowers violaceous. Leaflets 3-4 inches long. Young legumes compressed, oblong, not moniliform.

Rusty Virgilia. Tree.

Cult. *Virgília lùtea* being an elegant hardy tree, is well adapted for shrubberies or pleasure-grounds, as it is covered with innumerable pendulous racemes of flowers early in summer. It is generally propagated by laying down the shoots in autumn or spring, and sometimes by seeds, which are annually received from the places of its natural growth by some nurserymen. It may also be propagated by young cuttings planted in a shady situation under a hand-glass. The green-house kinds are elegant plants when in flower; they will grow freely in a mixture of loam, peat, and sand, and young cuttings will root readily if planted in a pot of sand, with a hand-glass placed over them.

VI. MACRO'TROPIS (from μακρος, *macros*, long, and τροπις, *tropis*, a keel; keel of flower long). D. C. leg. mem. v. prod. 2. p. 98.—Anagỳris, Lour. coch. p. 260. but not of Lin.

LIN. SYST. *Decándria, Monogýnia.* Calyx cup-shaped or inflated, 5-toothed. Keel petals 2, equal in length to the wings, but much exceeding the vexillum. Legume straight, compressed or somewhat terete, many-seeded.—Shrubs, with imparipinnate glabrous leaves, and racemes of white flowers.

1 M. FŒ'TIDA (D. C. prod. 2. p. 98.) leaflets lanceolate-ovate; flowers panicled; calyx cup-shaped; legume somewhat terete. ♄. F. Native of China, near Canton. Anagỳris fœ'tida, Lour. cochin. p. 260. A. Sinénsis, Steud. nom. Panicle terminal. Flowers white. Wood and leaves fetid.

Fetid Macrotropis. Fl. April, May. Clt. 1820. Shrub 8 ft.

2 M. INODÒRA (D. C. prod. 2. p. 99.) leaflets oblong, acuminated, glabrous; flowers racemose; calyx inflated; legume straight, compressed. ♄. F. Native of Cochin-china, in woods. Anagỳris inodòra, Lour. l. c. Racemes terminal. Flowers white. Branches somewhat scandent. Wood, leaves, and bark scentless.

Scentless Macrotropis. Shrub 10 feet.

Cult. Beautiful shrubs, which will thrive in a mixture of loam, sand, and peat; and young cuttings will strike root if planted in a pot of sand placed under a hand-glass. The shrubs only require to be protected from frost.

VII. ANAGY'RIS (from ανα, *ana*, backwards, and γυρος, *gyros*, a circle; in allusion to the pods being curved backwards at their extremities). Tourn. inst. t. 415. Lin. gen. no. 509. Lam. ill. t. 325.

LIN. SYST. *Decándria, Monogýnia.* Calyx 5-toothed, somewhat bilabiate. Wings longer than the vexillum, but shorter than the 2-petalled keel. Legume on a short stipe, compressed, many-seeded, 2-valved, irregularly interrupted by a kind of spongy substance.—Shrubs, with trifoliate leaves and entire leaflets. Stipulas 2, concrete in one, placed opposite the leaves. Flowers disposed in short racemes, yellow.

1 A. FŒ'TIDA (Lin. spec. 534.) leaflets lanceolate, acute; legume acuminated. ♄. F. Native of the south of Europe, on hills in dry places. Lodd. bot. cab. 740. D. C. leg. t. 4. f. 3. germ.—Clus. hist. 1. p. 93. with a figure. The shrub is fetid in every part when bruised. The flowers hairy, like those of the *Labúrnum.*

Var. β, *glaúca* (Hortul. D. C. prod. 2. p. 99.) leaves more glaucous on both surfaces.

Fetid Bean-Trefoil. Fl. May, June. Clt. 1570. Sh. 6 to 8 ft.

2 A. LATIFÒLIA (Willd. enum. 489.) leaflets elliptic, obtuse; legumes torose, obtuse, apiculated by the style. ♄. F. Native of Teneriffe.

Broad-leaved Bean-Trefoil. Fl. April, May. Clt. 1815. Shrub 6 to 10 feet.

Cult. See *Macrótropis* for culture and propagation.

VIII. PIPTA'NTHUS (from πιπτω, *pipto*, to fall, and ανϑος, *anthos*, a flower; the teeth of the calyx fall off, as well as the petals and stamens very soon). Sweet. fl. gard. 264.

LIN. SYST. *Decándria, Monogýnia.* Calyx bilabiate, lower lip trifid, with the middle segment reflexed, upper lip 2-lobed; all the segments soon falling off. Petals deciduous. Vexillum large, obcordate, rufescent. Wings cuneated, somewhat cordate at the base. Keel cucullate, accumbent. Stamens 10, free, deciduous. Stigma minute. Legume broad-linear, compressed, 6-seeded, stipitate.—An elegant shrub, with trifoliate leaves, young ones rather silky; leaflets elliptical-oblong, acute, broad. Stipulas 2, large, joined together, entire, bicuspidate at the apex, placed opposite the leaves. Peduncles tern, 1-flowered. Flowers large, yellow.

1 P. NIPAULE'NSIS (Sweet, fl. gard. 264.) ♄. H. Native of Nipaul, on Shreenugur. Thermòpsis Laburnifòlia, D. Don, prod. fl. nep. p. 239. Anagỳris In'dica, Wall. mss. Baptísia Nipaulénsis, Hook. exot. fl. t. 131.

Nipaul Piptanthus. Fl. May, June. Clt. 1821. Sh. 8 to 10 ft.

Cult. This is an elegant shrub when in flower, being clothed with beautiful yellow flowers during the months of May and June. It is sufficiently hardy to stand our climate without any protection, and therefore is a great acquisition to hardy flowering shrubs. It is increased by laying down the shoots, or young cuttings will root if planted in sand under a hand-glass.

IX. THERMO'PSIS (from ϑερμος, *thermos*, a lupine, and *οψις, opsis*, resemblance; so named on account of the resemblance of the species to lupines). R. Br. in Ait. hort. kew. ed. 2. vol. 3. p. 3. D. C. prod. 2. p. 99. Thérmia, Nutt. gen. amer. 1. p. 282.

LIN. SYST. *Decándria, Monogýnia.* Calyx oblong or campanulate, 4-5-toothed, somewhat bilabiate, convex behind, and attenuated at the base. Petals 5, about equal in length. Vexillum with reflexed sides. Keel obtuse. Stamens permanent. Legume compressed, falcate or linear, many-seeded. —Perennial herbs, clothed with silky villi. Leaves trifoliate. Stipulas ovate-lanceolate, leafy. Racemes terminal. Flowers pedicellate, twin, or somewhat verticillate, yellow.

1 T. RHOMBIFÒLIA (Nutt. gen. amer. 1. p. 283. under *Thérmia,*) leaves stalked; leaflets rhomb-ovate, somewhat cuneated, rather silky-pubescent; stipulas obliquely ovate, acute, shorter than the petiole; lower flowers of the raceme twin, on very short pedicels. ♃. H. Native of North America, on naked hills, near Fort Mandan. Cýtisus rhombifòlius, Fras. cat. 1813. Pursh, fl. sept. amer. 2. p. 741. Roots creeping horizontally. Racemes interrupted. Flowers yellow. Legume falcate, compressed.

Rhomb-leaved Thermopsis. Fl. June, Jul. Clt. 1811. Pl. 1 ft.

2 T. FABA'CEA (D. C. prod. 2. p. 99.) leaves stalked; leaflets broad-oval; stipulas broad-ovate, obtuse, shorter than the petioles; racemes with alternate flowers. ♃. H. Native of Kamtschatka. Sophòra fabàcea, Pall. astr. p. 122. t. 90. f. 2. S. lupinoìdes var. *α*, Lin. amœn. 2. p. 250. Flowers yellow.

Bean-like Thermopsis. Fl. Ju. July. Clt. 1818. Pl. 1 to 2 ft.

3 T. LANCEOLA'TA (R. Br. in Ait. hort. kew. ed. 2. vol. 3. p. 3.) leaves nearly sessile, lower and upper ones simple, like stipulas, the rest trifoliate; leaflets oblong-lanceolate; stipulas twice the length of the petioles or more; flowers twin on the racemes; pedicels shorter than the calyx. ♃. F. Native of Siberia, Dahuria, Kamtschatka, and Nootka Sound. Sophòra lupinoìdes, Pall. astr. t. 89. Podalýria lupinoìdes, Willd. spec. 2. p. 504. Flowers yellow.

Lanceolate-leaved Thermopsis. Fl. June, July. Clt. 1779. Pl. 1 foot.

4 T. CORGONE'NSIS (D. C. prod. 2. p. 99.) leaves sessile, or on very short stalks; leaflets ovate, acute; stipulas like the leaves, and with them constituting a kind of half whorl; flowers twin on the racemes, nearly sessile; calyx villous. ♃. H. Native of the Corgon mountains, contiguous to the Altaian chain. Sophòra alpìna, Pall. astr. p. 121. t. 90. f. 1. Podalýria alpìna, Willd. enum. suppl. 22.

Corgon Thermopsis. Fl. June, July. Clt. 1820. Pl. 1 to 2 ft.

Cult. The species of this genus are very elegant, but preserved with difficulty. They grow best in light soils, and they should be increased by seed, as dividing the plants at the root, is apt to injure them.

X. BAPTI'SIA (from *βαπτω, bapto*, to dye; so named from the economical use of some of the species). Vent. dec. p. 9. R. Br. in Ait. hort. kew. ed. 2. vol. 3. p. 5. Podalýria, Michx. fl. amer. bor. 1. p. 263, but not of R. Br. Crotalópsis, Michx. herb.

LIN. SYST. *Decándria, Monogýnia.* Calyx semi 4-5-cleft, bilabiate. Petals 5, nearly equal in length. Vexillum with reflexed sides. Stamens deciduous. Legume ventricose, pedicellate, many-seeded.—North American herbs, with trifoliate, rarely simple leaves, and racemes of yellowish or blue flowers.

* *Leaves simple.*

1 B. PERFOLIA'TA (R. Br. in Ait. hort. kew. 3. p. 4.) quite smooth; leaves perfoliate, roundish, quite entire, rather glaucous; flowers axillary, solitary. ♃. H. Native of Georgia and Carolina, on dry sandy hills. Crotalària perfoliàta, Lin. spec. 1003. Ráfnia, Willd. spec. 3. p. 949. Sophòra, Walt. car. 135. Podalýria, Michx. fl. 1. p. 263.—Dill. elth. f. 122. Flowers small, yellow.

Perfoliate-leaved Baptisia. Fl. Aug. Clt. 1793. Pl. 3 feet.

* * *Leaves trifoliate.*

2 B. LANCEOLA'TA (Ell. sketch. 167.) leaves sessile, and are, as well as the branches, rather pubescent; leaflets stalked, cuneate-lanceolate, obtuse; flowers axillary, solitary, on short pedicels, upper ones disposed in a raceme. ♃. H. Native of Carolina and Georgia, in sandy places. Sophòra lanceolàta, Walt. car. 135. P. uniflòra, Mich. fl. bor. amer. 1. p. 263. Flowers yellow.

Lanceolate-leafletted Baptisia. Pl. 1 foot.

3 B. LEUCOPHÆ'A (Nutt. gen. amer. 1. p. 282.) leaves sessile, and are, as well as the stem, somewhat villous; leaflets rhomboid-obovate; stipulas and bracteas ovate, acute, broad, leafy; racemes many-flowered, lateral, with the flowers leaning to one side; legumes acuminated. ♃. H. Native of Georgia and Louisiana, abundant about St. Lewis. Flowers cream-coloured. Plant divaricate, but not very high, dichotomous.

Cream-coloured-flowered Baptisia. Pl. 1 foot.

4 B. BRACTEA'TA (Muhl. ex Ell. sketch. 169.) leaves stalked, and are, as well as the branches, pubescent; leaflets broad-lanceolate, rather obtuse; stipulas longer than the petioles; racemes axillary, reclinate; bracteas large, broad-subulate, permanent. ♃. H. Native of Georgia, in a bog about Writhsborough. Flowers rather large, greyish.

Bracteate Baptisia. Pl. 1 to 2 feet.

5 B. AUSTRA'LIS (R. Br. in Ait. hort. kew. 3. p. 6.) stem branched, diffuse; leaves stalked, and are, as well as the branches, smooth; leaflets oblong-cuneated, obtuse, 4 times longer than the petiole; stipulas lanceolate, acute, twice the length of the petioles; racemes few-flowered, elongated, shorter than the branches; calyx quadrifid, lower segment obtuse; legumes apiculated. ♃. H. Native of Western Carolina, along rivulet banks. D. C. leg. t. 4. f. 4. germ. Sophòra austràlis, Sims, bot. mag. 509. Podalýria austràlis, Vent. cels. t. 56. P. cærùlea, Pursh, fl. sept. amer. 1. p. 307. Flowers blue.

Southern Baptisia. Fl. June, July. Clt. 1758. Pl. 2½ feet.

6 B. CONFU'SA (Sweet, fl. gard. ined.) stem branched; leaves stalked, and are, as well as the branches, smooth; leaflets oblong-cuneated or obovate; stipulas linear-lanceolate, twice the length of the petioles; racemes elongated; flowers alternate, bracteate; bracteas permanent, lanceolate, acuminated, a little longer than the pedicels. ♃. H. Native of North America. Like *B. austràlis.* Flowers dark-blue.

Confused Baptisia. Fl. Ju. July. Clt. 1758.? Pl. 1 to 2 ft.

7 B. EXALTA'TA (Sweet, fl. gard. 97.) stem erect, branched; leaves ternate, stalked; leaflets lanceolate-obovate, 5 times longer than the petioles; stipulas lanceolate, acuminated, 3 times longer than the petioles; racemes many-flowered, elongated, twice the length of the branches; flowers scattered, distinct; calyx 4-cleft, lower division acute. ♃. H. Native of North America. Flowers deep-blue.

Exalted Baptisia. Fl. June, Aug. Clt. 1812. Pl. 3 to 4 ft.

8 B. MÌNOR (Lehm. in nov. act. bom. vol. 14. This

plant we believe has not yet been described, and as we have no specimen the description must remain a desideratum. ♃. H. Native of North America.

Small Baptisia. Fl. June, July. Clt. 1828. Pl. 1 foot.

9 B. MÓLLIS (Nutt. gen. amer. 1. p. 281.) leaves stalked, and are, as well as the stem and calyxes, minutely pubescent; leaflets somewhat rhomboid-lanceolate; stipulas foliaceous, linear-lanceolate; racemes spicate, terminal; teeth of calyx acute. ♃. H. Native of Upper Carolina, principally on the Catawba ridge, where it occurs abundantly in the open bushy forests. Stems purplish, decumbent. Leaves often 2 inches long and 1 broad. Flowers blue. Legume subulate, apiculated.

Soft Baptisia. Fl. June, July. Clt. 1824. Pl. decumbent.

10 B. VILLÒSA (Ell. sketch. 168.) leaves nearly sessile, pubescent; stems and calyxes clothed with appressed pubescence; leaflets lanceolate, obtuse; stipulas linear, longer than the petioles; racemes terminal. ♃. H. Native of Virginia and North Carolina, in low sandy grounds. Sophòra villòsa, Walt. Podalýria villòsa, Michx. fl. bor. amer. 1. p. 264. Flowers yellow, resembling a lupine. Calyx semi 4-cleft. Legume oblong, obtuse, cylindrical.

Villous Baptisia. Fl. June, July. Clt. 1811. Pl. 1 to 2 ft.

11 B. A'LBA (R. Br. in Ait. hort. kew. 3. p. 6.) leaves stalked, and are, as well as the branches, glabrous; leaflets elliptic-oblong, obtuse; stipulas deciduous, subulate, shorter than the petioles; racemes terminal; ovaries glabrous. ♃. H. Native in the western parts of Virginia and Carolina, on the banks of rivers. Sophòra álba, Walt. car. 134. Podalýria álba, Willd. spec. 2. p. 503. Sims, bot. mag. 1177. Crotalària álba, Lin. spec. 1006. Branches divaricate. Flowers white.

White-flowered Baptisia. Fl. June, July. Clt. 1724. Pl. 2 ft.

12 B. TINCTÒRIA (R. Br. in Ait. hort. kew. 3. p. 6.) leaves stalked, and are, as well as the branches, glabrous, upper ones nearly sessile; leaflets roundish-obovate; stipulas setaceous, almost obsolete; racemes terminal. ♃. H. Native from Canada to Carolina, on dry hills in woods. Flowers yellow, with wings each furnished with a callosity or a lateral tooth. This plant was formerly used as Indigo by dyers. The root and herbage have been found to possess antiseptic and subastringent properties. They have also a cathartic and emetic effect. Barton, 2. p. 57.

Dyers' Baptisia or Wild Indigo. Fl. June, July. Clt. 1759. Pl. 1½ foot.

Cult. This genus contains very ornamental border flowers of easy culture. The species are usually increased by dividing the plants at the root.

XI. CYCLO'PIA (from κυκλος, *kyklos*, a circle, and πους, *pous*, a foot; in allusion to the replicate circle, which is found round the base or foot of the pods). Vent. dec. p. 8. R. Br. in Ait. hort. kew. ed. 2. vol. 3. p. 5.—Ibbetsònia, Sims, bot. mag. t. 1259.

LIN. SYST. *Decándria, Monogýnia.* Calyx 5-cleft, unequal, thrust in at the base, the lowest tooth longest. Vexillum large, with longitudinal wrinkles. Wings having a transverse plait. Keel inflexedly mucronate. Stamens deciduous. Stigma bearded. Legume compressed, pedicellate, 1-celled, many-seeded, coriaceous.—Smooth broom-like shrubs, with sessile trifoliate leaves, and axillary, bracteate, yellow flowers.

1 C. GENISTOÌDES (R. Br. l. c.) smooth; leaflets awl-shaped; calyx mutic; bracteas oblong-ovate. ♄. F. Native of the Cape of Good Hope. Sims, bot. mag. 1259. Gompholòbium maculàtum, Andr. bot. rep. t. 427. Podalýria genistoides, Thunb. Sophòra, Berg. cap. 140. Sophòra genistoides, Burm. cap. 12.—Pluk. phyt. t. 413. f. 5.

Genista-like Cyclopia. Fl. July, Aug. Clt. 1787. Shrub 8 ft.

2 C. GALIOÌDES (D. C. prod. 2. p. 101.) plant smooth below, but the branches are hairy at the top, as well as the upper leaves; leaflets awl-shaped, mucronate; segments of calyx ending in an acuminated mucrone; bracteas ovate-lanceolate. ♄. G. Native of the Cape of Good Hope. Sophòra galioìdes, Berg. cap. 141. —Pluk. alm. t. 413. f. 4. Aspálathus callòsa, Burm. fl. cap. prod. 21.

Galium-like Cyclopia. Fl. July, Aug. Clt. 1820. Shrub 4 ft.

3 C. TENUIFÒLIA (Lehm. in cat. sem. hort. hamb.) smooth; leaflets setaceous, acute; segments of the calyx obtuse; bracteas roundish, keeled. ♄. G. Native of the Cape of Good Hope.

Fine-leaved Cyclopia. Fl. July, Aug. Clt. 1826. Shrub 2 to 4 feet.

4 C. LATIFÒLIA (D. C. in ann. sc. nat. 4. p. 98.) smooth; leaflets almost sessile, elliptic or ovate, somewhat mucronulate; lobes of calyx acute. ♄. G. Native of the Cape of Good Hope. Genísta buxifòlia, Burm. cap. prod. 21. Upper leaves simple. Flowers few, pedicellate; pedicels bibracteate at the base.

Broad-leaved Cyclopia. Fl. July, Aug. Clt. 1820. Shrub 3 to 6 feet.

Cult. An elegant genus of greenhouse shrubs, which will thrive in an equal mixture of loam and peat, and very young cuttings, planted in a pot of sand with a bell-glass placed over them, will root.

XII. PODALY'RIA (*Podalyrius* was the son of Æsculapius in mythology). Lam. ill. t. 327. exclusive of some species. Salisb. par. 7. R. Br. in hort. kew. ed. 2. vol. 3. p. 6. but not of Michx.—Aphòra, Neck. elem. no. 1370.

LIN. SYST. *Decándria, Monogýnia.* Calyx 5-cleft, with unequal lobes, thrust in at the base. Vexillum large, covering the keel and wings. Stamens 10, permanent, somewhat connate at the base. Stigma capitate. Legume sessile, ventricose, many-seeded.—Cape shrubs, usually clothed with silky hairs, with simple alternate leaves, and with narrow adpressed stipulas. Peduncles axillary, 1 or many-flowered. Bracteas caducous. Flowers purplish, rose-coloured or white.

* *Peduncles 1-flowered.*

1 P. BURCHE'LLII (D. C. prod. 2. p. 101.) leaves elliptic or oblong, obtuse or emarginate, pubescent above, and rather hairy beneath; peduncles very short, 1-flowered, and are, as well as the calyxes, very hairy; wings of flower longer than the calyx. ♄. G. Native of the Cape of Good Hope. Burch. cat. no. 3475. Sophòra cordàta, Thunb. prod. 79.? Hypocalýptus cordàtus, Thunb. fl. cap. 569.? Flowers of a rose-purplish colour. Calyx clothed with straight rufous hairs.

Burchell's Podalyria. Fl. May, July. Clt. 1816. Sh. 4 to 8 ft.

2 P. HIRSU'TA (Willd. spec. 2. p. 505.) leaves villous, stalked, upper ones ovate, lower ones roundish; peduncles 1-flowered; segments of calyx villous, length of wings. ♄. G. Native of the Cape of Good Hope. Sophòra hirsùta, Ait. hort. kew. 2. p. 46. Flowers red.

Hairy Podalyria. Fl. July, Aug. Clt. 1774. Shrub 2 to 4 ft.

3 P. SERI'CEA (R. Br. in Ait. hort. kew. ed. 2. vol. 3. p. 6.) leaves oblong-ovate, mucronate, silky on both surfaces; pedicels 1-flowered, much shorter than the leaves, and are, as well as the calyxes, clothed with appressed silky pubescence. ♄. G. Native of the Cape of Good Hope. Sims, bot. mag. t. 1923. Sophòra serícea, Andr. bot. rep. t. 440. Hypocalýptus sericeus, Thunb. fl. cap. 569.? Flowers pale-purple.

Silky Podalyria. Fl Jan. Oct. Clt. 1778. Shrub 4 to 6 feet.

4 P. CUNEIFÒLIA (Vent. cels. 99.) leaves cuneiform, obtuse, somewhat emarginate, silky on both surfaces, nearly sessile;

pedicels 1-flowered, one-half shorter than the leaves, and are, as well as the calyxes, clothed with appressed silky pubescence. ♄. G. Native of the Cape of Good Hope. Flowers white.

Wedge-leaved Podalyria. Fl. May, Aug. Clt. 1804. Shrub 4 to 6 feet.

5 P. MYRTILLIFÒLIA (Willd. spec. 2. p. 505.) leaves oblong-obovate, bluntish, silky on both surfaces; pedicels 1-flowered, about equal in length to the leaves, and are, as well as the calyxes, clothed with silky appressed pubescence. ♄. G. Native of the Cape of Good Hope. Sophòra myrtillifòlia, Retz. obs. 1. p. 56. Sophòra rotundifòlia, Berg. cap. 138. Flowers purple, with a paler keel.

Whortle-berry-leaved Podalyria. Fl. April, Oct. Clt. 1795. Shrub 4 to 6 feet.

6 P. BUXIFÒLIA (Willd. spec. 2. p. 505?) leaves oval or obovate, bluntish, glabrous above, and silky beneath; pedicels 1-flowered, about the length of the leaves; calyxes clothed with rusty villi. ♄. G. Native of the Cape of Good Hope. Ker. bot. reg. 869. Sophòra buxifòlia, Retz. obs. 1. p. 35. Flowers purple, with paler wings.

Box-leaved Podalyria. Fl. May, July. Clt. 1790. Shrub 2 to 4 feet.

7 P. STYRACIFÒLIA (Sims, bot. mag. 1580.) leaves oval or obovate, mucronate, pubescent, reticulated beneath; pedicels 1-flowered, about equal in length to the leaves; calyx clothed with rusty tomentum; vexillum reflexed, broadly emarginate. ♄. G. Native of the Cape of Good Hope. P. calyptràta, Willd. spec. 2. p. 504. Sophòra calyptràta, Retz. obs. 1. p. 36. Hypocalýptus calyptràtus, Thunb. fl. cap. 568. Flowers pale-purple.

Styrax-leaved Podalyria. Fl. May, July. Clt. 1792. Sh. 6 ft.

8 P. GLAU'CA (D. C. prod. 2. p. 102.) leaves oval, glabrous above, and silky beneath; pedicels 1-flowered, much longer than the leaves. ♄. G. Native of the Cape of Good Hope. Hypocalýptus glaùcus, Thunb. fl. cap. 569. P. buxifòlia, Lam. dict. 5. p. 445. ill. 327. f. 4. Flowers pale-purple.

Glaucous Podalyria. Fl. May, July. Clt. 1810. Shrub 4 to 6 feet.

9 P. CORU'SCANS (Reichb. ex Spreng. syst. append. p. 171.) leaves nearly sessile, crowded, ovate-lanceolate, acute, clothed on both surfaces with silky villi; flowers axillary, nearly sessile. ♄. G. Native of the Cape of Good Hope.

Glittering Podalyria. Fl. July, Aug. Shrub 2 to 4 feet.

* * *Peduncles 2-flowered.*

10 P. ARGE'NTEA (Salisb. par. lond. t. 7.) leaves oval, acute, silky on both surfaces, marginate; peduncles 2-3-flowered, longer than the leaves; calyxes tomentose, rather scabrous. ♄. G. Native of the Cape of Good Hope. P. biflòra, Sims, bot. mag. 753. Sophòra biflòra var. Retz. obs. 1. p. 36. Burm. fl. cap. prod. p. 12. Lam. ill. 327. f. 3. Hypocalýptus pedunculàtus, Thunb. fl. cap. 569. Flowers white, according to Sims, or purplish at the margin of the vexillum, or pale-pink.

Silvery Podalyria. Fl. Feb. June. Clt. 1789. Shrub 3 to 6 ft.

11 P. LIPARIOÌDES (D. C. prod. 2. p. 102.) leaves oval, acutish, silky on both surfaces; peduncles 2-flowered, much longer than the leaves; calyx clothed with appressed silky down. ♄. G. Native of the Cape of Good Hope. Very like the preceding species, but differs in the leaves being much more silky, by the calyx being clothed with appressed pubescence, not hairy, and by the corolla being flesh-coloured.

Liparia-like Podalyria. Fl. Feb. June. Clt. 1820. Shrub 3 to 6 feet.

12 P. SUBBIFLÒRA (D. C. prod. 2. p. 102.) leaves oval, mucronulate, pubescent on both surfaces, and reticulated beneath; peduncles 1-2-flowered, longer than the leaves; calyxes clothed with rusty appressed pubescence. ♄. G. Native of the Cape of Good Hope. Sophòra biflòra, var. Rets. l. c. Flowers pale-purple. Perhaps the three last species are merely varieties of one plant.

Somewhat-two-flowered Podalyria. Fl. Feb. July. Clt. 1810. Shrub 3 to 6 feet.

13 P. CORDA'TA (R. Br. in hort. kew. ed. 2. vol. 3. p. 8.) leaves cordate, roundish, nearly sessile, very villous; peduncles 2-flowered, calyxes villous, with the segments shorter than the wings. ♄. G. Native of the Cape of Good Hope. Flowers purplish.

Cordate-leaved Podalyria. Fl. May, July. Clt. 1794. Shrub 3 to 4 feet.

14 P. RACEMULÒSA (D. C. prod. 2. p. 102.) leaves oval, mucronulate, clothed with appressed silky pubescence on both surfaces; peduncles twice the length of the leaves, 2-4-flowered; calyxes clothed with appressed, silky, rusty pubescence. ♄. G. Native of the Cape of Good Hope. Lobes of calyx bluntish. Corolla pale-purple.

Racemulose-flowered Podalyria. Shrub 3 to 4 feet.

15 P. PARVIFLÒRA (D. C. prod. 2. p. 102.) leaves ovate, acute, tomentose; peduncles very short, 1-2-flowered; legume ovate, tumid. ♄. G. Native of the Cape of Good Hope. Crotalària parviflòra, Thunb. fl. cap. 571.

Small-flowered Podalyria. Shrub.

Cult. A genus of elegant silky shrubs. The species thrive best in a mixture of loam and peat, and young cuttings will root if planted in a pot of sand, with a bell or hand-glass placed over them, but they are usually increased by seeds.

XIII. CHORIZE'MA (derived from χορος, *choros*, a dance, and ζεμα, *zema*, a drink. This plant was originally discovered by Labillardiere upon the south-west coast of New Holland, at the foot of the mountains near a spot where, after being tantalized with finding many salt springs, his party had just met with an ample supply of fresh water. This welcome refreshment, of which he speaks feelingly in his book, seems to have suggested the name). Labill. voy. 1. p. 105. R. Br. in hort. kew. p. 8. D. C. prod. 2. p. 102. Chorozemàtis spec. Smith in Lin. soc. trans. 9. p. 251.

LIN. SYST. *Decándria, Monogýnia.* Calyx half 5-cleft, bilabiate, upper lip bifid, lower one 3-parted. Keel of flower ventricose, shorter than the wings. Style short, hooked, crowned by an obliquely-obtuse stigma. Legume ventricose, 1-celled, many-seeded, sessile or subsessile. Australian subshrubs, with alternate, simple, sinuately-toothed, or entire leaves.

1 C. ILICIFÒLIA (Labill. voy. 1. p. 105. t. 21.) leaves pinnatifidly-toothed, spinose, oblong-lanceolate, with an entire acumen, which is longer than the teeth; bracteoles at the top of the pedicels. ♄. G. Native of New Holland, on the south-west coast. A diffuse spreading shrub, pubescent on the branches and lower surface of the leaves. Flowers red, with the vexillum yellow at the base.

Holly-leaved Chorizema. Fl. Mar. Oct. Clt 1803. Shrub 1 foot, straggling.

2 C. NA'NA (Sims, bot. mag. 1032.) leaves sinuately-toothed, spiny, oblong, with an entire acumen, which is equal in length with the teeth, rather obtuse; bracteoles below the apex of the pedicel. ♄. G. Native with the first. Pultenæ'a nàna, Andr. bot. rep. 434. Flowers red, with the vexillum yellow at the base.

Dwarf Chorizema. Fl. Mar. Oct. Shrub straggling.

3 C. RHÓMBEA (R. Br. in hort. kew. 3. p. 9.) leaves quite entire, flat, mucronate, lower ones rhomboidal-orbicular, upper ones elliptic-lanceolate; peduncles few-flowered; legumes large, oblong, reticulated. ♄. G. Native with the two preceding. Sweet, fl. aust. 40. Flowers with dark copper-coloured wings

and keel, and with the vexillum orange-coloured, with a yellow base.

Rhomboid-leaved Chorizema. Fl. April, July. Clt. 1803. Shrub procumbent.

4 C. PLATYLOBIOÌDES (D. C. prod. 2. p. 103.) leaves quite entire, flat, ovate, acuminated, reticulated, smooth above, younger ones as well as calyxes clothed with hoary villi; flowers 2-3, axillary, nearly sessile; ovary very villous. ♄. G. Native of New Holland. Platylòbium reticulàtum, Sieb. pl. exsic. nov. holl. no. 371. Calyx 5-cleft. Stamens 10, distinct. Perhaps a proper genus.

Platylobium-like Chorizema. Shrub 2 feet.

5 C. BAXTE'RI (Graham, in edinb. new phil. journ. june, 1831.) leaves somewhat crenate, oblong-lanceolate, farinose above, but beset with adpressed villi beneath; flowers terminal, disposed in verticillate heads. ♄. G. Native of New Holland. Mirbèlia Baxtèri Hortulan. Lindl. bot. reg. 1434. Stèms numerous, much branched, diffuse, slender, covered with adpressed hairs. Corolla yellow. Vexillum reniform, with a dark base.

Baxter's Chorizema. Fl. April, Ju. Clt. 1824. Sh. diffuse.

6 C. HENCHMA'NNII (R. Br. in bot. reg. 986.) plant hoary; leaves acicular; flowers axillary. ♄. G. Native of New Holland. Flowers beautiful scarlet.

Henchmann's Chorizema. Fl. April, Ju. Clt. 1824. Shrub 2 to 3 feet.

Cult. A genus of pretty little shrubs. An equal mixture of loam, peat, and sand will suit the species. Young cuttings, planted in a pot of sand with a bell-glass placed over them, will strike root. Seeds of many of the species ripen in abundance, by which the plants may easily be increased.

XIV. PODOLO'BIUM (from πους ποδος, *pous podos*, a foot, and λοβος, *lobos*, a pod; in allusion to the legume standing on a stalk within the calyx). R. Br. in hort. kew. ed. 2. vol. 3. p. 9. D. C. Leg. mem. V. Chorozemàtis, spec. Smith.

LIN. SYST. *Decándria, Monogýnia.* Calyx 5-cleft, bilabiate, upper lip bifid, lower lip 3-parted. Carina compressed, length of wings, and about equal to the wide vexillum. Ovary 4-seeded. Style ascending. Stigma simple. Legume pedicellate, linear-oblong, rather ventricose, smooth inside.—Small shrubs, with the habit of *Chorizèma.*

§ 1. *Leaves opposite, lobed, spiny.—False Chorizèmas.*

1 P. TRILOBA'TUM (R. Br. l. c. Sims, bot. mag. 1477.) leaves opposite, spiny-toothed, somewhat 3-lobed, with a transverse base; lateral lobes much shorter than the terminal one, which is entire or toothed; ovary silky. ♄. G. Native of New South Wales. Chorozèma trilobàtum, Smith, in Lin. trans. 9. p. 253. Pultenæ'a ilicifòlia, Andr. bot. rep. 320. Racemes axillary, shorter than the leaves. Flowers yellow, with the keel and vexillum red at the base. Leaves coriaceous, usually pubescent beneath.

Three-lobed-leaved Podolobium. Fl. April, July. Clt. 1792. Shrub 1 to 2 feet.

2 P. STAUROPHY'LLUM (Sieb. pl. exsic. nov. holl. no. 393.) leaves opposite, trifid; lobes about equal, entire, spiny at the apex; ovary smooth. ♄. G. Native of New Holland, on the eastern coast. Lindl. bot. reg. 959. P. aquifòlium, Lodd. cat. Leaves coriaceous, quite smooth. This plant is sometimes confused with the preceding in herbaria.

Cross-leaved Podolobium. Fl. Mar. April. Clt. 1822. Sh. 1 to 3 feet.

§ 2. *Leaves opposite, quite entire, unarmed.—False Davièsias.*

3 P. SCA'NDENS (D. C. prod. 2. p. 103.) leaves opposite, oblong-elliptic, quite entire, mucronate; ovary villous. ♄. G. Native of New Holland, on the eastern coast. Chorozèma scándens, Smith, in Lin. soc. trans. 9. p. 253. A smooth climbing shrub, with terminal racemes of flowers, and with the calyx clothed with adpressed pubescence. Wings equal in length to the carina, but shorter than the vexillum. Davièsia umbellàta, Sieb. pl. exsic. nov. holl. no. 392. but not of Smith. Flowers yellow.

Climbing Podolobium. Fl. June. Clt. 1824. Shrub cl.

4 P. HUMIFU'SUM; leaves opposite; ovate-elliptic, quite entire; stems procumbent; ovary villous. ♄. G. Native of New Holland. Davièsia humifùsa, Sieb. pl. exsic. nov. holl. no. 392. but not of Smith. Flowers yellow.

Trailing Podolobium. Fl. April, Ju. Clt. 1824. Sh. proc.

5 P. SERÍCEUM (D. C. prod. 2. p. 103.) leaves somewhat alternate, elliptic; racemes axillary, length of leaves; calyx silky; vexillum narrow; ovary bristly. ♄. G. Native of New Holland, at King George's Sound. Chorozèma seríceum, Smith, in Lin. trans. 9. p. 253. Shrub climbing, with the upper leaves opposite. Calyx campanulate. Flowers yellow.

Silky-calyxed Podolobium. Shrub cl.

§ 3. *Leaves alternate.—False Oxylòbiums.*

6 P. CORIA'CEUM (D. C. prod. 2. p. 103.) leaves alternate, roundish-elliptic, retuse, coriaceous; umbels axillary, stalked; calyx hairy. ♄. G. Native of New Holland, with the preceding species. Chorozèma coriàceum, Smith, l. c. An erect stiff shrub. Leaves with cartilaginous margins and reticulately veined above. Flowers yellow.

Coriaceous-leaved Podolobium. Fl. April, June. Clt. 1824. Shrub 1 to 2 feet.

7 P.? ACICULA'RE (D. C. in ann. sc. nat. 4. p. 98.) leaves alternate, linear, with a pungent taper-point, and with revolute edges, glabrous, reticulated with transverse veins above; branches and pedicels pubescent. ♄. G. Native of New Holland, on the eastern coast. A much-branched shrub, with stiffly spreading leaves, bearing small branches and leaves in the axillæ, hence the leaves appear ternate. Legume stipitate, ovate, 12-16-seeded, pubescent outside and smooth inside. Calyx 5-cleft, tapering to the base, bibracteolate. Perhaps a proper genus, but the corolla is unknown. Perhaps a species of *Oxylòbium.*

Acicular-leaved Podolobium. Shrub 1 foot.

Cult. An elegant genus of small shrubs. The species will thrive best in an equal mixture of peat, loam, and sand, and young cuttings will root if planted in a pot of sand, with a bell-glass placed over them. Seeds sometimes ripen, by which the plants may also be propagated. The plants grow much better and flower more freely if planted in the ground in a conservatory, than if grown in pots.

XV. OXYLO'BIUM (from οξυς, *oxys*, sharp, and λοβος, *lobos*, a pod; in allusion to the pods or legumes having a sharp point). Andr. bot. rep. 492. B. Br. in hort. kew. ed. 2. vol. 3. p. 9.

LIN. SYST. *Decándria, Monogýnia.* Calyx profoundly 5-cleft (f. 23. *a.*), somewhat bilabiate. Carina compressed, length of wings (f. 23. *b.*), but about equal in length to the broad vexillum. Stamens inserted in the torus or in the bottom of the calyx. Style ascending, crowned by a simple stigma (f. 23. *c.*). Legume sessile or subsessile, many-seeded, ventricose, ovate, acute. Small Australian shrubs, with 3 or 4 entire leaves in a whorl. Flowers disposed in corymbs, yellow.

1 O. ARBORE'SCENS (R. Br. l. c.) leaves linear-lanceolate;

pedicels having permanent bracteas at their apex; corymbs of flowers crowded; legume hardly longer than the calyx. ♄. G. Native of Van Diemen's Land. Ker. bot. reg. 392. Lodd. bot. cab. 163. Sims, bot. mag. 2442. Flowers yellow.

Arborescent Oxylobium. Fl. April, June. Clt. 1805. Shrub 3 to 6 feet.

2 O. ELLI'PTICUM (R. Br. l. c.) leaves oval-oblong, mucronate; pedicels having caducous bracteoles beneath their apex; corymbs crowded; legume twice the length of the calyx on a short stipe. ♄. G. Native of Van Diemen's Land. Gompholòbium ellípticum, Labill. nov. holl. spec. 1. p. 166 [illegible] 135. Callístachys ellíptica, Vent. malm. 115. Flowers yellow. Legume villous.

Elliptic-leaved Oxylobium. Fl. May, Sept. Clt. 1805. Shrub 2 to 3 feet.

3 O. RETU'SUM (R. Br. in bot. reg. 913.) leaves oblong, retuse, coriaceous, reticulated, glabrous; corymbs axillary, stalked, crowded, shorter than the leaves. ♄. G. Native of New Holland. Flowers orange-coloured. Chorozèma coriàceum, Smith. Podolòbium, D. C.?

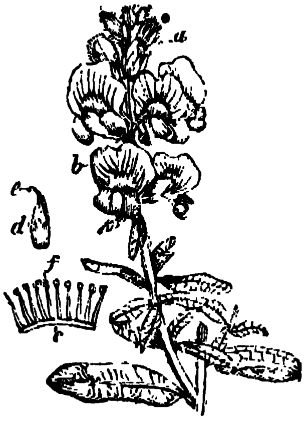
Retuse-leaved Oxylobium. Fl. April, May. Clt. 1823. Sh. 1 to 3 feet.

4 O. CORDIFÒLIUM (Andr. bot. rep. 492.) leaves ovate, cordate, rather pilose; umbels terminal, sessile. ♄. G. Native of New South Wales. Sims, bot. mag. 1544. Lodd. bot. cab. 937. Flowers of a coppery-red colour.

Cordate-leaved Oxylobium. Fl. April, Sept. Clt. 1807. Shrub 1 to 2 feet.

5 O. OBTUSIFÒLIUM (Sweet, fl. austr. 5.) leaves oblong-linear, obtuse, smooth above, but clothed with silky tomentum beneath, with revolute edges; corymbs loose, verticillately racemose; pedicels with permanent bracteoles at the apex; calyx clothed with silky tomentum; wings of corolla reflexed. ♄. G. Native of New Holland, at King George's Sound. Flowers with carina and wings crimson, and with the vexillum deep orange-coloured, and yellow at the base.

FIG. 23.



Obtuse-leaved Oxylobium. Fl. April, May. Clt. 1825. Shrub 1 to 3 feet.

6 O. SPINÒSUM (D. C. prod. 2. p. 104.) leaves broadly-ovate, with the middle nerve terminating in a long spine; stipulas spiny, short. ♄. G. Native of New Holland. Leaves 3 in a whorl, glabrous. Bracteoles 2, pressed to the base of the 5-cleft calyx. Keel, wings, and vexillum about equal in length.

Spiny Oxylobium. Fl. April, July. Clt. 1825. Sh. 1 to 2 ft.

7 O. PULTENE'Æ (D. C. leg. mem. 5. prod. 2. p. 104.) leaves 3 or 4 in a whorl, or alternate, linear, rather obtuse, with revolute margins, glabrous, but with the middle nerve as well as branches pubescent; flowers pedicellate, umbellate; pedicels furnished with deciduous bracteoles in the middle. ♄. G. Native of New Holland. Pultenæ'a sylvática, Sieb. pl. exsic. nov. holl. no. 403. Calyx 5-cleft, permanent, with the short tube girding the fruit, the lobes reflexed. Stamens and petals deciduous, hypogynous. Ovary sessile, containing 8 ovula. Funicle dilated into a strophiola. Perhaps a proper genus. Flowers dark-orange.

Pulteney's Oxylobium. Fl. Mar. Clt. 1824. Sh. 1 to 2 ft.

Cult. Elegant shrubs, requiring the same treatment as that recommended for *Podolòbium*, see p. 116.

XVI. CALLI'STACHYS (from καλλος, *callos*, beauty, and σταχυς, *stachys*, a spike; in allusion to the fine spikes of yellow flowers). Vent. malm. 115. D. C. prod. 2. p. 104.—Callistàchya, Smith, in Lin. trans. 9. p. 266.

LIN. SYST. *Decándria, Monogýnia.* Calyx bilabiate; upper lip bifid, lower one 3-parted. Vexillum erect, longer than the keel and wings, which are about equal in length. Stamens inserted in the disk. Style incurved. Stigma simple, acute. Legume stipitate, woody, dehiscent at the apex, young ones many-celled, but with the transverse dissepiments at length vanishing.—Elegant Australian shrubs, with entire leaves, which are either scattered or disposed in whorls, silky on the under surface, and with long terminal racemes of yellow flowers. Calyxes and fruit very villous.

1 C. LANCEOLA'TA (Vent. malm. t. 115.) leaves lanceolate, acuminated, scattered, opposite, or 3 or 4 disposed in a whorl. ♄. G. Native of New Holland, on the eastern coast. Ker. bot. reg. 216.

Lanceolate-leaved Callistachys. Fl. June, Aug. Clt. 1815. Shrub 3 to 4 feet.

2 C. OVA'TA (Sims, bot. mag. 1925.) leaves obovate, mucronulate, usually disposed 3 in a whorl. ♄. G. Native of New Holland.

Ovate-leaved Callistachys. Fl. June, Aug. Clt. 1815. Shrub 3 to 6 feet.

3 C. LINARIÆFÒLIA (Hortulan.) leaves linear-lanceolate, scattered, or disposed in whorls. ♄. G. Native of New Holland.

Toad-flat-leaved Callistachys. Fl. June, Aug. Clt. 1824. Shrub 3 to 4 feet.

4 C. CUNEA'TA (Smith, in Lin. trans. 9. p. 267.) leaves wedge-shaped, emarginate; peduncles axillary, solitary, longer than the leaves. ♃. G. Native of New Holland. An herbaceous dwarf plant. Calyx pilose. Flowers large, yellow, but with the keel purple. This species, according to Mr. R. Brown, should be removed from this genus, but its real situation in the order is uncertain.

Wedge-leaved Callistachys. Fl. Ju. Aug. Clt. 1824. Pl. 1 ft.

Cult. See *Podolòbium* for culture and propagation, p. 116.

XVII. BRACHYSE'MA (from βραχυς, *brachys*, short, and σημα, *sema*, a standard; the standard of the flower is very short). R. Br. in hort. kew. vol. 3. p. 10. D. C. prod. 2. p. 105.

LIN. SYST. *Decándria, Monogýnia.* Calyx 5-cleft, a little unequal, with a ventricose tube. Vexillum shorter than the wings and keel, which are compressed and about equal in length. Ovary with its pedicel girded by a little sheath at the base. Style filiform, elongated. Legume ventricose, many-seeded.—Elegant Australian, procumbent, or climbing shrubs, with alternate, oval, or ovate, entire, mucronate leaves, which are silky on the under surface, and axillary and terminal few-flowered racemes.

1 B. LATIFÒLIUM (R. Br. l. c.) leaves ovate, flat, silky beneath; calyx bractless at the base, 4-times shorter than the petals; vexillum oblong-obovate. ♄. G. Native of New Holland, on the south-west coast. Ker. bot. reg. 118. Sims, bot. mag. 2008. Flowers large, scarlet.

Broad-leaved Brachysema. Fl. April, July. Clt. 1803. Shrub procumbent or climbing.

2 B. UNDULA'TUM (Ker. bot. reg. 642.) leaves elliptic, undulated; calyx bracteolate under the base, 3-times shorter than the petals; vexillum oblong, cordate, convolute, and bluntish above. ♄. G. Native of New South Wales, in the interior of the country. Lodd. bot. cab. 778. Ker. bot. reg. 642. Flowers greenish-yellow, inconspicuous.

Waved-leaved Brachysema. Fl. Mar. May. Clt. 1820. Sh. pr.

Cult. For culture and propagation see *Podolòbium*, p. 116. however, the species of this genus are easiest propagated by layers.

XVIII. GOMPHOLO'BIUM (from γομφος, *gomphos*, a club, and λοβος, *lobos*, a pod; in reference to the shape of the pod being like that of a club or wedge). Smith, in Lin. trans. 4. p. 220. 9. p. 249. R. Br. in hort. kew. ed. 2. vol. 3. p. 11.

LIN. SYST. *Decándria, Monogýnia.* Calyx 5-parted, nearly equal. Carina of 2 concrete petals. Vexillum broad. Stigma simple. Legume many-seeded, nearly spherical, very blunt.—Australian stiff shrubs, with alternate, compound leaves, standing on short petioles. Pods glabrous both inside and outside. Pedicels furnished with 2 bracteoles in the middle, or at the base. Calyx usually finely fringed with wool. Flowers yellow.

1 G. GLAUCE'SCENS (Cung. in Fields' new south wales, p. 346.) leaves ternate; leaflets linear, mucronate, with revolute margins; branchlets angular, glabrous; keel of flower beardless; calyx length of corolla before the expansion of the vexillum. ♄. G. Native of New Holland, on the Blue Mountains.

Glaucescent Gompholobium. Fl. April, Jul. Clt. 1824. Sh. ½ ft.

2 G. BARBÍGERUM (D. C. prod. 2. p. 105.) leaves ternate; leaflets linear, acutish; stem erect; branches angular; keel bearded along the suture; vexillum large, longer than the calyx and keel. ♄. G. Native of New Holland. G. fimbriàtum, Sieb. pl. exsic. nov. holl. no. 36. but not of Smith. Flowers golden-yellow, about an inch in length, larger than those of *G. grandiflòrum.*

Bearded-keeled Gompholobium. Fl. April, Aug. Clt. 1824. Shrub 1 to 2 feet.

3 G. GRANDIFLÒRUM (Smith, in Lin. trans. 9. p. 249. exot. bot. t. 5.) leaflets 3, linear, acute; stem erect; branches angular; keel beardless; vexillum twice the length of the calyx and carina. ♄. G. Native of New Holland, on the eastern coast. Ker. bot. reg. 484. Flowers large, yellow. Leaflets hardly a line broad, but nearly an inch long.

Var, β, setifòlium (Sieb. pl. exsic. nov. holl. no. 363.) leaflets narrow-linear, somewhat revolute and bristle-formed. ♄. G. Native of New Holland, on the eastern coast.

Great-flowered Gompholobium. Fl. Mar. Sept. Clt. 1803. Shrub 1 to 3 feet.

4 G. VIRGA'TUM (Sieb. pl. exsic. nov. holl. no. 360.) leaflets 3, linear, obtuse; stem erect; branches nearly terete; carina of flower beardless; vexillum hardly longer than the calyx and keel. ♄. G. Native of New Holland, on the eastern coast. The habit of the plant is that of *G. latifòlium*, but the keel of the flower is beardless.

Twiggy Gompholobium. Fl. Mar. Dec. Clt. 1820. Shrub 1 to 3 feet.

5 G. LATIFÒLIUM (Smith, in Lin. soc. trans. 9. p. 249.) leaflets 3, cuneate-linear, or oblong-linear; stem erect; keel fringed; calyx reflexed when in fruit. ♄. G. Native of New Holland, on the eastern coast. R. Br. in hort. kew. 3. p. 11. Labill. nov. holl. t. 133. G. fimbriàtum, Smith, exot. bot. t. 58. G. psoraleæfòlium, Salisb. par. t. 6. Leaflets 1-2 lines broad, and 6-12 lines long. Flowers large, yellow.

Broad-leaved Gompholobium. Fl. Mar. Sept. Clt. 1803. Shrub 1 to 2 feet.

6 G. MARGINA'TUM (R. Br. l. c.) leaflets 3, obovate, marginated, flat; stipulas equal in length to the petioles; corolla length of calyx. ♄. G. Native of New Holland, on the southern coast.

Marginate-leaved Gompholobium. Fl. March, Sept. Clt. 1803. Shrub 1 foot.

7 G. PEDUNCULA'RE (D. C. prod. 2. p. 105.) leaflets 3, with somewhat revolute margins, lower ones obovate, mucronate, upper ones lanceolate-linear, acuminated; stipulas length of petioles; stems diffuse; pedicels much longer than the leaves, and bibracteolate at the apex; corolla longer than the calyx. ♄. G. Native of the eastern coast of New Holland. Stems somewhat herbaceous. Legume oval, rather compressed. This plant, along with the following species, will probably form a distinct genus.

Pedunculate-flowered Gompholobium. Fl. April, July. Clt. 1824. Pl. ½ foot.

8 G. TETRATHECOÌDES (Sieb. pl. exsic. nov. holl. 359.) leaflets 3. linear, with subrevolute margins; branches terete, hispid from short down; pedicels scarcely longer than the leaves; carina beardless, and is as well as the vexillum hardly longer than the calyx. ♄. G. Native of New Holland, on the eastern coast. Leaves on short stalks; leaflets 2 lines long.

Tetratheca-like Gompholobium. Fl. April, July. Clt. 1824. Shrub ½ to ¾ foot.

9 G. POLYMÓRPHUM (R. Br. in hort. kew. ed. 2. vol. 3. p. 11.) leaflets 3-5, linear, or oblong-cuneated, mucronate, with recurved margins; stem procumbent, weak, twining; stipulas shorter than the petioles; pedicels much longer than the leaves, bibracteolate, both at the base and the apex or in the middle. ♄. G. Native of New Holland, on the south-west coast. Vexillum large, scarlet on the inside with a yellow base, and purplish on the outside. G. grandiflòrum, Andr. bot. rep. 642. ex Sims, bot. mag. 1533.

Polymorphus Gompholobium. Fl. Mar. Aug. Clt. 1803. Shrub ½ to 1 foot.

* * *Leaves impari-pinnate.*

10 G. TOMENTÒSUM (Labill. nov. holl. 1. p. 106. t. 134.) leaves impari-pinnate, with 2-4 pairs of leaflets; leaflets awl-shaped-linear, mucronate, scabrous above; peduncles usually solitary; calyx hairy, shorter than the legume; keel ciliated, with silky hairs. ♄. G. Native of New Holland, on the south coast, and in Van Diemen's Land. R. Br. in hort. kew. 3. p. 12. Shrub tomentose.

Tomentose Gompholobium. Fl. April, Jul. Clt. 1803. Sh. 1 ft.

11 G. [illegible]ANA'TUM (Cung. mss. ex G. Don, in Loud. hort. brit. p. 163.) branches and leaves villous; leaves impari-pinnate; leaflets linear-subulate, with revolute edges; pedicels solitary, shorter than the leaves, terminal or axillary at the tops of the branches; keel bearded. ♄. G. Native of New Holland. Corolla twice the length of the calyx, of a coppery-yellow colour.

Woolly Gompholobium. Fl. Mar. Ju. Clt. 1824. Sh. ½ to 1 ft.

12 G. GLABRA'TUM (D. C. prod. 2. p. 106.) leaves impari-pinnate, with 2-3 pairs of linear-subulate leaflets, with revolute edges; peduncles usually solitary; calyx glabrous, one-half shorter than the legume. ♄. G. Native of New Holland. Branches lepidotted with tubercles. Leaflets approximate along the petiole. Legume ovate. Calyx glabrous on the outside, ciliated along the margins of the lobes with fine wool. Corolla unknown.

Smooth Gompholobium. Fl. April, Aug. Clt. 1820. Sh. ½ to 1 foot.

13 G. HETEROPHY'LLUM (Cung. mss.) leaves trifoliate or impari-pinnate, usually with 3-5 or 7 leaflets, which are obovate, lanceolate, or linear, all mucronate, terminal one broadest, perfectly glabrous; racemes short, terminal; pedicels rather longer than the bracteas, which are linear. ♄. G. Native of New Holland. Keel beardless? Flowers reddish.

Variable-leaved Gompholobium. Fl. April, June. Clt. 1823. Shrub ½ foot.

14 G. VENU'STUM (R. Br. in hort. kew. ed. 2. vol. 3. p. 12.) leaves impari-pinnate, with many pairs of leaflets; leaflets awl-

shaped, veiny, with revolute margins, and are as well as the calyxes glabrous; corymb stalked, many-flowered. ♄. G. Native of New Holland, on the south-west coast. Corolla purple.

Beautiful Gompholobium. Fl. April, July. Clt. 1803. Sh. 1 to 3 feet.

15 G. pinna'tum (Smith, in Lin. soc. trans. 9. p. 251.) leaves impari-pinnate, with many pairs of smooth leaflets; stem terete, flexuous, glabrous. ♄. G. Native of New Holland, near Port Jackson. Plant very small, and probably an annual.

Pinnate-leaved Gompholobium. Fl. April, July. Clt. 1820. Pl. ½ foot.

Cult. *Gompholòbium* is a genus of most elegant plants: its species thrive well in an equal mixture of loam, peat, and sand, but care must be taken not to give them too much water, as they are extremely tenacious of moisture, and difficult to preserve in a living state. Young cuttings will root freely if planted in a pot of sand, with a bell-glass placed over them, but some of the species produce seed in abundance, which is the best way of increasing them, as they make better plants from seeds than from cuttings.

XIX. BURTO'NIA (Burton, evidently the name of some botanist). R. Brown, in hort. kew. ed. 2. vol. 3. p. 13. D. C. prod. 2. p. 106.

Lin. syst. *Decándria, Monogýnia.* Calyx profoundly 5-cleft. Petals 5, deciduous, about equal in length, 2 of which are concrete into a keel on the back. Ovary 2-seeded. Style subulate, dilated at the base. Stigma obtuse, bearded. Legume roundish, ventricose. Seeds without a strophiola.—Australian subshrubs, with subulate leaflets or leaves; branches usually puberulous, and pedicels solitary. Flowers of all yellow.

1 B. sca'bra (R. Br. l. c.) leaflets 3, linear-subulate, scabrous, rather hooked at the points, and mutic; branches terete, pubescent. ♄. G. Native of New Holland, on the south-west coast. Gompholòbium scàbrum, Smith, in Lin. trans. 9. p. 250. Calyx smooth. Style beardless beyond the middle. Keel beardless.

Scabrous Burtonia. Fl. May, July. Clt. 1803. Sh. ½ to 1 ft.

2 B. mìnor (D. C. prod. 2. p. 106.) common petiole almost wanting; leaflets 3, glabrous, hooked, mucronate, erect; branches terete, hairy. ♄. G. Native of New Holland. Gompholòbium mìnus, Smith, in Lin. soc. trans. 9. p. 251. Flowers yellow, with the keel beardless.

Small Burtonia. Fl. Mar. July. Clt. 1812. Shrub ½ foot.

3 B. sessilifòlia (D. C. prod. 2. p. 106.) leaflets 3, sessile, or 3 leaflets ternately approximate, linear-subulate, smooth, mucronate, and somewhat hooked; branches terete, pubescently-hairy. ♄. G. Native of New Holland, on the eastern coast. Calyx smooth, but ciliated on the edges of the lobes. Vexillum deeply obcordate. Keel beardless. This plant hardly differs from the preceding species unless in the length of the leaves.

Sessile-leaved Burtonia. Fl. May, Jul. Clt. 1824. Sh. ½ to 1 ft.

4 B. confe'rta (D. C. prod. 2. p. 106.) leaves simple, crowded very much, linear-subulate, with revolute margins, and are as well as the branches smooth. ♄. G. Native of New Holland, on the southern coast. Calyx glabrous, with the lobes much acuminated. Leaves 6-8 lines long, usually incurved. The plant is in habit like *Dillwýnia*, but the calyx is that of *Burtònia*.

Crowded-leaved Burtònia. Shrub 1 foot.

Cult. See *Gompholòbium* for culture, propagation, and management.

XX. JACKSO'NIA (in honour of George Jackson, an acute Scotch botanist, once Librarian to A. B. Lambert, Esq. F.R.S. V.P.L.S. &c.). R. Br. in hort. kew. ed. 2. vol. 3. p. 12.

Lin. syst. *Decándria, Monogýnia.* Calyx 5-parted, nearly equal. Petals and stamens deciduous. Ovary 2-seeded. Style filiform and subulate, crowned by a simple stigma. Legume a little ventricose, ovate, or oblong; valves pubescent inside. Seeds without a strophiola.—Australian shrubs, and when in an adult state they are usually leafless; branches usually angular, and with the branchlets branched, very like leaves in form. Flowers of all yellow.

1 J. scopa'ria (R. Br. l. c.) arborescent, unarmed; branches angular; racemes terminal. ♄. G. Native of New South Wales. Lodd. bot. cab. 427. Habit nearly of *Genista monospérma*.

Broom Jacksonia. Fl. Ju. Aug. Clt. 1803. Sh. 2 to 6 ft.

2 J. spinòsa (R. Br. l. c.) shrubby; branches pubescent, dichotomous, and trichotomous, spreading, angular; flowers usually solitary; bracteoles at the tops of the pedicels, adpressed and very short. ♄. G. Native of New Holland, on the south-west coast. Gompholòbium spinòsum, Labill. nov. holl. 1. p. 107. t. 136.

Spinose Jacksonia. Fl. April, Sept. Clt. 1803. Sh. 2 to 4 ft.

3 J. hórrida (D. C. prod. 2. p. 107.) shrubby; branches angularly compressed, branched, spinescent, leaf-formed; racemes terminal; pedicels furnished with bracteoles in the middle. ♄. G. Native of New Holland, on the eastern coast. Branches terete, furnished with prominent angles; branchlets glabrous or pubescent at the flowers. Rachis angularly compressed.

Horrid Jacksonia. Shrub 1 to 3 feet.

4 J. furcella'ta (D. C. prod. 2. p. 107.) shrubby; branches terete; branchlets compressed and striated, forked, linear, unarmed; racemes terminal; pedicels furnished with bracteoles at the apex. ♄. G. Native of New Holland, on the eastern coast. Gompholòbium furcellàtum, Bonpl. nav. p. 30. t. 11. Branches and branchlets pubescent.

Forked-branched Jacksonia. Fl. April, Sept. Clt. 1824. Shrub 1 to 2 feet.

5 J. reticula'ta (D. C. prod. 2. p. 107.) shrubby; branches and branchlets terete; leaves lanceolate, pungent, reticulately-veined on both surfaces; flowers axillary, solitary. ♄. G. Native of New Holland, on the eastern coast. Davièsia reticulàta, Smith. in Lin. soc. trans. 9. p. 256. In this and the two preceding species the legumes are villous on the outside, and clothed with velvety pubescence on the inside.

Reticulated-leaved Jacksonia. Fl. April, Sept. Clt. 1820. Shrub 1 to 2 feet.

Cult. Loam and peat is the best mixture for the species of this genus, and young cuttings are easily struck in sand under a bell-glass, or ripened ones under a hand-glass.

XXI. VIMINA'RIA (from *vimen*, a twig; the appearance of the species is that of a bundle of naked twigs, being destitute of leaves). Smith, ann. bot. 1. p. 507. Lin. trans. 9. p. 261. R. Br. in hort. kew. ed. 2. vol. 3. p. 13. D. C. prod. 2. p. 107.

Lin. syst. *Decándria, Monogýnia.* Calyx 5-toothed, angular. Petals of unequal length. Style capillary, longer than the ovary, which is 2-seeded. Stigma simple. Legume valveless, ovate. Seeds without a strophiola.—Australian shrubs, with twiggy branches, with simple or trifoliate leaves on the young plants, but the adult plants are without leaves. Flowers disposed in racemes, yellow, with the pedicels destitute of bracteas.

1 V. denuda'ta (Smith, exot. bot. t. 27.) flowers racemose; teeth of calyx erect, short. ♄. G. Native of New Holland and Van Diemen's Land. Sims, bot. mag. 1190. Davièsia denudàta, Vent. choix. t. 6. Sophòra júncea, Schrad. sert. hann. t. 3.

Naked Viminaria. Fl. June, Sept. Clt. 1790. Sh. 2 to 4 ft.

2 V. LATERIFLO'RA (Link. enum. 2. p. 105.) flowers subracemose; teeth of calyx lanceolate, reflexed. ♄. G. Native of New Holland. Flowers larger than those of *V. denudata*. Leaves wanting. Fruit unknown.

Side-flowered Viminaria. Fl. June, Sept. Clt. 1824. Shrub 2 to 3 feet.

Cult. Elegant shrubs when in flower. For culture and propagation see *Jacksonia*, p. 119.

XXII. SPHÆROLO'BIUM (from σφαιρα, *sphaira*, a sphere, and λοβος, *lobos*, a pod; in allusion to the spherical legumes). Smith, ann. bot. 1. p. 509. Lin. trans. 9. p. 261. R. Br. in hort. kew. ed. 2. vol. 3. p. 14. D. C. prod. 2. p. 107.

LIN. SYST. *Decándria, Monogýnia.* Calyx 5-cleft, bilabiate, bractless at the base. Style furnished with a membrane at the apex, beardless. Stigma terminal. Legume spherical, 1-2-seeded, pedicellate.—Little Australian shrubs, with twiggy few-leaved branches, but the adult ones are perfectly leafless. Leaves simple. Flowers disposed in loose racemose spikes.

1 S. VIMI'NEUM (Smith, l. c.) tube of calyx a little shorter than the lips; style inclosed, arched at the base. ♄. G. Native of New Holland and Van Diemen's Land. Sims, bot. mag. 969. S. minus, Labill. nov. holl. t. 138. Flowers yellow.

Twiggy Sphærolobium. Fl. May, Aug. Clt. 1802. Sh. 1 ft.

2 S. ME'DIUM (R. Br. l. c.) tube of calyx one-half shorter than the lips. ♄. G. Native of New Holland, on the south-west coast. Flowers red.

Intermediate Sphærolobium. Fl. July, Aug. Clt. 1803. Sh. 1 to 3 feet.

Cult. The species of this genus are elegant when in flower; their culture and propagation are the same as that for *Jacksònia*, p. 119.

XXIII. AO'TUS (from α priv. and ωτα, *ota*, ears; in allusion to the want of appendages in the calyx, which in *Pultenæ'a* are very distinct, a genus which is most nearly allied). Smith, ann. bot. 1. p. 501. in Lin. trans. 9. p. 249. R. Br. in hort. kew. ed. 2. vol. 3. p. 14. D. C. prod. 2. p. 108.

LIN. SYST. *Decándria, Monogýnia.* Calyx 5-cleft, bilabiate, bractless at the base. Petals and stamens deciduous. Ovary 2-seeded. Style filiform. Legume 2-valved. Seeds without a strophiola.—Australian shrubs, with simple, linear-subulate leaves, revolute at the margins, alternate or nearly opposite, or 3 in a whorl. Flowers axillary, yellow.

1 A. VILLÒSA (Smith, l. c.) leaves smoothish on the upper surface; flowers axillary, disposed in racemose spikes along the branches. ♄. G. Native of New Holland. Calyx clothed with silky appressed villi. Legume pedicellate. Seeds covered with wrinkled dots.

Villous Aotus. Fl. April, June. Clt. 1790. Sh. 1 to 2 ft.

2 A. ERICOÌDES; leaves linear, very acute, hairy; flowers solitary, axillary, appearing in axillary racemose spikes along the branches; branches clothed with cinereous spreading hairs. ♄. G. Native of New Holland. Pultenæ'a ericoìdes, Vent. malm. t. 35. A. villòsa, Sims, bot. mag. 919. Pultenæa rosmarinifòlia, Sieb. pl. exsic. nov. holl. no. 387? A. villòsa var. α, ericoìdes, D. C. prod. 2. p. 108.

Heath-like Aotus. Fl. April, June. Clt. 1810. Sh. 1 to 2 ft.

3 A. FERRUGÍNEA (Labill. nov. holl. 1. t. 132.) leaves linear, obtuse, scabrous from tubercles above; flowers twin, axillary, rising along the branches; branches clothed with rusty down, when young with silky rusty down. ♄. G. Native of Van Diemen's Land. A. villòsa var. β, ferrugínea, D. C. prod. 2. p. 108.

Rusty Aotus. Fl. April, June. Clt. 1820. Sh. 2 to 4 feet.

4 A. VIRGÀTA (D. C. prod. 2. p. 108.) leaves scabrous from tubercles above; flowers axillary, disposed into ovate, capitate, terminal spikes. ♄. G. Native of New Holland. Pultenæ'a virgàta, Sieb. pl. exsic. nov. holl. no. 389. Branches grey from velvety pubescence. Leaves disposed 3 in a whorl. Bracteas wanting. Calyx clothed with appressed pubescence.

Twiggy Aotus. Fl. April, June. Clt. 1824. Sh. 1 to 2 feet.

Cult. Elegant little shrubs when in flower. For culture and propagation see next genus.

XXIV. DILLWY'NIA (in honour of Lewis Weston Dillwyn, F.R.S. F.L.S. whose labours on British *Confértoæ* are well known). Smith, ann. bot. 1. p. 510. Lin. trans. 9. p. 262. R. Br. in hort. kew. ed. 2. vol. 3. p. 15. D. C. prod. 2. p. 108.

LIN. SYST. *Decándria, Monogýnia.* Calyx 5-cleft, bilabiate, tapering at the base. Petals inserted in the middle of the tube of the calyx. Lamina of vexillum twice the breadth of the length, 2-lobed; lobes spreading. Ovary 2-seeded. Style hooked. Stigma capitate. Legume ventricose. Seeds strophiolate.—Australian subshrubs, with simple leaves and yellow flowers on short pedicels. Stipulas wanting or very small, deciduous.

SECT. I. DILLWYNIA'STRUM (see genus for derivation). Petals and stamens deciduous.

1 D. FLORIBU'NDA (Smith, exot. bot. t. 26.) flowers crowded, axillary, twin; leaves crowded, subulate, mucronulate, scabrous from tubercles. ♄. G. Native of New Holland, on the south and east coasts. D. ericifòlia, Sims, bot. mag. 1544.

Bundle-flowered Dillwynia. Fl. April, July. Clt. 1794. Sh. 2 to 6 feet.

2 D. ERICIFÒLIA (Smith, exot. bot. t. 25.) corymbs of flowers terminal; leaves subulate, pungent, scabrous from points, divaricate, scattered; branches pubescent. ♄. G. Native of New Holland, on the eastern coast. Pultenæ'a retórta, Wendl. hort. herrenh. 2. p. 13. t. 9.

Heath-leaved Dillwynia. Fl. March, July. Clt. 1794. Sh. 2 to 4 feet.

3 D. JUNIPE'RINA (Lodd. bot. cab. 401.) leaves nearly filiform, smooth, ending in a pungent mucrone, spreading, straight, serrated; heads of flowers terminal; pedicels bibracteate; branches twiggy, spreading, pubescent. ♄. G. Native of New Holland and Van Diemen's Land. Corolla orange-coloured, with the vexillum and wings streaked in their lower part with red.

Juniper-like Dillwynia. Fl. March, May. Clt. 1818. Sh. 1 to 3 feet.

4 D. GLABE'RRIMA (Smith in Lin. trans. 9. p. 263.) corymbs terminal; leaves filiform, erect, smooth, ending in a soft recurved mucrone. ♄. G. Native of New Holland, on the eastern coast. Sims, bot. mag. 944. Lodd. bot. cab. 582. Labill. nov. holl. 1. p. 109. t. 139. Legumes puberulous.

Very smooth Dillwynia. Fl. March, July. Cult. 1800. Sh. 2 to 4 feet.

5 D. PARVIFÒLIA (R. Br. in Sims, bot. mag. t. 1527.) corymbs terminal, few-flowered, rather capitate; leaves short, crowded in a decussate manner, and spreading; pedicels bibracteate; stigma capitate. ♄. G. Native of New Holland. Lodd. bot. cab. 559. D. microphy'lla, Sieb. l. c. no. 410 and 553.

Small-leaved Dillwynia. Fl. March, July. Clt. 1800. Sh. 1 to 3 feet.

6 D. ACICULA'RIS (Sieb. pl. exsic. nov. holl. no. 401.) racemes naked, terminal; branches and pedicels covered with adpressed canescent down; leaves ascicular, straight, rather mucronate, smooth. ♄. G. Native of New Holland. Leaves 8-10 lines long. Racemes 8-12-flowered. Calyx rather pubescent.

Acicular-leaved Dillwynia. Fl. April, June. Clt. 1826. Sh. 1 to 4 feet.

7 D. RU'DIS (Sieb. pl. exsic. nov. holl. no. 400.) racemes terminal, leafy; branches villous; leaves acicular, straight, rather mucronate, and scabrous from tubercles, glabrous. ♄. G. Native of New Holland. Flowers axillary, on short pedicels, approximate, and therefore disposed in racemose spikes. Bracteas 2, at the base of each pedicel, and 2 smaller along the pedicels, all deciduous. Leaves 5-6 lines long. Flowers yellow, but with the base of the vexillum purple.

Var. β, *brevifòlia* (D. C. prod. 2. p. 109.) leaves a little shorter, and distinctly mucronate. Sieb. l. c. no. 402.

Var. γ, *teretifòlia* (D. C. prod. l. c.) leaves evidently tubercled, glabrous; branches with a few hairs; calyx glabrous. D. teretifòlia, Sieb. l. c. no. 404.

Var. δ, *hispidula* (D. C. prod. l. c.) leaves distinctly tubercled; tubercles for the most part bearing tufts of hairs; calyx pubescent.

Rustic Dillwynia. Fl. April, June. Clt. 1824. Sh. 2 to 4 ft.

8 D. TENUIFÒLIA (Sieb. pl. exsic. nov. holl. no. 409.) flowers subterminal, and usually solitary; leaves linear, very slender, rather obtuse, straight; branches puberulous. ♄. G. Native of New Holland. Legume pubescent. Leaves much less stiff and acute than in the rest of the species.

Fine-leaved Dillwynia. Fl. April, June. Clt. 1824. Shrub 1 to 3 feet.

9 D. PHYLICOÌDES (Cung. in Field's new south wales, p. 347.) flowers corymbose, terminal, pedicellate; leaves linear, short, mucronate, erectly-spreading, with reflexed, somewhat twisted margins; calyxes and branches villous; stem reclinate. ♄. G. Native of New Holland, on hills about Bathurst. This species is nearly allied to *D. ericifòlia.*

Phylica-like Dillwynia. Fl. April, June. Clt. 1824. Shrub 2 to 3 feet.

10 D. SERI'CEA (Cung. l. c.) canescent; flowers usually twin, axillary; leaves linear, straight, rather terete. ♄. G. Native of New Holland, around Bathurst.

Silky Dillwynia. Fl. April, June. Clt. 1824. Sh. 2 to 3 feet.

SECT. II. XEROPE'TALUM (from ξηρος, *xeros*, dry, and πεταλον, *petalon*, a petal; in reference to the petals and stamens being permanent, even when dry). R. Br. in bot. mag. 2247. Petals and stamens permanent even when dry.

11 D. CINERA'SCENS (R. Br. ex Sims, bot. mag. t. 2247.) corymbs terminal, sessile; leaves filiform, spreading, ending in a short innocuous mucrone; branches and calyxes silky. ♄. G. Native of Van Diemen's Land. Lodd. bot. cab. 527. D. junipérina, Sieb. pl. exsic. nov. holl. no. 411. Mucrone of leaves straight.

Var. β, *recúrva*; leaves erect, mucrone of leaves somewhat recurved. R. Br. l. c.

Greyish Dillwynia. Fl. March, July. Clt. 1819. Sh. 2 to 4 ft.

† *A species not sufficiently known, and the genus to which it should be referred is extremely doubtful.*

12 D. GLYCINIFÒLIA (Smith in Lin. trans. 9. p. 264.) flowers disposed in racemes; leaves ovate and linear, reticulated, with revolute edges. ♄. G. Native of New Holland, at King George's Sound. Flowers purple. Style curved so much as to form a circle. Stems decumbent. Leaves pungent. Fruit unknown. Perhaps a species of *Chorizèma*, or perhaps a proper genus.

Glycine-leaved Dillwynia. Pl. procumbent.

Cult. The species of *Dillwynia* are very elegant shrubs when in flower, and deserve to be cultivated in every collection of greenhouse plants. They should be grown in an equal mixture of loam, sand, and peat, and the pots should be well drained with sherds. Young cuttings root freely in a pot of sand, with a bell-glass placed over them.

XXV. EUTA'XIA (from ευταξια, *eutaxia*, modesty; in allusion to the delicate and modest appearance of the plants when in bloom). R. Br. in hort. kew. ed. 2. vol. 3. p. 16. D. C. prod. 2. p. 109.

LIN. SYST. *Decándria, Monogýnia.* Calyx bilabiate, upper lip somewhat emarginate, lower lip trifid. Vexillum broader than long. Ovary 2-seeded. Style hooked. Stigma capitate. Legume a little ventricose. Seeds strophiolate.—Smooth Australian shrubs, with simple opposite leaves, and golden flowers.

1 E. MYRTIFÒLIA (R. Br. l. c.) leaves lanceolate or obovate-lanceolate, mucronate; pedicels axillary, twin; appendages of wings very short. ♄. G. Native of New Holland. Dillwýnia myrtifòlia, Smith in Lin. trans. 9. p. 263. D. obovàta, Labill. nov. holl. t. 140. Sims, bot. mag. 1274. Flowers numerous along the branches, elegant. Stipulas small.

Myrtle-leaved Eutaxia. Fl. Aug. Clt. 1803. Sh. 2 to 6 feet.

2 E. PU'NGENS (Sweet, fl. austr. 28.) leaves scattered or verticillate, acicular, somewhat recurved, ending in a pungent mucrone, glabrous, with revolute margins; peduncles few-flowered, axillary, crowded; ovary villous; branches and pedicels clothed with adpressed canescent down. ♄. G. Native of New Holland. Dillwýnia púngens, Cung. mss. Branches slender, thickly clothed with acerose leaves. Flowers crowded towards the tops of the branches, yellow, but with a dark-orange circle round the base of the vexillum.

Pungent-leaved Eutaxia. Fl. April, June. Clt. 1825. Shrub 2 to 4 feet.

Cult. The species of *Eutáxia* are very elegant plants when in flower. For culture and propagation see *Dillwýnia.*

XXVI. SCLEROTHA'MNUS (from σκληρος, *skleros*, hard, and θαμνος, *thamnos*, a shrub; rigid shrubs, with stiff hard leaves). R. Br. in hort. kew. ed. 2. vol. 3. p. 16. D. C. prod. 2. p. 109.

LIN. SYST. *Decándria, Monogýnia.* Calyx 5-cleft, bilabiate, bibracteate at the base. Carina of flower length of wings. Ovary 2-seeded, pedicellate. Style ascending, filiform. Stigma simple. Legume ventricose. Flowers yellow.

1 S. MICROPHY'LLUS (R. Br. l. c.) ♄. G. Native of New Holland, on the southern coast.

Small-leaved Sclerothamnus. Fl. May, July. Clt. 1803. Shrub 1 to 2 feet.

Cult. An elegant plant when in flower. For its culture and propagation see *Dillwýnia.*

XXVII. GASTROLO'BIUM (from γαστηρ, *gaster*, the belly, and λοβος, *lobos*, a pod; in reference to the pods being inflated). R. Br. in hort. kew. ed. 2. vol. 3. p. 16. D. C. prod. 2. p. 110.

LIN. SYST. *Decándria, Monogýnia.* Calyx 5-cleft, bilabiate, bractless. Petals about equal in length. Ovary 2-seeded, pedicellate. Style subulate, ascending. Stigma simple. Legume ventricose. Seeds strophiolate.—Australian shrubs, with simple leaves, disposed 4 in a whorl. Stipulas subulate, distinct. Flowers yellow, disposed in a terminal ovate raceme.

1 G. BÌLOBUM (R. Br. l. c.) ♄. G. Native of New Holland, on the south-west coast. Ker. bot. reg. t. 411. Lodd. bot. cab. 70. Turp. dict. sc. nat. with a figure. Leaves uncinate, wedge-shaped, retuse or emarginately 2-lobed, with a mucrone in the notch, silky on the under surface. Legume pedicellate, about equal in length to the tube of the calyx.

Two-lobed-leaved Gastrolobium. Fl. March, May. Clt. 1803. Shrub 1 to 2 feet.

Cult. A pretty plant when in flower. For its culture and propagation see *Pultenæ'a.*

XXVIII. EUCHI'LUS (from ευ, *eu*, well or good, and χειλος, *cheilos*, a lip; well-lipped, the upper lip of the calyx is very large). R. Br. in hort. kew. ed. 2. vol. 3. p. 17. D. C. prod. 2. p. 110.

Lin. syst. *Decándria, Monogýnia.* Calyx profoundly 5-cleft, bibracteolate at the base, bilabiate; lobes of the upper lip ovate and large, of the lower one setaceous. Carina length of wings. Ovary 2-seeded, pedicellate. Style subulate, ascending. Stigma simple. Legume compressed. Seeds strophiolate, with the lobes of the strophiola entire behind.—An Australian shrub, with opposite, simple, minutely-stipulate leaves. Flowers axillary, pedicellate. Pedicels furnished with 2 setaceous bracteoles at their base.

1 E. obcorda'tus (R. Br. l. c.) ♄. G. Native of New Holland, on the south-west coast. Ker. bot. reg. t. 403. Lodd. bot. cab. t. 60. Branches terete, canescent. Leaves obcordate or wedge-shaped, villous beneath. Flowers yellow, with a purplish keel.

Obcordate-leaved Euchilus. Fl. March, June. Clt. 1803. Shrub 1 to 3 feet.

Cult. A very elegant plant when in flower. For its culture and propagation see *Pultenæ'a.*

XXIX. PULTENÆ'A (in honour of William Pulteney, M.D. author of a view of the writings of Linnæus, and various other works of merit). Smith, ann. bot. 1. p. 501. Lin. trans. 9. p. 245. R. Br. in hort. kew. ed. 2. vol. 3. p. 17. D. C. mem. leg. v. prod. 2. p. 110.

Lin. syst. *Decándria, Monogýnia.* Calyx 5-cleft, bilabiate (f. 24. *a.*); lips equal in length, bibracteolate at the base; bracteoles sometimes adhering to the tube. Ovary sessile (f. 24. *d.*), 2-seeded. Style subulate, ascending (f. 24. *e.*). Stigma simple. Strophiola of seed with the lobes cut behind.—Small neat Australian shrubs, with simple alternate leaves. Stipulas usually concrete between the leaves. Flowers yellow, usually disposed in heads at the tops of the branches.

Sect. I. Hymenòta (from ὑμην, *hymen*, a membrane, ους ωτος, *ous otos*, an ear; in reference to the membranous stipulas). D. C. prod. 2. p. 110. Stipulas setaceous, scarious or membranous, upper ones usually concrete or dilated. Bracteoles conforming to the upper stipulas.

1 P. daphnoìdes (Smith, l. c.) heads of flowers terminal; leaves obovate-oblong, flat, quite glabrous, smooth, 3 times longer than broad, ending in a pungent mucrone. ♄. G. Native of New Holland, on the eastern coast. Andr. bot. rep. 98. Wendl. hort. herrenh. 3. t. 17. Sims, bot. mag. 1394. Leaves nearly an inch long.

Daphne-like Pultenæa. Fl. June, July. Clt. 1792. Shrub 2 to 3 feet.

2 P. obcorda'ta (Andr. bot. rep. t. 574.) heads of flowers terminal; leaves cuneate and obcordate, retuse, flat, quite glabrous, smooth, scarcely twice longer than broad, ending in a pungent mucrone. ♄. G. Native of Van Diemen's Land and New Holland, on the south coast. Leaves half an inch long. R. Br. in hort. kew. ed. 2. vol. 3. p. 18.

Obcordate-leaved Pultenæa. Fl. May, July. Clt. 1808. Sh. 1 to 3 feet.

3 P. bi'loba (R. Br. in bot. mag. 2091.) heads terminal, few-flowered; leaves cuneiform, dilated and 2-lobed at the apex, scabrous from tubercles on the upper surface, but silky beneath, ending in a short mucrone, and with the margins recurved. ♄. G. Native of New Holland, on the eastern coast. P. scàbra, R. Br. in hort. kew. ed. 2. vol. 3. p. 18. P. deltoìdea, Sieb. pl. exsic. nov. holl. no. 388. Flowers yellow, with a purplish keel.

Var. β, scàbra (Sieb. pl. exsic. nov. holl. no. 386.) branches and calyxes clothed with hairy down, not with adpressed villi. ♄. G. Native of New Holland. Leaves a little larger than those of the species.

Two-lobed-leaved Pultenæa. Fl. April, May. Clt. 1817. Shrub 1 to 3 feet.

4 P. ferrugi'nea (Rudge in Lin. trans. 11. p. 300. t. 23.) flowers axillary and terminal; leaves obovate, and appearing emarginate in consequence of the point being curved back, pilose. ♄. G. Native of New Holland, near Port Jackson. Stipulas subulate, dilated into a membrane. Leaves apparently dotted under a microscope. Branches villous. Ovary pilose. P. lanàta, Sieb. pl. exsic. nov. holl. no. 420.

Rusty-haired Pultenæa. Fl. April, June. Clt. 1810. Shrub 1 to 3 feet.

5 P. incurva'ta (Cung. in Field's new south wales, p. 346.) heads of flowers terminal, and are, as well as the branches, villous; leaves lanceolate, obtuse, concave, incurved. ♄. G. Native of New Holland, on the margins of peat bogs, on King's Table Land. A slender shrubby plant.

Incurved-leaved Pultenæa. Fl. May, June. Clt. 1823. Sh. 1 to 2 feet.

6 P. racemulòsa (D. C. prod. 2. p. 111.) flowers axillary, forming a leafy raceme; leaves obovate-elliptic, obtuse, smooth beneath, but scabrous above; branches hairy-pubescent. ♄. G. Native of New Holland. The leaves appear full of dots under a microscope, hardly 2 lines long. Like *P. ferruginea*, but differs from it in the disposition of the flowers, as well as from all the rest. Sieb. pl. exsic. nov. holl. no. 594.

Racemulose-flowered Pultenæa. Fl. April, June. Clt. 1820. Shrub 1 to 3 feet.

7 P. parviflòra (Sieb. pl. exsic. nov. holl. no. 399.) heads terminal, few-flowered; leaves obovate-cuneated, almost veinless, glabrous, younger ones clothed with adpressed villi, as well as the branches, all terminating in a short, callose, somewhat recurved point. ♄. G. Native of New Holland. Stipulas rufous, oblong, membranous, adpressed, a line or more long. Leaves 2-3 lines long.

Small-flowered Pultenæa. Fl. April, July. Clt. 1824. Sh. 1 to 3 feet.

8 P. stri'cta (Sims, bot. mag. 1588.) heads of flowers terminal; leaves obovate, mucronate, quite glabrous; stem straight; calyxes and legumes pilose. ♄. G. Native of Van Diemen's Land. Lodd. bot. cab. 974.

Straight Pultenæa. Fl. April, July. Clt. 1803. Sh. 1 to 3 ft.

9 P. elli'ptica (Smith in Lin. trans. 9. p. 246.) heads of flowers terminal, roundish, and with oblong ones along the branches; stem straight; leaves elliptic or obovate-oblong, concave, rather pilose; stipulas 2, joined in one; bracteas and calyxes membranous and ciliated; legume glabrous. ♄. G. Native of New Holland, on the eastern coast. Rudge in Lin. trans. 1. t. 24. Sieb. pl. exsic. nov. holl. no. 394. P. tuberculàta, Pers. ench. 1. p. 454.

Var. β, oblongifòlia (Sieb. l. c. no. 397.) leaves oblong.

Elliptic-leaved Pultenæa. Fl. April, June. Clt. 1810. Sh. 1 to 3 feet.

10 P. plumòsa (Sieb. pl. exsic. nov. holl. no. 385.) heads of flowers terminal, roundish; stem straight, clothed with velvety villi between the leaves; leaves oblong, concave, veinless, lower ones nearly glabrous, superior ones, especially the floral ones, clothed with silky velvety villi. ♄. G. Native of New Hol-

land. Stipulas brown, membranous, erect, adpressed. Like *P. elliptica.*

Feathered Pultenæa. Fl. April, Jul. Clt. 1824? Sh. 1 to 2 ft.

11 P. thymifòlia (Sieb. pl. exsic. nov. holl. no. 398.) heads of flowers terminal, roundish; stem branched, and rather villous; leaves elliptic-oblong, rather concave and veinless, stalked, for the most part glabrous, floral ones clothed with soft villi, oval, and on longer petioles. ♄. G. Native of New Holland. Calyx clothed with silky, long, white hairs.

Thyme-leaved Pultenæa. Fl. April, June. Clt. 1810. Sh. 1 to 3 feet.

12 P. hypola'mpra (Sieb. pl. exsic. nov. holl. no. 396.) heads of flowers terminal, leafy, protruding beyond the branches, and somewhat verticillate; leaves elliptic-oblong, stalked, rather acute, usually 3-nerved, shining below, and glabrous on both surfaces; floral ones ciliated, with long white hairs. ♄. G. Native of New Holland. Stipulas brown, membranous, longer than the petioles, pressed to the stem, hiding the branches. Consistence and form of leaves very like that of *Eutáxia myrtifòlia.*

Brightish Pultenæa. Fl. April, June. Clt. 1824. Shrub 1 to 3 feet.

13 P. villi'fera (Sieb. pl. exsic. no. 396.) flowers axillary or subcapitate at the tops of the branches; leaves lanceolate-oblong, acuminated, somewhat 3-nerved, shining beneath, bearing long white hairs on the margins. ♄. G. Native of New Holland, near Port Jackson. Leaves rusty.

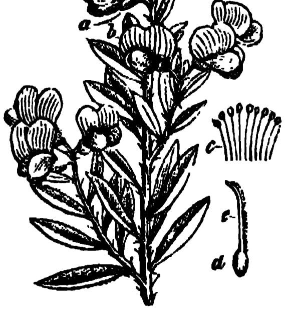
Hair-bearing Pultenæa. Fl. April, June. Clt. 1824. Shrub 1 to 3 feet.

14 P. polygalæfòlia (Rudge in Lin. trans. 11. p. 303. t. 25.) flowers axillary and terminal; leaves linear-oblong, obtuse, mucronulate, concave above, and glabrous, rather pilose beneath, as well as the calyxes; stipulas lanceolate-subulate, adpressed; branches and branchlets clothed with rusty villi; bracteas subulate, shorter than the calyx. ♄. G. Native of New Holland, in the neighbourhood of Sydney. Sweet, fl. aust. 37.

Polygala-leaved Pultenæa. Fl. April, June. Clt. 1824. Sh. 2 to 4 feet.

15 P. fle'xilis (Smith in Lin. trans. 9. p. 248.) racemes terminal, rather leafy; leaves obovate-linear, mucronate, flat, glabrous above, and rather glaucous; calyx glabrous on the outside, bibracteate at the base, with the segments ovate, acute, and ciliated; stipulas setaceous, longer than the petioles. ♄. G. Native of New Holland. Sweet, fl. austr. t. 35. Dillwýnia teucrioìdes, Sieb. l. c. no. 423. (f. 24.)

FIG. 24.



Flexile Pultenæa. Fl. April, Ju. Clt. 1801. Sh. 1 to 2 feet.

16 P. euchìla (D. C. prod. 2. p. 112.) flowers axillary and racemose; leaves cuneate-linear, obtuse, pale beneath, and 1-nerved, glaucous above, glabrous on both surfaces, as well as the branches and calyxes; upper lobes of calyx ovate, obliquely and bluntly apiculated; stipulas and bracteas small and setaceous. ♄. G. Native of New Holland. Calyx almost like that of *Euchìlus.* Corolla and style of *Pultenæ'a.* Pedicels length of calyx. Dillwýnia cuneàta, Sieb. pl. exsic. nov. holl. 422.

Well-lipped Pultenæa. Fl. April, June. Clt. 1820. Sh. 1 to 3 feet.

17 P. retu'sa (Smith in Lin. trans. 9. p. 248.) heads terminal, few-flowered; leaves linear, retuse, mutic, flat, glabrous; bracteas a little longer than the calyx. ♄. G. Native of New Holland, on the eastern coast. Ker. bot. reg. 378. Sims, bot. mag. 2081. Stipulas minute. Bracteoles inserted in the middle of the tube of the calyx.

Retuse-leaved Pultenæa. Fl. April, May. Clt. 1789. Sh. 1 to 2 feet.

18 P. capitella'ta (Sieb. pl. exsic. nov. holl. no. 413.) heads of flowers terminal, imbricated with bracteas, villous; leaves cuneated, rather acute, glabrous above, and canescent from adpressed villi beneath. ♄. G. Native of New Holland. Flowers broader and heads smaller than in *P. linophýlla.*

Capitellate-flowered Pultenæa. Fl. April, June. Clt. 1823. Shrub 1 to 2 feet.

19 P. linophy'lla (Smith in Lin. trans. 9. p. 248.) bracteas shorter than the few-flowered terminal head; leaves linear, with edges and mucrone recurved, silky beneath; stipulas shorter than the petioles; calyxes villous. ♄. G. Native of New Holland, on the eastern coast. Schrad. sert. hannov. 3. t. 18. P. glaucéscens, Sieb. pl. exsic. nov. holl. no. 417. Stem much branched. Leaves half an inch long.

Var. β, amœ'na (Sieb. l. c. no. 414.) branches more loose; heads few-flowered.

Flax-leaved Pultenæa. Fl. May, July. Clt. 1789. Shrub 1 to 3 feet.

20 P. cane'scens (Cung. in Field's new south wales, p. 346.) heads many-flowered; bracteas a little shorter than the calyx; leaves linear-oblong, concave and glabrous above, but canescent beneath, as well as the bracteas and calyx; stems tufted. ♄. G. Native of New Holland, on the Blue Mountains, in barren woods on the verge of swamps.

Canescent Pultenæa. Fl. April, May. Clt. 1822. Sh. 1 ft.

21 P. polifòlia (Cung. l. c.) heads many-flowered; leaves ovate-lanceolate or oblong-linear, mucronate, with revolute margins; branches and heads of flowers villous; bracteas a little shorter than the calyx. ♄. G. Native of New Holland, on bushy hills.

Polium-leaved Pultenæa. Fl. April, June. Clt. 1824. Sh. 1 to 2 feet.

22 P. microphy'lla (Sieb. pl. exsic. nov. holl. no. 418.) flowers axillary and somewhat capitate at the tops of the branches; leaves linear and somewhat cuneated, terminated by a short, callous, somewhat incurved mucrone, glabrous above, but clothed with minute, pressed pubescence beneath as well as the calyxes; branches hoary from adpressed down. ♄. G. Native of New Holland.

Small-leaved Pultenæa. Fl. April, June. Clt. 1810. Shrub 1 to 3 feet.

23 P. palea'cea (Smith, in Lin. trans. 9. p. 246.) heads terminal, few-flowered; bracteas membranous, very much acuminated, exceeding the calyx; leaves linear, glabrous, with revolute margins, ending in a recurved point; stipulas concrete, membranous, somewhat sheathing. ♄. G. Native of New Holland, on the east coast. Lodd. bot. cab. 3. t. 291.

Chaffy Pultenæa. Fl. May, July. Clt. 1789. Sh. 1 to 2 ft.

24 P. arista'ta (Sieb. pl. exs. nov. holl. no. 283.) heads of flowers terminal; leaves linear, convolute, nerveless, scabrous from tubercles beneath and ciliated at the base, bracteate at apex, and each as well as the calycine lobes ending in a stiff bristle; calyxes villous. ♄. G. Native of New Holland. Leaves crowded, erect. Stipulas long, subulate, and are as well as the bristles fuscous.

Awned-leaved Pultenæa. Fl. April, June. Clt. 1824. Shrub 1 to 2 feet.

25 P. echi'nula (Sieb. pl. exs. nov. holl. no. 384.) heads of flowers terminal; leaves crowded, rather incurved, terete, and

subulate, mucronate, scabrous from tubercles, with one furrow above, floral ones bearing long hairs. ♄. G. Native of New Holland. Stipulas subulate, permanent, black, and stiff, particularly on the old heads, in which they appear like spines. Stipulas and bracteas crowded.

Small prickly Pultenæa. Fl. April, June. Clt. 1823. Shrub 1 to 2 feet.

26 P. ARGE'NTEA (Cung. in Field's new south wales, p. 347.) heads terminal, villous; leaves linear-lanceolate, mutic, acute, rather concave above and glabrous, but silvery beneath. ♄. G. Native of New Holland, on hills at Cox's River.

Silvery-leaved Pultenæa. Fl. April, June. Clt. 1824. Shrub 1 to 2 feet.

27 P. PROCU'MBENS (Cung. l. c.) branches prostrate, stipulaceous; racemes leafy; leaves ovate-lanceolate, acute, rather concave above, ending in a refracted mucrone, but villous beneath as well as the calyxes. ♄. G. Native of New Holland, on exposed hills on the western interior. Allied to *P. villòsa.* A reclining shrub.

Procumbent Pultenæa. Fl. April, May. Clt. 1823. Sh. pr.

28 P. VESTÌTA (R. Br. in hort. kew. ed. 2. vol. 3. p. 19.) flowers axillary; leaves linear-lanceolate, mucronate, glabrous, with inflexed margins; stipulas imbricate, ciliated; calyxes and bracteas awned. ♄. G. Native of New Holland, on the southern coast.

Clothed Pultenæa. Fl. April, Ju. Clt. 1803. Pl. 1 to 2 ft.

29 P. DENTA'TA (Labill. nov. holl. 1. p. 103. t. 131.) heads of flowers terminal; bracteas rather orbicular, toothed, length of calyx; leaves linear, tubercled, glabrous; stipulas distinct, minute. ♄. G. Native of New Holland in Van Leuwin's Land. Legume ovate, acuminated, gibbous.

Toothed-bractead Pultenæa. Shrub 1 foot.

30 P. JUNIPE'RINA (Labill. l. c. t. 130.) flowers axillary and terminal; bracteas entire, hardly longer than the pedicels; leaves linear, somewhat triquetrous, acuminated, pungent, glabrous; stipulas subulate, a little longer than the petioles. ♄. G. Native of Van Diemen's Land and New Holland. Leaves 3 or 4 lines long.

Juniper-like Pultenæa. Fl. April, Ju. Clt. 1824. Sh. 2 to 8 ft.

31 P. TENUIFÒLIA (R. Br. in bot. mag. t. 2086.) heads terminal, usually 2-flowered; fruit lateral; leaves linear-subulate, mutic, concave above and convex beneath, and are as well as the branches rather pilose. ♄. G. Native of New Holland, on the southern coast.

Fine-leaved Pultenæa. Fl. April, Ju. Clt. 1817. Sh. 1 to 3 ft.

32 P. VILLÒSA (Smith, in ann. bot. 1. p. 503.) racemes leafy; leaves linear-oblong, pilose beneath as well as the branches and calyxes. ♄. G. Native of New Holland, on the eastern coast. Sims, bot. mag. 967. Stipulas setaceous, length of petioles. Leaves spreading, 2-3 lines long. Flowers pure yellow.

Villous Pultenæa. Fl. April, May. Clt. 1790. Sh. 1 to 3 ft.

33 P. STIPULA'RIS (Smith, l. c. et nov. holl. spec. t. 12.) heads many-flowered; bracteas about equal in length to the calyxes; leaves linear, flat, acute, younger ones ciliated; stipulas 2 joined in one, which is bifid at the apex, flat, imbricate, much longer than the petioles. ♄. G. Native of New Holland, on the eastern and southern coast. Curt. bot. mag. 435. P. protæoìdes, Sieb. pl. exsic. nov. holl. no. 382.

Stipular Pultenæa. Fl. April, Jul. Clt. 1792. Sh. 1 to 3 ft.

34 P. PEDUNCULA'TA (Hook, bot. mag. 2860.) pedicels axillary, twin, elongated; stipulas setaceous, twin at the base of the leaves; leaves linear-lanceolate, flat, and are as well as the branches clothed with adpressed pili. ♄. G. Native of New Holland. A weak shrub. Flowers yellow, but with the keel and edges of calyx reddish.

Stalked-flowered Pultenæa. Fl. May, Ju. Clt. 1820. Sh. 1 ft.

35 P. STENOPHY'LLA (Cung. mss.) heads few-flowered, terminal; leaves linear, mucronate; stipulas numerous; calyx villous; branches villous. ♄. G. Native of New Holland.

Narrow-leaved Pultenæa. Fl. April, June. Clt. 1824. Shrub 1 to 3 feet.

36 P. STAPHYLEOÌDES (Cung. mss.) flowers sessile, solitary, axillary; leaves ovate, acute, stiff, ending in a pungent mucrone, reflexed, rather villous beneath when young, but only at the edges in the adult state; stipulas twin, linear; branches pubescent or villous. ♄. G. Native of New Holland. Habit of *Sprengèlia incarnàta.*

Staphylea-like Pultenæa. Fl. April, Jul. Clt. 1824. Sh. 1 ft.

SECT. II. PHYLLÒTA (φυλλον, *phyllon*, a leaf, and ους ωτος, *ous otos*, an ear; in allusion to the twin leafy bracteas). D. C. prod. 2. p. 113. Stipulas wanting. Flowers bearing opposite or twin, leafy bracteas at the base, which are usually longer than the calyx. Pods unknown. Perhaps a proper genus.

37 P. A'SPERA (Sieb. pl. exsic. nov. holl. no. 408.) flowers axillary at the tops of the branches, disposed in terminal, capitate, leafy spikes; bracteoles length of calyx; leaves linear, with revolute margins, smoothish above but scabrous beneath from tubercles, without stipulas; branches and calyxes pubescent. ♄. G. Native of New Holland, on the eastern coast. Bracteoles oval-oblong, glabrous. Lobes of calyx acute. Shrub, with the habit of *Dillwýnia floribúnda.*

Rough Pultenæa. Fl. April, July. Clt. 1824. Sh. 1 to 3 ft.

38 P. COMÒSA (Sieb. pl. exsic. nov. holl. no. 407.) flowers axillary, disposed in a somewhat terminal leafy spike; bracteoles longer than the calyx; leaves exstipulate, linear, with revolute margins, scabrous from tubercles above, but clothed beneath with adpressed pubescence as well as the calyxes and branches. ♄. G. Native of New Holland. Shrub almost with the habit of *Aòtus virgàta.*

Tufted Pultenæa. Fl. April, June. Clt. 1825. Sh. 1 to 3 ft.

39 P. SQUARRÒSA (Sieb. pl. exsic. nov. holl. no. 406.) flowers axillary, disposed in a leafy terminal head; leaves exstipulate, linear, acute, with revolute margins, scabrous from tubercles above, young and floral ones villous and mucronate; bracteoles longer than the calyx; lobes of calyx ending in spiny mucrones. ♄. G. Native of New Holland.

Squarrose Pultenæa. Fl. April, July. Clt. 1825. Sh. 1 to 3 ft.

40 P. PHYLICOÌDES (Sieb. pl. exsic. nov. holl. no. 405.) heads terminal, roundish; leaves linear, bluntish, with revolute margins, scabrous from tubercles above, but pubescent beneath on the nerves and on the branches; bracteoles length of calyx; lobes of calyx short, bluntish. ♄. G. Native of New Holland.

Phylica-like Pultenæa. Fl. April, Ju. Clt. 1822. Sh. 1 to 3 ft.

41 P. CA'NDIDA (Lodd. bot. cab. 1236.) flowers axillary, very small; leaves linear, obtuse, crowded, beset with long hairs, as well as the branches, giving the whole plant a white or hoary aspect. ♄. G. Native of New South Wales. Flowers yellow, tinged with red.

White-leaved Pultenæa. Fl. April, July. Clt. 1825. Shrub 1 to 2 feet.

Cult. *Pultenæ'a* is a genus of elegant small shrubs; they succeed best in an equal mixture of loam, peat, and sand, and cuttings root readily in a pot of sand, with a bell-glass placed over them. The species shew to most advantage when planted out into a border or conservatory.

XXX. DAVIE'SIA (in honour of the Rev. Hugh Davies, F.L.S. a Welsh botanist). Smith, in Lin. trans. 4. p. 222. 9. p. 255. R. Br. in hort. kew. ed. 2. vol. 3. p. 20.

LIN. SYST. *Decándria, Monogýnia.* Calyx angular, bractless, 5-toothed, somewhat bilabiate. Carina shorter than the vexillum. Ovary pedicellate, 2-seeded. Style straight. Stigma simple. Legume compressed, angular, bursting elastically at the lower suture, which is dilated, almost semi-trapezoid. Strophiola of seeds entire behind.—Smooth Australian, spiny, or unarmed shrubs, with the appearance of furze. Leaves either simple or wanting. Pedicels axillary, bibracteate at the base. Flowers usually yellow.

* *Leaves oval, oblong, or lanceolate, unarmed.*

1 D. LATIFÒLIA (R. Br. in hort. kew. 3. p. 20.) leaves elliptic or oval, veiny, rather tapering to the base, mucronate, and are unarmed as well as the branches; racemes axillary, many-flowered, a little shorter than the leaves. ♄. G. Native of Van Diemen's Land. Sims, bot. mag. 1757. Flowers yellow, with the vexillum copper-coloured, spotted. Bracteoles numerous along the peduncles under the raceme.

Broad-leaved Daviesia. Fl. May, Aug. Clt. 1805. Sh. 2 to 4 ft.

2 D. CORYMBÒSA (Smith, in Lin. trans. 9. p. 258.) leaves linear-oblong, flat, apiculated by a callous mucrone, and are as well as the branches unarmed; racemes solitary or twin, 3-times shorter than the leaves, having many bracteas at the base, and bearing a corymb of flowers at the apex. ♄. G. Native of New Holland, on the eastern coast. Flowers white, with a violet keel. Leaves 1-2 inches long and 4 lines broad, with few veins.

Corymbous-flowered Daviesia. Fl. May, Aug. Clt. 1804. Shrub 2 to 4 feet.

3 D. MIMOSOÌDES (R. Br. in hort. kew. 3. p. 20.) leaves linear, lanceolate, apiculated by an innocuous point, and are as well as the branches unarmed; racemes solitary or twin, 4-times shorter than the leaves, having many bracteas at the base, and corymbiferous at the apex. ♄. G. Native of New Holland, on the south coast. Andr. bot. rep. 526. D. glaùca, Lodd. bot. cab. t. 43. Flowers yellow. Leaves nerved at the base; the nerves irregularly pinnate.

Mimosa-like Daviesia. Fl. Ju. Aug. Clt. 1809. Sh. 2 to 4 ft.

4 D. LEPTOPHY'LLA (Cung. mss.) leaves linear-lanceolate, strongly nerved, obtuse and mucronate, quite smooth, coriaceous; branches furrowed; peduncles few-flowered, axillary. ♄. G. Native of New Holland.

Slender-leaved Daviesia. Fl. April, June. Clt. 1824. Sh. 1 to 3 feet.

* * *Leaves lanceolate or linear, spiny at the apex.*

5 D. PHYSÒDES (Cung. mss.) leaves sessile, somewhat falcate, broadest at the apex and blunt, having 2 strong nerves, and furnished with a spiny beak on the lower side; branches furrowed. ♄. G. Native of New Holland.

Bladdery Daviesia. Fl. April, Jul. Clt. 1824. Sh. 2 to 4 ft.

6 D. RACEMULÒSA (D. C. prod. 2. p. 114.) leaves sublanceolate-linear, acuminated, pungent; racemes solitary, bracteate, a little shorter than the leaves and somewhat corymbous at the apex. ♄. G. Native of New Holland. Leaves 9-10 lines long and 2 lines broad.

Racemose-flowered Daviesia. Fl. June, Aug. Clt. 1823. Shrub 2 to 3 feet.

7 D. UMBELLULA'TA (Smith, in Lin. trans. 9. p. 258.) leaves lanceolate, terminated by a pungent point; branches spinose at the apex; peduncles axillary, very short, bearing a few-flowered umbel at the apex. ♄. G. Native of New Holland, on the eastern coast.

Var. β, *angustifòlia* (D. C. prod. 2. p. 114.) leaves linear-lanceolate. D. umbellàta, Labill. nov. holl. 1. p. 107. t. 137.

Umbellulate-flowered Daviesia. Fl. April, June. Clt. 1816. Shrub 2 to 4 feet.

8 D. INCRASSA'TA (Smith, in Lin. trans. 9. p. 253.) leaves cuneate-linear, compressed, vertical, oblique, thick, spiny; flowers axillary, solitary. ♄. G. Native of New Holland, at King George's Sound.

Thickened-leaved Daviesia. Fl. May, Ju. Clt. 1820. Sh. 1 to 3 feet.

9 D. ACICULA'RIS (Smith, l. c.) leaves linear, with callous somewhat revolute margins, pungent, straight, denticulately scabrous; flowers axillary, solitary, on very short pedicels. ♄. G. Native of New Holland, about Port Jackson. Lodd. bot. cab. 1234. Flowers yellow, variegated with scarlet.

Acicular-leaved Daviesia. Fl. Ju. Jul. Clt. 1804. Sh. 2 to 3 ft.

10 D. ULÍCINA (Smith, l. c.) leaves lanceolate or linear, with smooth margins, and are as well as the branches spinescent at the apex, spreading; flowers axillary, solitary, on very short pedicels. ♄. G. Native of New Holland, on the eastern coast. D. ulicifòlia, Andr. bot. rep. t. 304. Leaves half an inch long. Flowers yellow, with the vexillum copper-coloured at the base.

Furze-like Daviesia. Fl. April, Aug. Clt. 1792. Sh. 1 to 3 ft.

* * * *Leaves cordate at the base.*

11 D. SQUARRÒSA (Smith, l. c.) leaves cordate, acuminated, pungent, with scabrous margins, which are either reflexed or spreading; peduncles axillary, 1-flowered, nearly the length of the leaves. ♄. G. Native of New Holland, at Port Jackson. Pedicels furnished with concave obtuse bracteas at the base.

Squarrose Daviesia. Fl. May, July. Clt. 1824. Sh. 2 to 3 ft.

12 D. CORDA'TA (Smith, l. c.) leaves cordate, stem-clasping, reticulated with veins; peduncles axillary, aggregate, corymbose, many-flowered. ♄. G. Native of New Holland, at King George's Sound. Lindl. bot. reg. 1005. Stem angular. Bracteas broad, usually subcordate.

Cordate-leaved Daviesia. Fl. Ju. Jul. Clt. 1824. Sh. 1 to 3 ft.

* * * * *Leaves wanting.*

13 D. ALA'TA (Smith, l. c.) stem leafless, winged; umbels lateral; calyx and bracteas fringed; legume 1-seeded, compressed, dolabriform. ♄. G. Native of New Holland, at Port Jackson. Ker. bot. reg. 728. Stem having 3 wings, nearly like those in *Genísta sagittàlis* or in *Bossiæ'a scolopéndria*.

Winged-stemmed Daviesia. Fl. May, Aug. Clt. 1818. Shrub 1 to 3 feet.

14 D. JU'NCEA (Smith, l. c.) stem leafless, terete, furrowed, naked; umbels lateral; calyx and bracteas beardless. ♄. G. Native of New Holland, at King George's Sound. Bracteas concave, lower ones imbricate. Teeth of calyx short.

Rush-like Daviesia. Fl. April, July. Clt. 1823. Sh. 1 to 2 ft.

Cult. See *Pultenæ'a* for culture and propagation. The species are very elegant plants when in flower. The cuttings require to be nearly ripened.

XXXI. MIRBE'LIA (in honour of M. Mirbel, a distinguished French physiological botanist, whose elucidations of the reticulated structure of vegetables are well known). Smith, ann. bot. 1. p. 511. Lin. trans. soc. 9. p. 265. R. Br. in hort. kew. ed. 2. vol. 3. p. 21. D. C. prod. 2. p. 114.

LIN. SYST. *Decándria, Monogýnia.* Calyx 5-cleft, bilabiate. Legume 2-seeded, longitudinally 2-celled, from the sutures on the upper side being so much bent in.—Australian subshrubs, having the fruit of *Astrágalus*, and the stamens and habit agreeing with the present tribe. Leaves 3 in a whorl. Flowers purple.

1 M. RETICULA'TA (Smith, l. c.) leaves lanceolate-linear, reticulately-veined, quite entire, apiculated by a stiff mucrone. ♄. G. Native of New South Wales. Vent. malm. 119. Sims, bot. mag. 1211. Gompholòbium reticulàtum, Hort. Smooth, with twiggy branches. Leaves opposite or ternately verticillate. Flowers lilac, terminal, capitate, or axillary verticilate.

Reticulated-leaved Mirbelia. Fl. May, Aug. Clt. 1792. Shrub 1 to 3 feet.

2 M. RUBIÆFÒLIA; leaves lanceolate, acute, serrated, stiff, 3 in a whorl; flowers terminal, capitate, and axillary verticillate. ♄. G. Native of New South Wales. Flowers bluish-purple. Pultenæ'a rubiæfòlia, Andr. bot. rep. 351.

Rubia-leaved Mirbelia. Fl. June, Jul. Clt. 1792. Sh. 1 to 2 ft.

3 M. SPECIÒSA (Sieb. pl. exsic. nov. holl. no. 367.) leaves linear, acutish, with revolute quite entire margins; flowers disposed in a terminal, interrupted, leafy spike. ♄. G. Native of New Holland. Flowers purple.

Shewy Mirbelia. Fl. May, July. Clt. 1824. Sh. 1 to 2 ft.

4 M. DILATA'TA (R. Br. in hort. kew. 3. p. 21.) leaves cuneiform, dilated and trifid at the apex. ♄. G. Native of New Holland, on the south-west coast. Flowers purplish. Lindl. bot. reg. 1041.

Dilated-leaved Mirbelia. Fl. May, Aug. Clt. 1803. Sh.

5 M. GRANDIFLÒRA (Cung. mss. Sieb. Hook. bot. mag. 2771.) pubescent; leaves alternate, ovate, lanceolate; flowers axillary, twin. ♄. G. Native of New Holland. Perhaps Chorizèma platylobioìdes, D. C. prod. and Platylòbium reticulàtum. Flowers yellow, having a red zonate mark on the upper side of the vexillum, and streaked with the same on the outer surface, and the wings have a red blotch on one side.

Great-flowered Mirbelia. Fl. May, Ju. Clt. 1823. Sh. 1 to 2 ft.

6 M. PU'NGENS (Cung. mss.) leaves linear, ending in a long, spiny mucrone, scattered; flowers nearly sessile, axillary, smooth. ♄. G. Native of New Holland.

Pungent Mirbelia. Fl. May, July. Clt. 1823. Sh. 1 to 2 ft.

Cult. Elegant plants when in flower, the flowers of all being purplish or deep orange. Their culture and propagation are the same as that for *Pultenæ'a*, p. 126; the cuttings require to be young.

Tribe II.

LO'TEÆ (plants agreeing with *Lòtus* in important characters). D. C. Leg. mem. vi.—Genístræ, et Astrágali, Adans, fam. 2. p. 320, 324.—Genísteæ, Trifòlieæ et Galègeæ, Bronn. l. c. Embryo with its radicle curved back upon the edge of the cotyledons. Corolla papilionaceous. Stamens monadelphous, or diadelphous, 9 joined and 1 free. Legume continuous, 1-celled, rarely 2-celled, in consequence of the upper sutures being bent. Cotyledons flattish, furnished with cortical pores, and changing at once into leaves at the time of germination, for the purpose of elaborating food for the young plants. However, the germination of some of the genera contained in this tribe being unknown, a few of them may at some future time be placed in tribe *Phaseòleæ*.

SUBTRIBE I. GENÍSTEÆ (plants agreeing with *Genista* in important characters). Bronn. diss. l. c. Legume 1-celled. Stamens usually monadelphous. Leaves simple or palmately trifoliate, rarely pinnate. Stems usually shrubby.

XXXII. HO'VEA (in honour of Anthony Pantaleon Hove, a Polish botanist, who travelled in the Crimea and Persia, whence many plants were sent to Kew Gardens). R. Br. in hort. kew. ed. 2. vol. 4. p. 275. D. C. prod. 2. p. 115.—Poirètia, Smith, Lin. trans. 9. p. 304. but not of Cav.—Physicárpos, Poir. suppl.

LIN. SYST. *Diadélphia, Decándria.* Calyx bilabiate (f. 25. *a.*); upper-lip semibifid, broad, and retuse, lower one 3-parted. Keel obtuse (f. 25. *f.*). Stamens all connected (f. 25. *c.*), the tenth or upper one only more or less free. Legume sessile (f. 25. *d.*), roundish, ventricose, 2-seeded. Seeds strophiolate.—Australian shrubs, with alternate simple leaves, and axillary, purple, or violaceous flowers, which stand on short pedicels.

1 H. LONGIFÒLIA (R. Br. l. c.) leaves linear and elongated, mucronate, with somewhat revolute margins, veiny beneath, and are as well as the legumes tomentose. ♄. G. Native of New Holland, on the eastern coast. Ker. bot. reg. 614. Flowers purplish-violet.

Long-leaved Hovea. Fl. Ju. Sept. Clt. 1805. Sh. 2 to 4 ft.

2 H. LINEA'RIS (R. Br. l. c.) leaves linear, mucronate, rather pilose beneath; legumes smooth. ♄. G. Native of New Holland, on the eastern coast. Ker. bot. reg. 463. Poirètia lineàris, Smith, in Lin. trans. 9. p. 304. Flowers purplish-violet.

Linear-leaved Hovea. Fl. Mar. Jul. Clt. 1796. Sh. 2 to 4 ft.

3 H. ELLÍPTICA (D. C. prod. 2. p. 115.) leaves elliptic-oblong, emarginate, rather pubescent beneath, shining above, reticulated on both surfaces; pedicels 3-times shorter than the leaves, twin. ♄. G. Native of New Holland, at King George's Sound. Poirètia ellíptica, Smith, l. c. Flowers purplish-violet.

Elliptic-leaved Hovea. Fl. Mar. Jul. Clt. 1817. Sh. 2 to 4 ft.

4 H. LANCEOLA'TA (Sims, bot. mag. t. 1624.) leaves lanceolate, mucronate, pubescent beneath; flowers axillary, twin; branches twiggy. ♄. G. Native of New Holland. Flowers purplish-blue. Lindl. bot. reg. 1427.

Lanceolate-leaved Hovea. Fl. Mar. July. Clt. 1805. Sh. 2 to 3 feet.

5 H. APICULA'TA (Cung. mss.) leaves lanceolate, with revolute edges, tomentose beneath, but smooth above, coriaceous, with a strong middle nerve, tapering to the apex and mucronate. ♄. G. Native of New Holland. Flowers purplish-violet.

Apiculated-leaved Hovea. Fl. Mar. July. Clt. 1824. Sh. 2 to 4 feet.

6 H. MUCRONA'TA (Cung. mss.) leaves ovate-lanceolate, tapering to the apex, mucronate, tomentose beneath, but smooth above; branches villous; peduncles very short, few-flowered. ♄. G. Native of New Holland. Flowers small, purplish-blue.

Mucronate-leaved Hovea. Fl. Mar. July. Clt. 1824. Sh. 2 to 4 feet.

7 H. ACUTIFÒLIA (Cung. mss.) leaves lanceolate, tapering to both ends, mucronate at the apex, clothed with a kind of rusty tomentum on the under surface as well as on the branches, but glabrous above; peduncles short, 2-3-flowered, with the pedicels longer than the peduncles. ♄. G. Native of New Holland. Flowers purplish-blue.

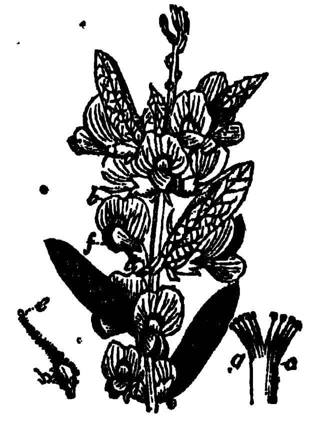
Acute-leaved Hovea. Fl. Mar. July. Clt. 1823. Shrub 2 to 4 feet.

8 H. PURPU'REA (Sweet, fl. aust. 13.) leaves oblong-linear, obtuse, mucronate, with revolute margins, smooth above, but reticulately veined and tomentose beneath; stipulas subulate, small; peduncles axillary, twin; branches clothed with rusty tomentum as well as the calyxes. ♄. G. Native of New Holland. Flowers purple, the vexillum having a pale base.

Purple-flowered Hovea. Fl. May, June. Clt. 1820. Sh. 2 to 4 feet.

9 H. PANNÒSA (Cung. mss.) leaves lanceolate, obtuse, terminating in a tuft of hairs, coriaceous, with rather revolute edges, smooth above, but clothed with dense long tomentum beneath; branches villous, as well as the pods and calyx; peduncles very short, almost sessile, 1-2-3-flowered. ♄. G. Native of New Holland. H. lanígera, Lodd. cat. A very woolly shrub, with small pale-purple flowers.

FIG. 25.



Cloth-leaved Hovea. Fl. March, July. Clt. 1824. Shrub 3 to 6 feet.

10 H. LATIFÒLIA (Lodd. bot. cab. t. 30.) leaves elliptic-oblong, acute, and are, as well as the branches, smooth; pedicels axillary, solitary, hardly longer than the petioles. ♄. G. Native of New Holland, on the east coast. Flowers with a large blue vexillum, and a purple keel.

Broad-leaved Hovea. Fl. March, July. Clt. 1820. Shrub 2 to 4 feet.

11 H. CE'LSI (Bonp. nav. t. 51.) leaves lanceolate, and somewhat rhomboid, bluntish, mucronate; peduncles axillary, many-flowered; branches, calyxes, and bracteas rather pilose. ♄. G. Native of New Holland. Ker. bot. reg. 280. Platychilum Celsiànum, Delaun. herb. amat. t. 187. Flowers beautiful blue. Filaments monadelphous with a dorsal fissure, or diadelphous. This is a most elegant plant when in flower.

Cels's Hovea. Fl. March, July. Clt. 1818. Sh. 2 to 4 feet.

12 H. ROSMARINIFÒLIA (Cung. in Field's new south wales, p. 348.) leaves linear, reticulated, revolute, covered with rusty tomentum beneath, as well as on the legumes. ♄. G. Native of New Holland, frequent on the rocky pine hills north-west of Bathurst.

Rosemary-leaved Hovea Fl. March, July. Clt. 1824. Sh. 1 to 3 feet.

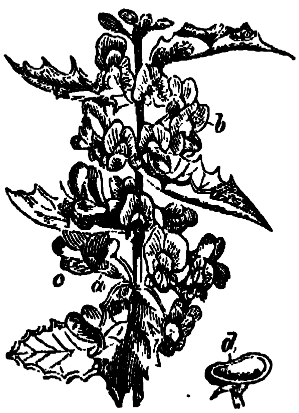
Cult. *Hòvea* is a genus of very elegant plants when in flower. The species are most readily increased by seeds, which usually ripen in our greenhouses; they also may be propagated by young cuttings planted in a pot of sand, with a bell-glass placed over them. A mixture of sand, loam, and peat is the soil best adapted for them.

XXXIII. PLAGIOLO'BIUM (from πλαγιος, *plagios*, transverse or oblique, and λοβος, *lobos*, a pod; in reference to the shape of the pod). Sweet, fl. austr. no. 2.

LIN. SYST. *Diadélphia, Decándria.* Calyx bilabiate (f. 26. *a*), upper lip broad and retuse, lower one 3-parted. Keel obtuse (f. 26. c.). Stamens diadelphous. Ovary sessile. Style permanent, unilateral. Legume inflated, coriaceous, obliquely-transverse (f. 26. *d.*), 2-seeded. Seeds strophiolate.—Australian shrub, with alternate, simple, spiny-toothed leaves, resembling those of the Holly. Stipulas spinose. Flowers axillary, blue or purple, standing on short pedicels.

1 P. CHORIZEMÆFÒLIUM (Sweet, fl. austr. no. 2.) leaves oblong-lanceolate, spiny-toothed, mucronate, coriaceous, glabrous; pedicels axillary, usually 3 or 4 together; legume transverse, glabrous both inside and outside. ♄. G. Native of New Holland, on the eastern coast, as well as at King George's Sound. Hòvea chorizemæfòlia, D. C. prod. 2. p. 116. Branches thickly clothed with rusty pubescence. Calyx and pedicels villous. Flowers large, bluish-purple, the vexillum having a white base.

FIG. 26.



Chorizema-leaved Plagiolobium. Fl. Feb. April. Clt. 1824. Shrub 1 to 2 feet.

2 P. ILICIFÒLIUM (Sweet, l. c. in a note,) leaves ovate or elliptic, spiny-toothed, mucronate, glabrous; peduncles axillary, twin; legume somewhat kidney-shaped, pubescent both on the inside and outside. ♄. G. Native of New Holland, at King George's Sound. Flowers purplish-blue. Hòvea ilicifòlia, Cung. mss.

Holly-leaved Plagiolobium. Fl. Feb. May. Clt. 1824. Sh. 1 to 2 feet.

Cult. The species of *Plagiolòbium* are worth cultivating for the sake of their beauty in every collection of greenhouse plants. Their culture and propagation are the same as that recommended for *Hòvea.*

XXXIV. PLATYLO'BIUM (from πλατυς, *platys*, broad, and λοβος, *lobos*, a pod; in reference to the broad legumes). Smith in Lin. trans. vol. 2. p. 350. vol. 9. p. 302. R. Br. in hort. kew. ed. 2. vol. 4. p. 266. D. C. prod. 2. p. 116.—Cheilocòcca, Salisb. prod. p. 412.

LIN. SYST. *Monadélphia, Decándria.* Calyx bracteate, bilabiate, upper lip bifid, roundish, large. Stamens all connected. Legume pedicellate, compressed, flat, winged on the back, many-seeded.—Australian shrubs, with opposite, simple, bistipulate leaves, and axillary yellow flowers, but with the vexillum red at the base.

1 P. FORMÒSUM (Smith, nov. holl. 17. t. 6.) leaves ovate, somewhat cordate; ovary villous; bracteas silky; stipe of legume shorter than the calyx. ♄. G. Native of New Holland, on the eastern coast. Vent. malm. t. 31. Curt. bot. mag. 469. Cheilocòcca apocynifòlia, Salisb. l. c. Flowers large.

Beautiful Platylobium. Fl. June, Aug. Clt. 1790. Shrub 2 to 4 feet.

2 P. PARVIFLÒRUM (Smith, nov. holl. 18.) leaves ovate-lanceolate; ovary ciliated, smoothish; bracteas glabrous; stipe of legume exceeding the calyx. ♄. G. Native with the preceding. Sims, bot. mag. 1520.

Small-flowered Platylobium. Fl. May, Sept. Clt. 1792. Shrub 2 to 4 feet.

3 P. OVA'TUM (Andr. ex Sieb. pl. exsic. nov. holl. no. 374.) leaves ovate-lanceolate, acuminated, glabrous on both surfaces, pale beneath; bracteas and ovaries glabrous; ovary with a very short stipe. ♄. G. Native of New Holland. Very like *P. parviflòrum*, but it differs in the leaves being more ovate-oblong, paler beneath, and by the ovary being perfectly smooth, about twice the length of the stipe.

Ovate-leaved Platylobium. Fl. May, Sept. Clt. 1792. Sh. 2 to 4 feet.

4 P. TRIANGULA'RE (R. Br. in hort. kew. 4. p. 266.) leaves deltoid, somewhat hastate, with the angles spinose; peduncles bracteate both at the base and apex, but naked in the middle; legume exceeding the calyx. ♄. G. Native of Van Diemen's Land, as well as of New Holland. Sims, bot. mag. 1508.

Triangular-leaved Platylobium. Fl. June, Sept. Clt. 1805. Sh. 2 to 4 feet.

5 P.? OBCORDA'TUM (D. C. prod. 2. p. 116.) leaves obcordate, cuneated at the base, retusely-emarginate at the apex, pubescent on both surfaces, as well as the branches. ♄. G. Native of New Holland. Leaves 4 lines long. Very like *Bossiæ'a microphýlla*, but the leaves are opposite.

Obcordate-leaved Platylobium. Shrub 1 to 2 feet.

Cult. See *Hòvea*, and *Pultenæ'a*, p. 127, for culture and propagation.

XXXV. BOSSIÆ'A (in honour of M. Bossieu Lamartinière, a French botanist, who accompanied the unfortunate La Peyrouse round the world). Vent. cels. t. 7. Smith in Lin. trans. 9. p. 302. R. Br. in hort. kew. ed. 2. vol. 4. p. 266. D. C. prod. 2. p. 116.

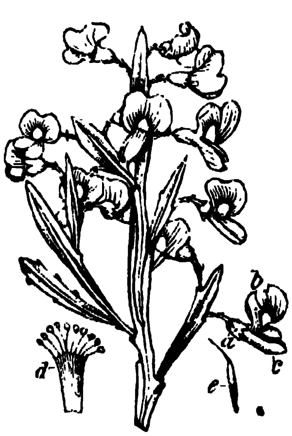
LIN. SYST. *Monadélphia, Decándria.* Calyx bilabiate (f. 27. *a.*), upper lip large, semi-bifid, obtuse. Stamens all connected (f. 27. *d.* f. 28. *b.*). Legume compressed (f. 27. *e.* f. 28. *c.*), flat, pedicellate, many-seeded, with the margins thickened on both sides. Seeds strophiolate.—Australian shrubs, with usually compressed (f. 27.), rarely with terete branches (f. 27. f. 28.). Leaves absent, but when present simple and alternate. Flowers yellow, with the keel usually purplish or dark-brown.

** Branches compressed, leafless.*

1 B. scolope'ndria (Smith, et R. Br. l. c.) branches flat, linear, leafless, toothed, with the teeth bearing the flowers; keel naked; superior bracteas permanent, imbricate, equal in length to the peduncles. ♄. G. Native of New Holland, on the eastern coast. Platylòbium scolopéndrium, Andr. bot. rep. 191. Vent. malm. t. 55. Stems erect. Calyxes very smooth. Flowers yellow, with the back of the vexillum and keel brownish red. The leaves when present are ovate and smooth.

Plank-plant Bossiæa. Fl. May, July. Clt. 1792. Shrub 3 to 10 feet.

FIG. 27.



2 B. ensa'ta (Sieb. pl. exsic. nov. holl. no. 434.) branches flat, linear, leafless, toothed, the teeth bearing the flowers; keel almost naked; upper bracteas distant from the lower ones, shorter than the pedicel. ♄. G. Native of New Holland. Sweet, fl. austr. 51. B. rùfa, Lodd. bot. cab. 1119. but not of others. Flowers yellow, with the back and base of the vexillum of a brownish orange-purple colour, and with the keel brownish-purple.

Sword-branched Bossiæa. Fl. April, June. Clt. 1825. Sh. 1 to 2 feet.

3 B. ru'fa (R. Br. l. c.) branches flat, linear, leafless, toothed, with the teeth bearing the flowers; keel fringed; upper bracteas caducous, remote from the lower ones. ♄. G. Native of New Holland, on the south-west coast. Sims, bot. mag. 1508. Calyxes quite smooth. Flowers colour of the preceding.

Rufous Bossiæa. Fl. Ju. Sept. Clt. 1805. Shrub 1 to 3 ft.

*** Branches compressed, leafy.*

4 B. linophy'lla (R. Br. l. c.) branches compressed, leafy; leaves linear, with recurved margins; legume 1-seeded. ♄. G. Native of New Holland, on the south-west coast. Lodd. bot. cab. 174. Sims, bot. mag. 2491.

Flax-leaved Bossiæa. Fl. July, Sept. Clt. 1803. Shrub 1 to 4 feet.

5 B. heterophy'lla (Vent. hort. cels. t. 7.) branches flat, leafy; leaves obovate, linear or lanceolate, flat; legume many-celled, in consequence of spongy transverse dissepiments. ♄. G. Native of New Holland, on the eastern coast. Platylòbium lanceolàtum, Andr. B. lanceolàta, Sims, bot. mag. 1144.

Variable-leaved Bossiæa. Fl. May, Dec. Clt. 1792. Shrub 1 to 4 feet.

6 B. rotundifòlia (D. C. prod. 2. p. 117.) branches and branchlets leafy, compressed; leaves roundish or broadly obovate, somewhat mucronate, flat. ♄. G. Native of New Holland, on the eastern coast. Leaves 4-5 lines long, and 5-6 broad, reticulately-veined. The whole plant very smooth.

Round-leaved Bossiæa. Fl. May, June. Clt. 1824. Shrub 1 to 2 feet.

7 B. rhombifòlia (Sieb. pl. exsic. nov. holl. no. 354.) branchlets compressed, leafy; branches terete; leaves rhomboidal-orbicular, somewhat emarginate and mucronate; legume on a long stipe, falcate. ♄. G. Native of New Holland. Plant quite smooth, and rather glaucous. Flowers yellow, the vexillum having a red zonate mark at the base. Wings red at the base. Keel brownish-purple.

Rhomb-leaved Bossiæa. Fl. April, June. Clt. 1820. Shrub 1 to 3 feet.

**** Branches terete, leafy.*

8 B. microphy'lla (Smith in Lin. trans. 9. p. 303.) branches terete, leafy, spinescent; leaves cuneiformly obcordate, glabrous. ♄. G. Native of New Holland, on the eastern and southern coast. Lodd. bot. cab. 656. Platylòbium microphýllum, Sims, bot. mag. 863. Platylòbium obcordàtum, Vent. malm. no. 31. in a note. Young branches rather compressed and pubescent. Flowers colour of the rest.

Small-leaved Bossiæa. Fl. May, Aug. Clt. 1803. Shrub 1 to 2 feet.

9 B. lenticula'ris (Sieb. pl. exsic. nov. holl. no. 425.) branches terete, leafy, at length spinescent; leaves glabrous, exactly orbicular. ♄. G. Native of New Holland. Lodd. bot. cab. 1238. Leaves hardly 2 lines in diameter. Flowers like the rest in colour.

Lentil leaved Bossiæa. Fl. May, June. Clt. 1820. Sh. 1 to 3 feet.

10 B. foliòsa (Cung. in Field's new south wales, p. 347.) branches straight, terete, villous; leaves alternate, small, orbicular, retuse, scabrous, with revolute margins, silky beneath; stipulas permanent, hooked, longer than the petioles. ♄. G. Native of New Holland, in brushy forest land near Bathurst.

Leafy Bossiæa. Fl. May, June. Clt. 1824. Sh. 1 to 3 feet.

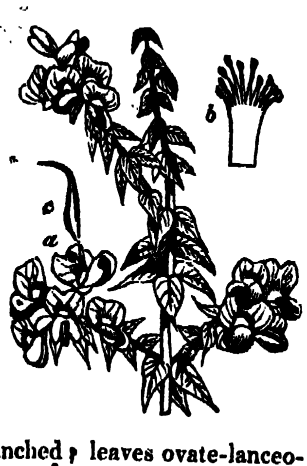
11 B. ova'ta; branches straight, terete, smooth; leaves ovate, distich, alternate, quite glabrous. ♄. G. Native of New South Wales. Platylòbium ovàtum, Andr. bot. rep. 266. The flowers yellow, but with the keel purple.

Ovate-leaved Bossiæa. Fl. May, Dec. Clt. 1792. Shrub 1 to 3 feet.

12 B. buxifòlia (Cung. in Field's new south wales, p. 348.) branches leafy, attenuated, procumbent; leaves broad-elliptic, obtuse, mucronate, rather villous, with recurved margins, cinereous beneath, as well as the branches; stipulas longer than the petioles. ♄. G. Native of New Holland, upon rocky brushy hills. A diffuse reclining shrub.

Box-leaved Bossiæa. Fl. April, June. Clt. 1824. Sh. diffuse.

FIG. 28.



13 B. cordifòlia (Sweet, fl. austr. no. 20.) branches terete, crowded with leaves, villous; leaves nearly sessile, cordate, acute, ending in a spiny mucrone, scabrous above, but pilose on the nerves beneath, with recurved margins; peduncles bibracteate, about equal in length to the leaves. ♄. G. Native of New Holland. Flowers yellow, the vexillum furnished with a purple circle at the base, and the keel is dark-purple.

Cordate-leaved Bossiæa. Fl. May, June. Clt. 1824. Sh. 1 to 3 feet.

14 B. cine'rea (R. Br. l. c.) branches terete, leafy, clothed with woolly villi; stem erect, much branched; leaves ovate-lanceolate, scabrous above, and pubescent beneath, with recurved margins. ♄. G. Native of Van Diemen's Land. Ker. bot. reg. 306.

Grey Bossiæa. Fl. May, July. Clt. 1802. Sh. 1 to 3 feet.

15 B. PROSTRA'TA (R. Br. l. c.) branches filiform, leafy; stems procumbent; leaves oval, glabrous; stipulas shorter than the petioles; legume 1-seeded. ♄. G. Native of New Holland, on the eastern coast. Sims, bot. mag. 1493.

Prostrate Bossiæa. Fl. Ju. July. Clt. 1803. Sh. prostrate.

16 B. LINNÆOÌDES; branches terete, leafy, próstrate, puberulous; leaves elliptic, mucronate; pedicels solitary, 1-flowered, elongated; bracteas puberulous; corolla about twice the length of the calyx. ♄. G. Native of New Holland. Flowers yellow. Keel dark-brown.

Linnæa-like Bossiæa. Fl. May, June. Clt. 1824. Shrub procumbent.

Cult. The species of *Bossiæ'a* are neat elegant plants when in flower; they thrive best in a mixture of turfy loam, peat, and sand, but the pots in which they are grown must be well drained with sherds, as nothing injures them more than too much water. Cuttings, neither too ripe nor too young, will strike root if planted in a pot of sand with a bell-glass over them.

XXXVI. GOO'DIA (in memory of Peter Good, a diligent botanical collector, who was employed in collecting seeds in New Holland for the botanic garden at Kew, where he died). Salisb. par. t. 41. R. Br. in hort. kew. ed. 2. vol. 4. p. 269. D. C. prod. 2. p. 117.

LIN. SYST. *Monadélphia, Decándria.* Calyx bilabiate, both lips about equal in length, upper one semibifid, acute. Vexillum flat, large. Stamens all connected. Carina truncate, 2-edged. Legume pedicellate, compressed. Seeds strophiolate.—Much-branched Australian subshrubs, with terete branches, alternate, stalked, trifoliate leaves, and racemes of yellow flowers.

1 G. LOTIFÒLIA (Salisb. par. t. 41.) leaflets obovate, and are, as well as the calyxes, smooth; legume varicose, 2-4-seeded. ♄. G. Native of Van Diemen's Land. Sims, bot. mag. 958. Flowers yellow, but with the base of the vexillum red. Glands 5 between the stamens and pistil, they are sessile and globose. Stamens monadelphous, with the sheath cleft in front.

Lotus-leaved Goodia. Fl. Ap. July. Clt. 1793. Sh. 2 to 4 ft.

2 G. PUBE'SCENS (Sims, bot. mag. 1310.) leaflets obovately-cuneated, and are, as well as the calyxes, pubescent; legume smooth, 2-seeded. ♄. G. Native of Van Diemen's Land. R. Br. in hort. kew. ed. 2. vol. 4. p. 270. Branches and peduncles rather hispid. Flowers yellow, spotted with red. Pedicels longer than the calyx.

Pubescent Goodia. Fl. April, July. Clt. 1805. Sh. 1 to 3 ft.

3 G.? POLYSPE'RMA (D. C. mem. soc. hort. gen. 2. p. 2. p. 133.) leaflets oval, acutish at both ends, and are, as well as the calyxes, pubescent; legume 8-10-seeded. ♄. G. Native of Van Diemen's Land or New Holland. Cýtisus tomentòsus, Andr. bot. rep. 237. The plant is frequently to be met with in gardens under the name of *Goòdia lotifòlia*, but differs from that plant in the legume being many-seeded and linear. Upper lip of calyx bipartite, lower lip tridentate. Flowers pure yellow, with the stamens monadelphous, and with the habit of the other species of this genus.

Many-seeded Goodia. Fl. Ap. July. Clt. 1798. Sh. 1 to 2 ft.

Cult. A mixture of sandy loam and peat suits the species, and young cuttings will root if planted in a pot of sand with a bell-glass placed over them. Seeds usually ripen in this country, by which young plants may be raised in abundance.

XXXVII. SCO'TTEA (in memory of Robert Scott, M.D., formerly professor of botany at Dublin). D. C. prod. 2. p. 118. —Scóttia, R. Br. in hort. kew. ed. 2. vol. 4. p. 268.

LIN. SYST. *Monadélphia, Decándria.* Calyx 5-toothed, imbricated with bracteas, with the teeth rather unequal. Vexillum complicated, short. Wings equal in length to the keel. Stamens all connected. Legume pedicellate, compressed, with the margin thickened on both sides. Seeds 3-4, strophiolate.

1 S. DENTA'TA (R. Br. in hort. kew. ed. 2. vol. 4. p. 268.) leaves opposite, sessile, cordate, triangular, toothed; flowers solitary, axillary, on very short pedicels. ♄. G. Native of New Holland, on the south-west coast. Lindl. bot. reg. 1233. Flowers mixed with red and green. A diffuse shrub.

Toothed-leaved Scottea. Clt. 1803. Fl. Dec. Feb. Sh. 2 to 4 ft.

2 S. ANGUSTIFÒLIA (Lindl. bot. reg. 1266.) leaves opposite, linear-oblong, truncate at the base; flowers solitary, on very short pedicels. ♄. G. Native of New Holland. Flowers greenish yellow, with the wings red on the upper side.

Narrow-leaved Scottea. Fl. Jan. June. Clt. 1825. Shrub 2 to 4 feet.

Cult. *Scóttea* is a genus of elegant shrubs, usually flowering in the winter; their culture and propagation is the same as that for *Goódia.*

XXXVIII. TEMPLETO'NIA (in honour of John Templeton, of Orange Grove, near Belfast, a gentleman to whom the editor of English Botany was under frequent obligations for Irish plants during the progress of that work). R. Br. in hort. kew. ed. 2. vol. 4. p. 269.

LIN. SYST. *Monadélphia, Decándria.* Calyx 5-toothed, with the teeth rather unequal. Keel oblong, a little longer than the wings. Stamens all connected, the tenth one sometimes rather shorter, and nearly free; anthers uniform. Legume pedicellate, plano-compressed, many-seeded. Seeds strophiolate.—Smooth Australian shrubs, with alternate, simple, cuneiform, retuse, mucronate leaves. Flowers axillary, solitary, large, crimson.

1 T. RETU'SA (R. Br. l. c.) bracteoles rather remote from the calyx; stamens all connected. ♄. G. Native of New Holland, on the south-west coast. Sims, bot. mag. 2338. Ráfnia retùsa, Vent. malm. t. 53. Leaves coriaceous, green.

Retuse-leaved Templetonia. Fl. March, June. Clt. 1803. Sh. 1 to 3 feet.

2 T. GLAU'CA (Sims, bot. mag. 2088.) bracteoles approximating the calyx; uppermost stamen shorter than the others, and nearly free. ♄. G. Native of New Holland, on the south-west coast. Lodd. bot. cab. 644. Lindl. bot. reg. 859. Leaves glaucous.

Glaucous Templetonia. Fl. Ap. May. Clt. 1818. Sh. 1 to 3 ft.

Cult. This is a genus of very showy shrubs when in bloom; their culture and propagation is the same as that for *Goòdia*, which see, p. 129.

XXXIX. RA'FNIA (in honour of C. G. Rafn, of Copenhagen, author of a Flora of Denmark and Holstein, 8vo. 1796 and 1800. in 2 vols. &c.) Thunb. prod. præf. p. post. 3. cap. 563. Willd. spec. 3. p. 949. D. C. prod. 2. p. 118. Œdmánnia, Thunb. et Willd.

LIN. SYST. *Monadélphia, Decándria.* Calyx cleft into 5 to the middle, 4 upper lobes broadest, sometimes distinct, sometimes variously connected, lower lobe setaceous and very acute. Corolla smooth, with an obtuse keel, and a roundish vexillum. Stamens monadelphous, with the sheath cleft in front at length. Legume lanceolate, compressed, many-seeded.—Smooth Cape shrubs, usually becoming of a lurid black colour on drying. Leaves simple, entire, not stem-clasping, alternate, but with the floral ones sometimes opposite. Flowers of all yellow.

1 R. CORDA'TA (Mart. acad. mun. 6. p. 189.) leaves rather orbicular, cordate, ciliated, nearly sessile; stipulas scarious;

flowers axillary, shorter than the leaves. ♄. G. Native of the Cape of Good Hope.

Cordate-leaved Rafnia. Shrub 2 to 3 feet.

2 R. ELLI'PTICA (Thunb. l. c.) leaves ovate-elliptic, acute, cauline ones alternate, floral ones opposite. ♄. G. Native of the Cape of Good Hope. Flowers axillary. Legume drooping.

Elliptic-leaved Rafnia. Fl. Ju. July. Clt. 1819. Sh. 2 to 3 ft.

3 R. CUNEIFÒLIA (Thunb. l. c.) leaves cuneiformly-obovate; branches angular. ♄. G. Native of the Cape of Good Hope. Spártium ovàtum, Berg. cap. 197. Crotalària cuneifórmis, Lam. dict. 2. p. 195. Leaves acuminated, succulent. Flowers yellowish-purple, disposed in racemose corymbs. Staminiferous tube gaping above.

Wedge-leaved Rafnia. Fl. Ju. July. Clt. 1816. Sh. 2 to 3 ft.

4 R. TRIFLÒRA (Thunb. l. c.) leaves ovate; branches angular; peduncles usually tern in the axils of the upper leaves, 1-flowered, and bibracteate. ♄. G. Native of the Cape of Good Hope. Vent. malm. t. 48. Crotalària triflòra, Berg. cap. 193. Lin. spec. 1004. Borbònia cordàta, Andr. bot. rep. t. 31. exclusive of the synonym, Sims, bot. mag. 859. Flowers large, yellow, sometimes only 1 or 2 together in the axils of the leaves.

Three-flowered Rafnia. Fl. June, July. Clt. 1786. Shrub 2 to 4 feet.

5 R. LA'NCEA (D. C. prod. 2. p. 119.) leaves lanceolate, erect, imbricated; stems ascending, terete; flowers axillary, solitary, on short pedicels; the 4 upper lobes of the calyx connected into a bifid 4-toothed lip, lower lobe setaceous. ♄. G. Native of the Cape of Good Hope. Œdmánnia láncea, Thunb. prod. 2. fl. cap. 561. act. holm. 1800. p. 281. t. 4.

Lance-leaved Rafnia. Fl. Ju. July. Clt. 1823. Sh. ascending.

6 R. OPPÓSITA (Thunb. l. c.) leaves linear-lanceolate, alternate; branches terete; branchlets axillary, bearing at the apex 2 opposite leaves and 1-2-flowers. ♄. G. Native of the Cape of Good Hope. Cýtisus Capénsis, Berg. cap. 217. Spártium Capénse, Lin. spec. 995. Crotalària oppósita, Lin. fil. suppl. 322. Lipària oppósita, Murr. syst. 554.

Opposite-leaved Rafnia. Fl. Ju. July. Clt. 1824. Sh. 2 to 3 ft.

7 R. AXILLA'RIS (Thunb. l. c.) leaves lanceolate, alternate and opposite; flowers terminal, solitary; branches axillary. ♄. G. Native of the Cape of Good Hope. Leaves like those of hyssop. Legume drooping.

Axillary-branched Rafnia. Shrub 1 to 2 feet.

8 R. ANGULA'TA (Thunb. l. c.) leaves lanceolate, alternate; peduncles lateral, 1-flowered; stem angular. ♄. G. Native of the Cape of Good Hope. Ráfnia, Burch. cat. 777. has a terete stem and angular branches. Leaves lanceolate, acute, 6-9 lines long, and 1-2 broad. Pedicels naked, reflexed after flowering. Legume pedicellate, compressed, mucronate by the style.

Angular-branched Rafnia. Shrub 2 to 3 feet.

9 R. SPICA'TA (Thunb. l. c.) leaves lanceolate, alternate; flowers axillary, racemose. ♄. G. Native of the Cape of Good Hope. Stem somewhat herbaceous. Spikes or racemes of flowers leafy, therefore the flowers may be called axillary.

Spiked-flowered Rafnia. Shrub 1 to 3 feet.

10 R. ANGUSTIFÒLIA (Thunb. l. c.) leaves lanceolate, alternate; pedicels lateral, 1-flowered; stem terete. ♄. G. Native of the Cape of Good Hope. Stem purplish.

Narrow-leaved Rafnia. Shrub 1 to 3 feet.

11 R. FILIFÒLIA (Thunb. l. c.) leaves linear-lanceolate, alternate; flowers axillary. ♄. G. Native of the Cape of Good Hope. Ráfnia, no. 228. Burch. cat. is perhaps referable to this species, of which the branches are roundish, and the leaves linear, also having axillary floriferous branchlets, bearing 2-3 leaves, and 1 flower each; legume pedicellate, inflexed, pendulous.

Thread-leaved Rafnia. Shrub 1 to 3 feet.

12 R. RETROFLE'XA (Thunb. l. c.) leaves obovate; branches reflexed and retroflexed. ♄. G. Native of the Cape of Good Hope. Stem much branched. Branches flexuous. Leaves opposite, sessile, obtuse. Flowers axillary, on very short pedicels. There is a specimen in the Linnæan Herbarium from Thunberg, which answers to the above name and character, but the leaves are rather more linear-lanceolate than obovate, and their colour is somewhat glaucous, and the flowers mostly terminal.

Retroflexed-branched Rafnia. Shrub 1 to 3 feet.

13 R. ERE'CTA (Thunb. l. c.) leaves oblong; flowers lateral; stem erect. ♄. G. Native of the Cape of Good Hope. Stem branched, terete. Leaves ovate. Flowers axillary, pedicellate.

Erect Rafnia. Shrub 2 to 3 feet.

14 R. DIFFU'SA (Thunb. l. c.) leaves ovate; stems decumbent. ♄. G. Native of the Cape of Good Hope. Root fusiform. Branches diffuse. Leaves alternate. Flowers axillary. Legume pedicellate, crowned by a recurved style.

Diffuse Rafnia. Shrub procumbent.

Cult. The species are all worth cultivating, as they are rather elegant when in flower; their culture and propagation is the same as that recommended for the species of *Borbònia*. See p. 131.

XL. VASCO'A (in honour of Vasco de Gama, the celebrated Portuguese circumnavigator). D. C. leg. mem. vi. prod. 2. p. 119.—Ráfniæ et Borbòniæ, spec. Thunb. and Willd.—Crotalàriæ, spec. Lin.

LIN. SYST. *Monadélphia, Decándria.* Calyx semi-5-cleft, with the lobes nearly equal, broadest at the base, and rather acute at the apex, but not spinose. Corolla smooth, with an obtuse keel, and a roundish vexillum. Stamens monadelphous, with the sheath cleft in front. Legume compressed, sessile, many-seeded.—Smooth Cape subshrubs, with simple, sessile, stem-clasping leaves, which are cordate at the base, the cauline ones alternate, and the floral ones opposite. The flowers disposed in fascicles in the upper axils of the leaves, and somewhat corymbose, on short pedicels, all yellow, and without any bracteas.

1 V. AMPLEXICAU'LIS (D. C. l. c.) leaves orbicular, cordate, very obtuse, floral ones coloured. ♄. G. Native of the Cape of Good Hope. Crotalària amplexicaúlis, Lin. spec. 1103. Burm. prod. Ráfnia amplexicaúlis, Thunb. fl. cap. 568. Crotalària renifórmis, Lam. dict. 2. p. 194.

Stem-clasping-leaved Vascoa. Fl. July, Aug. Clt. 1816. Shrub 3 to 5 feet.

2 V. PERFOLIA'TA (D. C. l. c.) leaves cordate, orbicular, bluntishly-mucronated. ♄. G. Native of the Cape of Good Hope.—Seb. thes. 1. t. 24. f. 5. Borbònia perfoliàta, Thunb. prod. f. cap. 122. Crotalària amplexicaúlis, Lam. dict. 2. p. 194. This species differs from the preceding in the leaves being one half smaller, more rigid, distinctly reticulated, and mucronate at the apex.

Perfoliate-leaved Vascoa. Fl. July, Aug. Clt. 1812. Shrub 2 to 3 feet.

Cult. For culture and propagation see *Borbònia*. The plants are rather elegant when in flower.

XLI. BORBO'NIA (in memory of Gaston de Bourbon, duke of Orleans, son of Henry IV. of France, a great lover and patron of botany; see also *Gastònia*). Lin. gen. no. 857. Lam. ill. 619. D. C. leg. mem. vi. but not of Plum. prod. 2. p. 120.

LIN. SYST. *Monadélphia, Decándria.* Calyx attenuated at the base, 5-cleft, with the lobes about equal in length, terminating each in a spiny acumen. Corolla villous on the outside, with the vexillum emarginate at the apex, and the keel obtuse.

Stamens all connected into a sheath, which is cleft in front. Stigma capitate, somewhat emarginate. Legume linear, plano-compressed, much longer than the calyx, many-seeded.—Cape shrubs, with simple, alternate, exstipulate, pungent leaves, which are stem-clasping, and many-nerved at the base. Flowers of all yellow, disposed in heads at the tops of the branches or axillary.

1 B. BARBA'TA (Lam. dict. 2. p. 436. ill. 610. f. 2.) leaves narrow, lanceolate, many-nerved, complicated, ciliately-bearded, and very much acuminated. ♄. G. Native of the Cape of Good Hope. Branches diverging. Flowers sessile, villous on the outside.

Bearded-leaved Borbonia. Fl. July, Aug. Clt. 1823. Sh. 3 to 4 feet.

2 B. TRINE'RVIA (Lin. spec. 994.) leaves lanceolate, 3-nerved, quite entire, glabrous. ♄. G. Native of the Cape of Good Hope. Berg. fl. cap. 188.—Pluk. alm. t. 297. f. 4. and perhaps B. angustifòlia, Lam. dict. 2. p. 436.

Three-nerved-leaved Borbonia. Fl. July, Aug. Clt. 1759. Shrub 3 to 6 feet.

3 B. LANCEOLA'TA (Lin. spec. 994.) leaves ovate-lanceolate, pungent, many-nerved, quite entire, sessile, glabrous, as well as the stem. ♄. G. Native of the Cape of Good Hope. Burm. cap. prod. 21. Jacq. schœnbr. 2. p. 217. Flowers densely villous.

Lanceolate-leaved Borbonia. Fl. July, Aug. Clt. 1752. Shrub 2 to 3 feet.

4 B. CORDA'TA (Lin. spec. 994.) leaves cordate, many-nerved, quite entire, glabrous, but the branches are villous. ♄. G. Native of the Cape of Good Hope. Jacq. schœnbr. 2. t. 218. B. cordifòlia, Lam. dict. 2. p. 436. Burm. prod. fl. cap. 21. Corolla densely villous, with the vexillum obcordate.

Cordate-leaved Borbonia. Fl. July, Aug. Clt. 1759. Sh. 3 to 6 feet.

5 B. RUSCIFÒLIA (Sims, bot. mag. t. 2128.) leaves cordate, many-nerved, minutely-ciliated, but are otherwise glabrous, as well as the branches. ♄. G. Native of the Cape of Good Hope.—Breyn. cent. 1. t. 28.—Seb. thes. 1. t. 24. f. 3. and Lam. ill. t. 610. f. 1. Flowers sparingly villous.

Butcher's-broom-leaved Borbonia. Fl. July, Aug. Clt. 1790. Shrub 2 to 4 feet.

6 B. PARVIFLO'RA (Lam. dict. 2. p. 437.) leaves cordate, many-nerved, minutely denticulated, and are, as well as the branches, glabrous. ♄. G. Native of the Cape of Good Hope. Flowers small, sessile, few, usually terminal.

Small-flowered Borbonia. Shrub 2 to 3 feet.

7 B. CRENA'TA (Lin. spec. 994.) leaves cordate, roundish, acute, denticulated, many-nerved, and reticulated between the nerves, and are, as well as the branches, glabrous. ♄. G. Native of the Cape of Good Hope. Curt. bot. mag. 274. Burm. cap. 21. Lois. herb. amat. t. 222. Flowers less villous than in the rest of the species.

Crenated-leaved Borbonia. Fl. July, Aug. Clt. 1774. Sh. 3 to 6 feet.

8 B. CILIA'TA (Willd. spec. 3. p. 923.) leaves cordate, rather orbicular, obtuse or acute, many-nerved, reticulated, denticulated, with the nerves and margin ciliated with long hairs; branches piliferous. ♄. G. Native of the Cape of Good Hope. Flowers small, few. The hairs on the leaves when young are frequently long and spreading.

Ciliated-leaved Borbonia. Fl. July, Aug. Clt. 1816. Sh. 2 to 6 feet.

† *Species not sufficiently known.*

9 B.? MONOSPE'RMA (D. C. prod. 2. p. 120.) leaves lanceolate, 3-nerved, very acute; pedicels 1-flowered, reflexed after flowering; legume 1-seeded, pendulous. ♄. G. Native of the Cape of Good Hope.

One-seeded Borbonia. Shrub.

10 B.? UNDULA'TA (Thunb. prod. 122.) leaves stem-clasping, undulated, ending in a reflexed mucrone. ♄. G. Native of the Cape of Good Hope. Perhaps this is a species of *Vascòa* allied to *V. amplexicaùlis* or *V. perfoliàta.*

Waved-leaved Borbonia. Shrub 2 to 4 feet.

11 B.? VILLÒSA (Thunb. fl. cap. 560.) leaves lanceolate, veinless; stem hairy; flowers terminal, sessile; corolla hairy. ♄. G. Native of the Cape of Good Hope. Perhaps a species of *Priestlèya.*

Villous Borbonia. Shrub 2 to 3 feet.

Cult. The species of *Borbònia* are shewy when in flower. They thrive best in a mixture of loam and peat, and young cuttings strike root freely in sand, under a bell-glass.

XLII. ACHYRO'NIA (from αχυρον, *achyron*, chaff; in reference to the branches and leaves being covered with chaffy hairs). Wendl. obs. bot. 39. D. C. prod. 2. p. 120.

LIN. SYST. *Diadélphia, Decándria.* Calyx 5-toothed, lower tooth elongated and bifid. Stamens diadelphous. Legume compressed, many-seeded.—A shrub, with the appearance of *Borbònia.*

1 A. VILLÒSA (Wendl. l. c. et hort. herrenh. 1. t. 12.). ♄. G. Native of New Holland. Erect, with the branches beset with silky hairs. Leaves lanceolate, acute, smooth, with the margins beset with silky villi. Flowers yellow, axillary, pedicellate.

Villous Achyronia. Fl. July, Aug. Clt. 1819. Sh. 2 to 3 ft.

Cult. See *Borbònia* for culture and propagation.

XLIII. LIPA'RIA (from λιπαρος, *liparos*, brilliant; in allusion to the surface of the leaves being shining). Lin. mant. 156. exclusive of numerous species. D. C. leg. mem. vi. prod. 2. p. 121.

LIN. SYST. *Diadélphia, Decándria.* Calyx thrust in at the base, with a short tube and a 5-lobed limb, the 4 superior lobes lanceolate and acute, and about equal in length, lower one very long, elliptic, and petaloid. Corolla glabrous, with an oval-oblong vexillum and oblong wings, the one involving the other in æstivation. Keel straight, acute, narrow, 2-edged. Stamens diadelphous. Ovary sessile, very short. Style filiform. Legume ovate, few-seeded.—Cape shrubs, smooth in every part except the pedicels, which are very short, and the ovary, which is very villous. Leaves lanceolate, exstipulate, quite entire, thin, many-nerved, pungent at the apex. Flowers disposed in subspherical heads, of a yellowish-brown colour, drying black.

1 L. SPHÆ'RICA (Lin. mant. 268.). ♄. G. Native of the Cape of Good Hope. Lodd. bot. cab. 642. Sims, bot. mag. 1241. Borbònia sphæ'rica, Lam. dict. 2. p. 437. Leucadéndron splèndens, Burm. fl. cap. prod. 4.

Globe-flowered Liparia. Fl. Jul. Aug. Clt. 1794. Sh. 3 to 6 ft.

Cult. See *Priestlèya* for culture and propagation.

XLIV. PRIESTLE'YA (in honour of M. Priestley, a physiological botanist). D. C. leg. mem. vi. D. C. prod. 2. p. 121.—Lipàriæ, spec. of authors.

LIN. SYST. *Diadélphia, Decándria.* Calyx nearly equally 5-lobed, somewhat bilabiate. Corolla glabrous, with a roundish vexillum, which stands on a short stipe, falcate obtuse wings, and a 2-edged convex keel which is curved on the back. Stamens diadelphous. Style filiform. Stigma capitate, sometimes furnished with an acute tooth behind. Legume sessile, plano-compressed, oval-oblong, apiculated by the style, 4-6-seeded. —Cape shrubs, with simple, quite entire, exstipulate leaves, and with yellow flowers, which are disposed either in heads, umbels, or spikes. This genus differs from *Borbònia* and *Aspálathus* in the stamens being diadelphous, and from *Lipària* in the calycine lobes being nearly equal, and in the form and æstivation of the petals.

Sect. I. Eisò'thea (from ειαω, *eiso*, within, or in, and θεω, *theo*, to run; in reference to the calyx being run or thrust in at the base, and therefore becoming in consequence diminished). D. C. prod. 2. p. 121. Calyx thrust in at the base.

1 P. myrtifòlia (D. C. l. c. t. 29.) leaves quite smooth, ovate-lanceolate, acute, almost nerveless; bracteas shorter than the pedicels, and involving them at the base, and are as well as the calyxes glabrous; legumes clothed with adpressed villi. ♄. G. Native of the Cape of Good Hope. Lipària myrtifòlia, Thunb. fl. cap. 565. Calyx yellowish when dry, very much thrust in at the base, having equal, ovate, rather acute lobes. Heads of flowers rather loose; pedicels elongating after flowering.

Myrtle-leaved Priestleya. Fl. April, Dec. Clt. 1823. Sh. 2 to 4 feet.

2 P. hirsu'ta (D. C. l. c.) leaves obovate-oblong, acute, glabrous, but with the branches, bracteas, and calyxes hairy; stigma bifurcate. ♄. G. Native of the Cape of Good Hope. Lipària hirsùta, Thunb. fl. cap. 557. Ker. bot. reg. t. 8. but not of Mœnch. Racemes of flowers somewhat capitate, usually twin. Bracteas inclosing the pedicels and longer than them, spacelate at the apex.

Hairy Priestleya. Fl. April, Dec. Clt. 1792. Sh. 2 to 4 ft.

3 P. lævigа'ta (D. C. l. c. t. 30.) leaves oblong-linear, acutish, nerveless, lower ones glabrous, the upper and floral ones clothed with adpressed silky pubescence; flowers disposed in capitate umbels; calyxes obtuse, clothed with adpressed villi; ovary villous. ♄. G. Native of the Cape of Good Hope. Lipària lævigàta, Thunb. fl. cap. 566. Borbònia lævigàta, Lin. mant. 100. L. umbellàta, Lin. mant. 110. Calyx at length thrust in at the base, with obtuse lobes.

Smooth Priestleya. Fl. July, Aug. Clt. 1820. Sh. 2 to 4 ft.

Sect. II. Aneisòthea (from α priv. ειαω, *eiso*, within or in, θεω, *theo*, to run: the calyx in the species of this section are not thrust in at the base, as in the preceding). D. C. prod. 2. p. 121. Calyx not thrust in at the base but ovate or obconically attenuated.

4 P. capita'ta (D. C. prod. 2. p. 121.) leaves oblong-linear, acute, somewhat convolute, nerveless, and are as well as the branches quite glabrous; bracteas, calyxes, and legumes very hairy. ♄. G. Native of the Cape of Good Hope. Lipària capitàta, Thunb. prod. 124. fl. cap. 566. Burch. cat. no. 591. Flowers capitate. Calyx ovate at the base. Stamens diadelphous, permanent around the fruit.

Capitate-flowered Priestleya. Fl. July, Aug. Clt. 1812. Shrub 2 to 4 feet.

5 P. graminifòlia (D. C. prod. 2. p. 122.) leaves lanceolate, and are as well as the angular stems glabrous; flowers spicate, hairy. ♄. G. Native of the Cape of Good Hope. Lipària graminifòlia, Lin. mant. 268. Thunb. fl. cap. 566. Leaves 1-nerved beneath. Perhaps sufficiently distinct from *P. capitàta*.

Grass-leaved Priestleya. Fl. Ju. Jul. Clt. 1800. Sh. 2 to 4 ft.

6 P. te'res (D. C. l. c.) leaves obovate-oblong, and are as well as the stem glabrous; stem terete; flowers racemose, hairy. ♄. G. Native of the Cape of Good Hope.

Terete-stemmed Priestleya. Fl. July, Aug. Clt. 1816. Sh. 2 to 4 feet.

7 P. ericæfòlia (D. C. l. c.) leaves linear-lanceolate, rather acute, with somewhat revolute margins, hairy beneath, but at length glabrous above; branches and calyxes silky; flowers capitate, terminal, or in fascicles in the upper axils of the leaves. ♄. G. Native of the Cape of Good Hope. Borbònia ericifòlia, Lin. amœn. 6. p. 92. Burm. cap. 20. Keel of a fuscous purple colour at the apex. Ovary very villous. Leaves 3 lines long.

Var. [illegible] leaves silky on the upper surface. ♄. G. The plant, when dry, has the habit of *Chenòlea diffùsa*, D. C. leg. mem. t. 31.

Heath-leaved Priestleya. Fl. Ju. Jul. Clt. 1812. Sh. 1 to 3 ft.

8 P. serícea (D. C. l. c.) leaves ovate, acute, flat, 1-nerved, clothed with silky adpressed pubescence on both surfaces as well as on the branchlets; flowers disposed in a short terminal spike, clothed with adpressed pubescence; legumes hairy. ♄. G. Native of the Cape of Good Hope. Lipària serícea, Lin. syst. 555. Borbònia serícea, Lam. dict. 1. p. 438.—Pluk. alm. t. 388. f. 3. Indigófera serícea, Lin. mant. 271.? ex Lam. dict. 3. p. 252. Crotalària imbricàta, Burm. cap. 21. Lin. spec. 1004.?

Silky Priestleya. Fl. June, July. Clt. 1794. Sh. 2 to 3 ft.

9 P. axilla'ris (D. C. leg. vi. t. 32.) leaves ovate, acute, flat, 1-nerved, clothed with adpressed villi on both surfaces as well as on the branchlets; flowers solitary in the axils of the upper leaves; calyx and legumes hairy. ♄. G. Native of the Cape of Good Hope. Borbònia axillàris, Lam. dict. 1. p. 438.

Axillary-flowered Priestleya. Fl. June, July. Clt. 1822. Shrub 2 to 3 feet.

10 P. ellíptica (D. C. leg. mem. vi. t. 33.) leaves elliptic, flat, 1-nerved, ending in a callous mucrone, covered with adpressed villi on both surfaces; flowers capitate, and are as well as the calyxes and branchlets velvety. ♄. G. Native of the Cape of Good Hope. Flowers 5-6, umbellately capitate at the tops of the branches. Calyx clothed with silky pubescence. Branches rather hairy. Leaves rather canescent.

Elliptic-leaved Priestleya. Clt. 1825. Shrub 2 to 4 feet.

11 P. villòsa (D. C. prod. 2. p. 122.) leaves ovate-elliptic, acute, 1-nerved, flat, hairy on both surfaces, as well as the branchlets, calyxes, and legumes; flowers capitate. ♄. G. Native of the Cape of Good Hope. Borbònia tomentòsa, Lin. spec. 994. Lipària villòsa, Lin. mant. 438.—Seba, thes. 1. t. 24. f. 2.—Lòtus fruticòsus, Houtt. p. fl. syst. 10. p. 1179.

Villous Priestleya. Fl. June, July. Clt. 1774. Sh. 2 to 4 ft.

12 P. vestìta (D. C. prod. 2. p. 122.) leaves ovate, concave, obtuse, nerveless, glabrous above, but clothed with hairy wool beneath as well as the calyxes and branches; flowers capitate. ♄. G. Native of the Cape of Good Hope. Lipària vestìta, Thunb. fl. cap. 568. Sims, bot. mag. 2223. Lipària villòsa, Andr. bot. rep. 382.—Seba, thes. 1. t. 24. f. 1.

Clothed Priestleya. Fl. May, June. Clt. 1800. Sh. 2 to 4 ft.

† *The calyx of the following species being unknown, consequently are not arranged in any section.*

13 P. te'cta (D. C. prod. 2. p. 122.) leaves ovate, concave, spreading, tomentose; flowers axillary, stalked. ♄. G. Native of the Cape of Good Hope. Lipària técta, Thunb. prod. 124. fl. cap. 568.

Covered Priestleya. Shrub 2 to 3 feet.

14 P. tomentòsa (D. C. prod. 2. p. 122.) leaves lanceolate, and are as well as the calyxes tomentose; flowers capitate. ♄. G. Native of the Cape of Good Hope. Lipària tomentòsa, Thunb. l. c. Corolla glabrous.

Tomentose Priestleya. Fl. Jul. Aug. Clt. 1812. Sh. 2 to 4 ft.

15 P. umbellífera (D. C. l. c.) leaves lanceolate, villous; branches umbellate; flowers somewhat umbellately capitate, tomentose. ♄. G. Native of the Cape of Good Hope. Lipària umbellífera, Thunb. l. c.

Umbelliferous Priestleya. Shrub 2 to 4 feet.

Cult. The species of this genus thrive very well in a mixture of sandy loam and peat, but they do not require to be watered so freely as many other plants of this order; for if they are watered too much over their leaves, it is certain to kill them. The very young tops taken off and made into cuttings, and planted in a pot of sand, with a bell-glass placed over them, are not difficult to root, if the bell-glasses are taken off and wiped regularly to prevent damp. They are all elegant plants when in flower.

XLV. HA'LLIA (named after Berger Martin Hall, a pupil of Linnæus, and the student under whose name the thesis called *Nectaria florum* stands in the Amœnitates Academicæ). Thunb. prod. in præf. 2. fl. cap. 593. Desf. journ. bot. 3. p. 125. t. 6. f. 30. but not of Jaume. D. C. prod. 2. p. 122.

LIN. SYST. *Monadélphia, Decándria.* Calyx 5-cleft, with the segments about equal. Keel obtuse. Stamens monadelphous, with the sheath complete. Legume compressed, membranous, 2-valved, 1-seeded.—Cape herbs or subshrubs, with simple leaves and with the stipulas adhering to the petioles, and purple flowers standing on solitary axillary pedicels. This genus is allied to *Psoràlea* or *Anthýllis*, not to *Hedýsarum.*

1 H. ALA'TA (Thunb. fl. cap. 593.) stem 2-edged; stipulas rather decurrent, adnate to the petioles and longer than them; leaves lanceolate or oblong, younger ones rather villous and complicated, adult ones glabrous; flowers on short pedicels, ultimate ones according to Thunberg disposed in a terminal raceme. ♃. G. Native of the Cape of Good Hope beyond Cape Town, a little to the westward.

Winged-stemmed Hallia. Fl. July, Aug. Clt. 1818. Pl. 1 ft.

2 H. FLA'CCIDA (Thunb. l. c.) stem filiform, trigonal at the apex; stipulas ovate, acute, striated, hardly adnate to the petioles at the base, and rather longer than them; leaves lanceolate, mucronate, glabrous; peduncles 1-flowered, length of leaves. ♃. G. Native of the Cape of Good Hope. The stipulas according to Thunberg are reflexed, but in the specimen they are obviously erect.

Flaccid Hallia. Fl. Aug. Sept. Clt. 1789. Pl. 1 to 2 feet.

3 H. ANGUSTIFÒLIA (D. C. prod. 1. p. 123.) stem filiform; stipulas lanceolate, erect, adnate even to the middle of the very short petioles and longer than them; leaves linear, acute, glabrous; pedicels 1-flowered, a little shorter than the leaves. ♃. G. Native of the Cape of Good Hope. Hállia, no. 181. Burch, cat. pl. afr. aust.

Narrow-leaved Hallia. Pl. 1 foot.

4 H. VIRGA'TA (Thunb. fl. cap. l. c.) stem terete; stipulas lanceolate, erect; petioles very short; leaves lanceolate, mucronate, glabrous; pedicels much shorter than the leaves. ♃. G. Native of the Cape of Good Hope.

Twiggy Hallia. Pl. 1 foot.

5 H. CORDA'TA (Thunb. l. c.) stem filiform, trigonal, pilose; stipulas lanceolate, spreading, reflexed, about equal with the petioles in length; leaves cordate, acuminated, pilose; pedicels 1-flowered, 3-times longer than the petioles. ♃. G. Native of the Cape of Good Hope, in grassy places. Hedýsarum cordàtum, Thunb. nov. act. ups. 6. p. 41. t. 1. Glycine monophýlla, Jacq. schœnbr. 3. t. 296.

Var. β, Burchéllii (D. C. prod. 2. p. 123.) petioles twice or thrice longer than the stipulas; leaves cordate, rather obtuse, mucronate. ♃. G. Burch. cat. no. 371.

Cordate-leaved Hallia. Fl. Aug. Clt. 1787. Pl. 1 foot.

6 H. ASA'RINA (Thunb. l. c.) stem filiform, striated, pilose; stipulas ovate, acute, reflexed, longer than the very short petioles; leaves cordate, roundish, mucronate, villous; pedicels 1-flowered, length of leaves. ♃. G. Native of the Cape of Good Hope. Crotalària asárina, Berg. cap. 194.

Asarum-like Hallia. Fl. July, Aug. Clt. 1810. Pl. 1 ft.

7 H. IMBRICA'TA (Thunb. l. c.) stems terete, striated; branches villous; stipulas ovate-oblong, acute, membranous, deflexed; leaves nearly sessile, cordate, acute, complicated. ♃.? ♄.? G. Native of the Cape of Good Hope. Sims, bot. mag. 1850. Hedýsarum imbricàtum, Lin. fil. suppl. 330. Thunb. nov. act. ups. 6. p. 42. t. 1. f. 2. Flowers sessile.

Imbricate-leaved Hallia. Fl. Aug. Clt. 1812. Pl. 1 to 2 ft.

Cult. The species of *Hállia* are very pretty plants, with purple flowers; they thrive well in a mixture of sandy loam and peat, and young cuttings strike freely in sand under a bell-glass, or they may be raised from seeds, which sometimes ripen.

XLVI. HEYLA'NDIA (in honour of M. Heyland, an artist employed by De Candolle). D. C. leg. mem. vi. prod. 2. p. 123.

LIN. SYST. *Monadélphia, Decándria.* Calyx 5-cleft, with the lobes about equal. Keel obliquely truncate and acuminated, as in *Onònis.* Stamens monadelphous, with the sheath cleft in front. Style filiform, bent, almost forming a straight angle. Legume compressed, 1-celled, 1-seeded.—East Indian herbs or subshrubs, slender, dichotomous, and hairy, without stipulas. Leaves on short petioles, cordate, roundish. Flowers axillary, solitary, nearly sessile, yellow, and small.

1 H. HEBECA'RPA (D. C. leg. mem. vi. t. 34.) legumes covered with long scattered hairs; leaves on very short stalks, roundish and cordate. ♄.? ♃.? S. Native of Ceylon, in the interior of the country. Ovary very hairy. Leaves 4-5-lines long.

Hairy-fruited Heylandia. Fl. Jul. Aug. Clt. 1820. Shrub procumbent.

2 H. LEIOCA'RPA (D. C. l. c.) legumes smooth; leaves on very short petioles, roundish, and cordate. ♃.? ♄.? S. Native of the East Indies. Hállia hírta, Willd. spec. 3. p. 1169.—Pluk. alm. t. 454. f. 8. Lens Madraspatàna, Elatines folio, Petiv. gaz. t. 30. f. 11. Hállia monophýlla, Desv. in herb. Desf. Leaves 2-3 lines long.

Smooth-fruited Heylandia. Fl. July, Aug. Clt. 1820. Sh. pr.

3 H. LATEBRÒSA (D. C. l. c.) legumes rather pilose; leaves sessile, ovate, cordate, acute. ♄. S. Native of the East Indies. Hedýsarum latebròsum, Lin. mant. 270. exclusive of the synonym of Petiv. Lespedèza latebròsa, Pers. ench. Branches and bracteas ciliated with long hairs.

Latebrose Heylandia. Shrub procumbent.

Cult. The culture and propagation of this genus is the same as that recommended for *Hállia*, but being stove plants require heat.

XLVII. CROTALA'RIA (from κροταλον, *krotalon*, a castanet; the pods of this genus are inflated, and the seeds rattle when the pods are shaken.). Lin. gen. 862. Gært. fruct. 2. t. 148. Lam. ill. t. 67. D. C. prod. 2. p. 124.

LIN. SYST. *Monadélphia, Decándria.* Calyx 5-lobed, somewhat bilabiate, upper lip bifid, lower one trifid. Vexillum large, cordate. Keel falcate, acuminated. Filaments all connected with the sheath, cleft in front. Style bearded laterally, pubescent. Legume turgid, with the valves ventricose, usually many-seeded, pedicellate.—Herbs or subshrubs, with simple or palmately compound leaves, these last have usually 3 leaflets, very rarely 5-foliate. Flowers usually yellow, with small bracteas along the pedicels, or at the base of the calyx. The greater number of the species being not sufficiently known, the whole are disposed in an artificial order.

§ 1. *Leaves simple.*

* *Stipulas decurrent. Flowers disposed in racemes, the ra-*

cemes terminal or opposite the leaves. Stems all herbaceous. Corolla smaller than the calyx, or about equal in length to it.

1 C. ALA'TA (Hamilt. ex Roxb. in D. Don, prod. fl. nep. 241.) stipulas ovate, acute, rather convex on the inner side, running down the stem a great way in a wing; leaves oval or oval-oblong, retuse, pubescent as well as the stem, which is ascendent; bracteas ovate. ⊙. F. Native of Nipaul, at Sucmbu. Racemes few-flowered. Bracteas and bracteoles ovate. Calycine lobes acuminated. Flowers pale-yellow.

Winged-stemmed Crotalaria. Fl. Jul. Aug. Clt. 1818. Pl. 1 ft.

2 C. STIPULA'RIA (Desv. journ. bot. 1814. 2. p. 76.) stipulas ovate, acuminated, rather cut on the inner side, ending in a long broad wing; leaves oval, obtuse, and are villous as well as the stem, which is erect; bracteas linear, acuminated. ⊙.? S. Native of Cayenne. Legume smooth, an inch long.

Var. β, serpyllifòlia (D. C. prod. 2. p. 124.) leaves oval-oblong, smaller than those of the species. ⊙.? S. Native of? C. serpyllifòlia, herb. Lamb.

Stipular Crotalaria. Fl. July, Aug. Clt. 1823. Pl. 1 foot.

3 C. GENISTE'LLA (H. B. et Kunth, nov. gen. amer. 6. p. 398.) plant covered with strigose silky hairs, herbaceous, erect; stipulas short, decurrent, acute; leaves lanceolate, acute, silvery beneath; racemes axillary and terminal, many-flowered, panicled; legume many-seeded, smooth. ♃. S. Native on the Andes, about Popayan.

Genista-like Crotalaria. Pl. 1 foot.

4 C. PTEROCAU'LA (Desf. l. c.) stipulas obtuse, decurrent; leaves linear-lanceolate, acute, silky from adpressed hairs; legume oblong, smooth. ⊙.? S. Native of South America.

Winged-stemmed Crotalaria. Pl. 1 foot.

5 C. PLATYCA'RPA (Link. enum. 2. p. 227.) branches winged above, from the decurrent stipulas, lower leaves oblong, upper ones lanceolate, acute, hairy; racemes lateral; bracteoles linear. ⊙. H. Native of North America. Corolla yellow, but with the vexillum brownish.

Broad-podded Crotalaria. Fl. July. Clt. 1823. Pl. 1 foot.

6 C. PU'RSHII (D. C. prod. 2. p. 124.) stipulas lanceolate, acuminated, decurrent; leaves lanceolate-oblong, glabrous; stem erect, simple, clothed with adpressed villi; racemes usually 3-flowered. ⊙. H. Native of North America, in Virginia and Carolina. C. lævigàta, Pursh, fl. sept. amer. 2. p. 469. but not of Lam.—Pluk. alm. t. 277. f. 2.

Pursh's Crotalaria. Fl. June, July. Clt. 1800. Pl. 1 foot.

7 C. PARVIFLÒRA (Roth. cat. 2. p. 83.) stipulas oblong, acute, short, superior ones decurrent; leaves linear-lanceolate, very hairy as well as the stem, which is erect and branched. ⊙. H. Native of North America, from New York to Carolina. Willd. spec. 3. p. 973. Pursh, l. c.

Small-flowered Crotalaria. Fl. Aug. Sept. Clt. 1817. Pl. 2 ft.

8 C. SAGITTA'LIS (Lin. spec. 1003. var. *a.*) stipulas lanceolate, acuminated, decurrent; leaves oblong-lanceolate, hairy as well as the stem which is branched and erect; racemes usually 3-flowered. ⊙. H. Native of North America, from Virginia to Georgia, in pine barrens. Herm. lugd. bot. p. 203. icon. C. bialàta, Schrank. ex Ræusch.

Arrow Crotalaria. Fl. June, July. Clt. 1731. Pl. 1 foot.

9 C. ESPADÍLLA (H. B. et Kunth, l. c.) stipulas large, acuminated, triangularly falcate, decurrent; leaves lanceolate or oblong, obtuse, younger ones golden-yellow, and are as well as the erect stem beset with strigose silky hairs; racemes opposite the leaves, few-flowered; legume many-seeded, glabrous. ⊙.? S. Native of South America, in sandy places near Caricnana, where it is called *Espadilla.* Very like *C. sagittàlis.*

Espadilla Crotalaria. Pl. 1 foot.

10 C. OVA'LIS (Pursh, l. c.) stipulas acuminated, upper ones decurrent; leaves almost sessile, oval, hairy as well as the stems, which are diffuse; racemes elongated, 4-6-flowered, opposite the leaves. ♃. F. Native of Georgia and Carolina, in pine barrens. Hook, bot. mag. 3006. C. sagittàlis, var. ovalifòlia, Michx. fl. bor. amer. p. 55. Anónymos rotundifòlia, Walt. no. 278. C. rotundifòlia, Poir. suppl. 2. p. 402. The leaves are sometimes exstipulate, as has been noticed by Nuttall.

Oval-leaved Crotalaria. Fl. July, Aug. Clt. 1810. Pl. 1 ft.

11 C. RUBIGINÒSA (Willd. spec. 3. p. 973.) stipulas linear, acuminated, upper ones decurrent; leaves oval-lanceolate, mucronate, villous, as well as the stem, which is branched and diffuse; racemes usually 3-flowered and elongated. ⊙. S. Native of the East Indies. This is very like the preceding species.

Rusty Crotalaria. Fl. July. Clt. 1807. Pl. ½ to 1 foot.

* * *Stipulas not decurrent, and sometimes wanting altogether. Flowers disposed in racemes, which are either terminal or opposite the leaves.*

12 C. VERRUCÒSA (Lin. spec. 1005.) stipulas lunate, declinate; leaves oval, obtuse; branches acutely tetragonal; racemes terminal; ovaries villous. ⊙. S. Native of the East Indies. Andr. bot. rep. t. 308. Lindl. bot. reg. 1137. Hook, bot. mag. 3034. C. cœrùlea, Jacq. icon. rar. t. 144. C. angulòsa, Lam. dict. 2. p. 195. Cav. icon. 4. t. 321. Corolla with the vexillum greenish-white, streaked with pale-blue inside and with the wings obovate, yellowish white at the base, the rest blue, and with the keel whitish, but yellowish at the point. Anthers yellow.

Warted Crotalaria. Fl. June, July. Clt. 1731. Pl. 1 to 2 ft.

13 C. ACUMINA'TA; stipulas lunate, declinate; leaves ovate, but rather hastate at the base, and acuminated at the apex; branches tetragonal; racemes terminal; ovaries villous? ⊙. S. Native of the Mauritius and the islands in the East Indies. C. verrucòsa *β*, hastàta, Pers. ench. no. 20. C. verrucòsa, var. *a*, acuminàta, D. C. prod. 2. p. 125.—Burm. zeyl. t. 34. Leaves acute at both ends. Flowers bluish.

Acuminated-leaved Crotalaria. Fl. June, July. Clt. 1731. Pl. 1 feet.

14 C. SEMPERFLÒRENS (Vent. hort. cels. t. 17.) stipulas lunate, nearly lanceolate, declinate; leaves oval, emarginate, mucronate; stems terete, striated, suffruticose at the base; ovaries clothed with adpressed pubescence. ♃.? ♄. S. Native of the East Indies. Flowers golden-yellow, crowded at the tops of the racemes. Leaves clothed with adpressed pubescence beneath, and usually a little warted, as in *C. verrucòsa.*

Ever-flowering Crotalaria. Fl. Mar. Sept. Clt. 1816. Pl. 1 to 2 feet.

15 C. RETU'SA (Lin. spec. 1004.) stipulas setaceous, straight; leaves oblong-cuneiform, retuse, full of very minute, pellucid dots; racemes terminal; ovaries glabrous. ⊙. S. Native of the East Indies, from whence it has been introduced to the Mauritius and to the West India Islands. Ker. bot. reg. 253. Flowers yellow but with the vexillum usually purplish. Leaves variable, more or less villous beneath, sometimes mucronate at the apex, with the mucrone either straight or recurved.—Rumph. amb. 5. t. 96. f. 1.—Rheed. mal. 9. t. 25. Burm. ind. 155.

Retuse-leaved Crotalaria. Fl. Ju. Jul. Clt. 1731. Pl. 2 to 3 ft.

16 C. LESCHENAU'LTII (D. C. prod. 2. p. 125.) stipulas triangular, acuminated, cuneate-elliptic, mucronate, clothed with silky villi beneath and full of pellucid dots; racemes terminal; ovaries glabrous. ⊙. S. Native of the East Indies, on the Nelligerry mountains, where it is called *Guili-guedje* by the natives. Flowers yellow. This is an intermediate species between *C. retùsa* and *C. spectábilis.*

Leschenault's Crotalaria. Pl. 8 to 9 feet.

17 C. SPECTA'BILIS (Roth. nov. spec. 341.) stipulas lanceolate, cordate, somewhat sagittate; leaves cuneate, mucronate, clothed with hoary tomentum beneath, full of pellucid dots; lower leaves obovate and obtuse, middle ones oblong-elliptic, superior ones nearly linear; stem obtuse-angled; ovaries glabrous. ⊙. S. Native of the East Indies. Flowers of a dusky-purple colour. Allied to *C. retùsa*, but differs in the stipulas being dilated at the base, not setaceous.

Shewy Crotalaria. Fl. June, Aug. Clt. 1820. Pl. 1 to 1½ ft.

18 C. PULCHE'RRIMA (Roxb. cat. calc. 54. ex Sims, bot. mag. 2027.) leaves cuneate-obovate, clothed with silky pubescence on both surfaces; bracteas and calyxes coloured; legume sessile, few-seeded, covered by the permanent calyx; stem shrubby, with the branches terete. ♄. S. Native of Mysore. Flowers yellow, very like those of *Spártium júnceum.*

Fairest Crotalaria. Fl. June, July. Clt. 1814. Sh. 1 to 3 ft.

19 C. BENGALE'NSIS (Lam. dict. 2. p. 196.) leaves lanceolate, mucronate, almost sessile, pubescent; stem twiggy; racemes loose, elongated, terminal; legume clothed with rufous tomentum or villi. ⊙. S. Native of Bengal.—Pluk. alm. t. 169. Allied to *C. júncea*, and perhaps the *C. tenuifòlia* of Horn. cat. hort. hafn. suppl. 151. Flowers yellow.

Bengal Crotalaria. Fl. June, July. Clt. 1806. Pl. 2 to 3 ft.

20 C. JU'NCEA (Lin. spec. 1004.) stipulas setaceous, almost wanting; leaves cuneately lanceolate, on short petioles, clothed with adpressed pubescence, as well as the furrowed stems; racemes terminal; legume clothed with villous tomentum. ⊙. S. Native of the East Indies. Roxb. cor. 2. t. 193. Andr. bot. rep. 422.—Burm. ind. 155.—Rheed. mal. 9. t. 26. Flowers yellow, resembling those of *Genísta júncea.* Legume pendulous, 12-15 lines long and 6 broad, 6-10-seeded. This plant is cultivated in India for its fibre, as a substitute for hemp; it is prepared in the same way. It is also very nourishing food for cows, when young.

Var. β, *punctulàta* (D. C. prod. 2. p. 126.) vexillum and wings marked at the apex with black lines and dots.

Rushy Crotalaria. Fl. June, July. Clt. 1700. Pl. 4 to 8 ft.

21 C. TENUIFÒLIA (Roxb. hort. beng. 54.) leaves linear, acute, clothed with silky pubescence; stem twiggy, simple; raceme loose, elongated, terminal; calyxes and ovaries silky. ♄. S. Native of Coromandel. Ker. bot. reg. 982. Flowers yellow. Allied to *C. Bengalénsis* and *C. acuminàta.*

Fine-leaved Crotalaria. Fl. Ju. Jul. Clt. 1816. Sh. 1 to 2 ft.

22 C. FENESTRA'TA (Sims, bot. mag. 1933.) stipulas setaceous; leaves ovate-lanceolate, silky beneath and ciliated; stems pubescent, furrowed; vexillum rather orbicular, acuminated. ⊙. S. Native of the East Indies. Lower segments of the calyx cohering at the apex.

Windowed Crotalaria. Fl. June, Jul. Clt. 1815. Pl. 1 to 2 ft.

23 C. SERÍCEA (Retz. obs. 3. p. 26.) stipulas semi-cordate; leaves lanceolate, acute, silky beneath as well as the legumes; stem furrowed; racemes terminal, elongated. ⊙. S. Native of the East Indies. Allied to *C. júncea.* Flowers yellow.

Silky Crotalaria. Fl. June, July. Cl. 1807. Pl. 1 to 2 ft.

24 C. TE'CTA (Roth. nov. spec. 334.) plant exstipulate, clothed with silky pubescence; leaves oblong, mucronate, approximate, sessile, lower ones obovate, superior ones linear; stem straight, divided at the apex; legumes and styles glabrous. ⊙. ? S. Native of the East Indies. Flowers about the size of those of *C. parviflòra*, yellow and striped with blackish-brown.

Covered Crotalaria. Pl. 1 to 2 feet.

25 C. BURMA'NNI (D. C. prod. 2. p. 126.) stipulas and bracteas setaceous; branches and leaves villous or clothed with silky pubescence beneath; lower leaves obovate, emarginate, superior ones oblong, mucronate; stem straight, divided at the apex; racemes usually terminal, simple. ⊙. S. Native of the East Indies. C. sericea, Burm. ind. 156. t. 48. f. 1. but not of Retz. Flowers yellow, one half smaller than those of *C. júncea*, pubescent on the outside.

Burmann's Crotalaria. Fl. June, Jul. Clt. 1800. Pl. 1 to 2 ft.

26 C. HIRSU'TA (Willd. spec. 3. p. 978.) stipulas subulate, reflexed; leaves ovate, acute, glabrous above and pubescent beneath; stem hairy; raceme subterminal; legume hairy. ⊙. S. Native of the East Indies, near Hydrabad. Flowers yellow.

Hairy Crotalaria. Fl. July, Aug. Clt. 1818. Pl. 1 to 2 ft.

27 C. MYSORE'NSIS (Roth. nov. spec. 338.) plant hairy; stipulas linear-lanceolate; leaves oblong, obtuse, stalked; racemes terminal, elongated; bracteas length of calyx; legumes ovate, glabrous. ⊙. S. Native of Mysore, in the East Indies. Flowers yellow.

Var. β, *pauciflòra* (D. C. prod. 2. p. 126.) stems slenderer, having a few long hairs as well as the leaves. Roth, l. c.

Var. γ, *angustifòlia* (D. C. prod. 2. p. 126.) leaves narrower, and are as well as the stem densely clothed with rusty silky hairs. Roth, l. c.

Mysore Crotalaria. Pl. 1 to 2 feet.

28 C. MONTA'NA (Roth, l. c.) plant exstipulate, covered with silky brown strigæ; leaves oblong, obtuse, almost sessile; stem terete; racemes terminal; legume nearly globose, dotted, glabrous, one half shorter than the style, which is pilose at the apex. ⊙. ? S. Native of the East Indies. Corolla length of calyx.

Mountain Crotalaria. Pl. 1 to 2 feet.

29 C. A'LBIDA (Roth. l. c.) plant exstipulate; leaves oblong-obtuse, mucronate, petiolate, clothed with hoary tomentum beneath; stem terete; racemes elongated; calyx strigose; legume oblong-ovate, longer than the pilose style. ⊙. ? S. Native of the East Indies. Corolla white, a little smaller than the calyx.

White-flowered Crotalaria. Pl. 1 to 2 feet.

30 C. PANICULA'TA (Willd. spec. 3. p. 982.) stipulas and bracteas linear-subulate, reflexed; leaves oblong, obtuse, mucronate, silky-villous; panicle terminal, bracteate. ♄. S. Native of Malabar, Java, and China. C. Chinénsis, Lam. dict. 2. p. 195. but not of Lin. Vexillum silky on the outside. Keel acuminated. Style plicate, the upper plait deciduous. Legume ovate, villous, length of calyx.

Panicled Crotalaria. Fl. June, July. Clt. 1820. Sh. 2 to 3 ft.

31 C. PU'LCHRA (Andr. bot. rep. t. 601. Ait. hort. kew. 4. p. 272.) stipulas setaceous, erect; leaves oval-oblong, acute, silky on both surfaces, as well as the calyxes and vexillum; racemes terminal, bracteate. ♄. S. Native of the East Indies. Flowers large, yellow. Legume, according to Andrews, length of calyx, and 4-seeded, and hence perhaps the same as *C. tetraspérma*, Dietr. Ovary villous. Vexillum acuminated. Bracteas 2, ovate.

Fair Crotalaria. Fl. March, May. Clt. 1807. Sh. 2 feet.

32 C. NI'TENS (H. B. et Kunth, nov. gen. amer. 6. p. 399.) suffruticose, silky; branches rather angular; leaves oblong, obtuse, cuneated at the base, younger ones clothed with golden rusty down; racemes terminal or opposite the leaves, many-flowered; legume many-seeded, glabrous. ♄. S. Native of New Granada, near Mariquita and Honda. The plant from Honda is more densely pilose, the bracteas smaller, and the flowers larger than those of the plant from Mariquita.

Shining Crotalaria. Shrub 1 to 3 feet.

33 C. BERTERIA'NA (D. C. prod. 2. p. 127.) stipulas subulate, small; leaves elliptic, obtuse, mucronate, clothed on both surfaces with shining silky villi; racemes terminal. ♄. S. Native of Guadaloupe, in gardens. Branches villous. Bracteas ovate, acute. Flowers yellow. Legume pubescent, 3-4-seeded, length of calyx.

Bertero's Crotalaria. Fl. May, July. Clt. 1818. Sh. 2 to 3 ft.

34 C. Nòvæ-Holla'ndiæ (D. C. prod. 2. p. 127.) stipulas wanting; leaves elliptic-obovate, tapering to the base, obtuse at the apex, clothed beneath with adpressed silky pubescence, as well as the petioles and branches; racemes terminal. ♃. G. Native of New Holland, on the eastern coast. Branches terete. Petioles nodose and articulated at the apex; hence its affinity to the trifoliate species of the genus. The flowers purplish in the dried state, and middle-sized.

New Holland Crotalaria. Fl. May, July. Clt. 1823. Pl. 1 to 2 feet.

35 C. Paulìna (Schrank, pl. rar. mon. t. 88.) stipulas wanting; leaves oblong-lanceolate, attenuated at the base, bluntish, mucronulate, hoary and sericeous beneath; racemes terminal; bracteas linear, much shorter than the pedicel. ♃. S. Native of Brazil, at the town of St. Paulo. Link. enum. 2. p. 227. Flowers yellow, about the size of those of *Spártium júnceum.*

St. Paulo Crotalaria. Fl. Aug. Sept. Clt. 1823. Pl. 1 to 2 ft.

36 C. breviflòra (D. C. prod. 2. p. 127.) stipulas wanting; leaves elliptic, attenuated at both ends, acute and mucronate, pubescent on both surfaces, palest beneath, the nerves and branches silky-villous; racemes terminal; bracteas linear, about equal in length to the pedicels. ♃. ? S. Native of Brazil. Very like the preceding species, but the corolla is very much smaller, hardly exceeding the calyx in length.

Short-flowered Crotalaria. Pl. 1 to 2 feet.

37 C. bifa'ria (Lin. fil. suppl. 422.) stipulas reflexed; lower leaves orbicular, superior ones oblong; peduncles terminal, 1-flowered; stems diffuse, pubescent. ♄. ? S. Native of the East Indies, where it is cultivated in gardens. The stipulas, according to Linnæus the younger, are ovate-subulate, and the legume oblong and hispid or pubescent. Corolla large, bluish.

Bifarious Crotalaria. Fl. July, Aug. Clt. 1817. Sh. 1 to 3 ft.

38 C. dichótoma (Roth. nov. spec. 340. but not of Graham,) stipulas linear-subulate, horizontal; leaves ovate, acuminated, rather scabrous, petiolate, superior ones lanceolate; stem erect, dichotomous; peduncles opposite the leaves, usually 2-flowered; flowers nodding; legumes ovate, pilose. ♄. ? S. Native of the East Indies. Like *C. bifària.*

Dichotomous-stemmed Crotalaria. Shrub 1 to 3 feet.

39 C. Rothia'na (D. C. prod. 2. p. 127.) plant exstipulate, pilose; leaves ovate, obtuse, rather mucronate, distich, petiolate; stems prostrate; peduncles opposite the leaves, 2-flowered; legume subglobose, hairy. ♄. ? S. Native of the East Indies. C. hírta, Roth. nov. spec. 339. but not of Willd. Flowers yellowish.

Var. β, *ferruginea* (D. C. l. c.) plant beset with long, spreading, rusty pili.

Roth's Crotalaria. Shrub prostrate.

40 C. diffu'sa (Link, enum. 2. p. 228.) leaves lanceolate, obtuse, hairy, on short petioles; flowers terminal; calyx pilose, about equal in length to the corolla. ⊙. S. Native of? Flowers yellow.

Diffuse Crotalaria. Fl. June, July. Clt. 1818. Pl. diffuse.

41 C. na'na (Burm. fl. ind. 156. t. 48. f. 2.) leaves oblong, nearly sessile, glabrous, obtuse, mucronate; stems diffuse; peduncles opposite the leaves, 3-flowered; calyxes pilose; legume oblong, obtuse, hardly twice the length of the calyx. ⊙. S. Native of Malabar. Flowers yellow. Lam. dict. 2. p. 196. C. Malabárica, Garcin, in herb. Burm. C. biflòra, Lin. mant.

Dwarf Crotalaria. Pl. ½ foot.

42 C. biflo'ra (Lin. mant. 570.) stem prostrate, herbaceous; leaves oval-oblong, obtuse or suborbicular, pilose; peduncles opposite the leaves, and terminal, and longer than the stem, 2-8-flowered; legume tumid, globose, rather villous. ⊙. S. Native of the East Indies. Pet. gaz. t. 30. f. 10. Astrágalus biflòrus, Lin. mant. 273. This species differs from the preceding in the legumes being globose, not oblong. Corolla yellow.

Two-flowered Crotalaria. Fl. July, Aug. Clt. 1790. Pl. prostrate.

43 C. glau'ca (Willd. spec. 3. p. 974.) stem glabrous, erect; leaves linear-lanceolate, glabrous; peduncles opposite the leaves, usually 3-flowered, rather shorter than the leaves, filiform. ⊙. S. Native of Guinea. Flowers yellow.

Glaucous Crotalaria. Fl. July, Aug. Clt. 1824. Pl. 1 to 2 ft.

44 C. pusílla (Roth. nov. spec. 335.) plant exstipulate, clothed with greyish hairs; leaves linear, obtuse, rather mucronate, petiolate; stem much branched from the base, filiform; branches approximate; racemes terminal, rather secund; legume oblong-oval, obtusely-mucronate, hairy. ⊙. ? S. Native of the East Indies. Flowers small.

Small Crotalaria. Pl. ½ foot.

45 C. pu'mila (Schrank, acad. mun. 6. p. 188.) plant tomentosely hairy; leaves linear-lanceolate, almost sessile; stems nearly simple, decumbent; flowers axillary, disposed in a terminal few-flowered raceme. ⊙. ? S. Native of? Legume ovate, erect, minute, tomentose.

Dwarf Crotalaria. Fl. July, Aug. Clt. 1816. Sh. ½ foot.

46 C. tetrago'na (Andr. bot. rep. 593.) leaves long, lanceolate, pubescent; stem tetragonal; raceme terminal; legume villous. ♂. S. Native of the East Indies. Ait. hort. kew. ed. 2. vol. 4. p. 271. Stipulas lanceolate, horizontally deflexed, deciduous. Flowers pubescent, large, yellow; the vexillum dotted with black outside, and lined on the inside. Ovary and style villous.

Tetragonal-stemmed Crotalaria. Fl. Oct. Nov. Clt. 1806. Pl. 2 to 3 feet.

47 C. linifo'lia (Lin. fil. suppl. 328.) leaves linear, oblong, obtuse, mucronate, nearly sessile, pilose beneath, as well as the stem; raceme terminal; stem somewhat striated, erect; legume glabrous, hardly larger than the calyx. ⊙. S. Native of the East Indies and Nipaul, ex D. Don, prod. p. 241. Flowers yellow, in long racemes, secund. Willd. spec. 4. p. 975. Stems diffuse, simple, and branched. Stipulas and bracteas small. Calyx silky.

Flax-leaved Crotalaria. Fl. July, Sept. Clt. 1820. Pl. 1 foot.

48 C. pellìta (Bert. ined. ex D. C. prod. 2. p. 128.) leaves oblong-linear, mucronate, young ones hairy; stem terete, very much branched; racemes terminal; bracteas and calycine lobes callous, somewhat revolute; legume ovate, villous, length of calyx, 1-2-seeded. ♄. ? S. Native of Jamaica, in gardens. Peduncles, pedicels, and tube of calyx hispid. Bracteas and calycine lobes partly callous and glabrous.

Clad Crotalaria. Fl. July, Aug. Clt. 1820. Pl. 1 to 2 feet.

49 C. genistoìdes (Lam. dict. 2. p. 196.) leaves linear-lanceolate, mucronate, glabrous, scattered, sessile; racemes short, few-flowered; branches filiform, twiggy, glabrous; calyxes and legumes hairy. ♄. G. Native of the Cape of Good Hope. The racemes are said to be both axillary and lateral.

Genista-like Crotalaria. Shrub 1 to 2 feet.

50 C. virgulta'lis (Burch. cat. no. 1742.) plant exstipulate; leaves oblong-linear, mucronate, stalked, young ones, calyxes, and branches clothed with adpressed silky pubescence; racemes opposite the leaves, elongated; flowers erect; legume pendulous, young ones clothed with adpressed villi. ♄. G. Native of the Cape of Good Hope. Flowers resembling those of *Spártium júnceum,* but a little smaller.

Twiggy Crotalaria. Shrub.

51 C. acumina'ta (D. C. prod. 2. p. 128.) stipulas ovate, lanceolate, shorter than the petioles, acuminated; leaves stalked, linear, mucronately-acuminated, silky pubescent beneath, as well as the calyxes and branches; peduncles opposite the leaves, 1-

2-flowered; ovaries glabrous. ♄. G. Native of the Cape of Good Hope. Burch. cat. afr. aust. no. 2327. Flowers smaller than in the preceding species.

Acuminated-leaved Crotalaria. Shrub.

52 C. SPARTIOÌDES (D. C. prod. 2. p. 128.) plant exstipulate; leaves linear-subulate, acute, distant, the young ones and branches pubescent, the adult ones glabrous; branches twiggy, striated; racemes terminal; ovaries pubescent. ♄. G. Native of the Cape of Good Hope. Burch. cat. no. 2336. Flowers yellow, about the size of those of *Spártium júnceum.* Bracteoles 2, small, deciduous at the base of the calyx.

Spartium-like Crotalaria. Shrub 2 to 3 feet.

53 C. PERROTTE'TII (D. C. prod. 2. p. 128.) plant exstipulate; leaves linear-subulate, very few; branches and calyxes villously-hairy; stems much branched, twiggy, at length smooth and leafless; racemes crowded; corolla length of calyx; legume 3-4-seeded, ovate, somewhat compressed, villous. ♄. S. Native of Senegal. C. tomentòsa, Perr. but not of Thunb. Stamens 10, 5 alternate ones sterile. Style thick at the base, bent abruptly. Perhaps a distinct genus between *Heylándia* and *Crotalària.*

Perrottet's Crotalaria. Shrub 2 feet.

54 C. THEBA'ICA (D. C. prod. 2. p. 128.) plant exstipulate, pubescent, much branched; old branches spiny; leaves oval or oblong, villous, undulated; flowers few at the tops of the branches, distant, disposed in something like a spike; legume ovate, pubescent, 1-2-seeded. ♄. G. Native of the island of Phila, by way sides, and about Theba. Flowers yellow, lined with brown. Spártium Thebàicum, Del. fl. egypt. p. 107. t. 37. f. 1.

Theba Crotalaria. Fl. May, July. Clt. 1818. Sh. 2 to 3 ft.

* * * *Stipulas not decurrent, or wanting. Flowers disposed in terminal heads.*

55 C. SPECIO'SA (Roth. nov. spec. 336.) plant exstipulate, clothed with silky rusty villi; leaves oblong, obtuse, nearly sessile; heads of flowers dense, ovate, roundish; bracteas broad-lanceolate, length of flowers, and are covered with silky hairs, as well as the calyxes, vexillum, and keel. ♄. S. Native of the East Indies.

Shewy Crotalaria. Shrub 2 to 3 feet.

56 C.? REFLE'XA (Thunb. fl. cap. 571.) leaves ovate, acute, tomentose, reflexed; heads of flowers crowded; branches retroflexed. ♄. G. Native of the Cape of Good Hope. Calyx woolly. Corolla purple, glabrous. Leaves imbricated downwards.

Reflexed Crotalaria. Shrub 2 to 3 feet.

57 C. CAPITA'TA (Lam. dict. 2. p. 195. ill. t. 617. f. 3.) villous; leaves lanceolate, scattered, crowded, sessile; heads terminal; ovaries villous. ♄. G. Native of the Cape of Good Hope. The stamens are said by Lamarck to be diadelphous, and therefore the plant ought, perhaps, to be removed from this genus. Flowers white or violet.

Capitate-flowered Crotalaria. Shrub 1 to 2 feet.

* * * * *Stipulas not decurrent, or wanting. Flowers axillary, pedunculate or sessile.*

58 C. SCA'NDENS (Lour. coch. p. 433.) stem shrubby, scandent; leaves oblong, acuminated, glabrous; peduncles many-flowered, axillary. ♄. ◡. G. Native of Cochin-china. Flowers white. Legume turgid, tapering to both ends.

Climbing Crotalaria. Shrub cl.

59 C. PROCU'MBENS (Moc. et Sesse, fl. mex. icon. ined. D. C. prod. 2. p. 129.) stems procumbent, herbaceous; leaves ovate, rather mucronate, pubescent; peduncles axillary, 2-flowered, 3 times longer than the leaves. ♃.? G. Native of Mexico. Flowers yellow. Legume cylindrical.

Procumbent Crotalaria. Fl. May, July. Clt. 1823. Pl. pr.

60 C. NUMMULA'RIA (Willd. spec. 3. p. 979.) procumbent; leaves roundish-ovate or lanceolate, obtuse, pilose beneath; peduncles axillary, 1-2-flowered, hairy, 4 times longer than the leaves. ♄.? S. Native of the East Indies. Legume roundish, ovate.

Money-wort-leaved Crotalaria. Pl. procumbent.

61 C. LANA'TA (Thunb. fl. cap. 571.) leaves ovate, sessile, acute, woolly; flowers axillary, nearly sessile; legume ovate, acute. ♄. G. Native of the Cape of Good Hope.

Woolly Crotalaria. Shrub.

62 C. SESSILIFLÒRA (Lin. spec. 1004.) erect, herbaceous; leaves lanceolate, almost sessile, glabrous above, and pilose beneath; flowers sessile, axillary or lateral. ⊙. G. Native of China. Flowers blue.

Sessile-flowered Crotalaria. Pl. 1 foot.

63 C. TUBERÒSA (Hamilt. in D. Don, prod. fl. nep. 241.) root tuberous; stem branched, villous; leaves lanceolate-linear, acute, very villous at the base and beneath; pedicels axillary, 1-flowered, adpressed to the stem; legume compressed, villous. ♃. G. Native of Nipaul. Flowers bluish-purple in a dried state.

Tuberous-rooted Crotalaria. Fl. June, July. Clt. 1821. Pl. decumbent.

* * * * * *Stipulas not decurrent or wanting. Flowers lateral and terminal. Calyx 5-parted, very hispid, with two of the lobes or segments wing-formed.*

64 C. ANTHYLLOÌDES (Lam. dict. 2. p. 195.) leaves linear, acute, clothed with adpressed villi beneath; flowers subsessile, disposed in a short terminal raceme; pedicels and calyxes rusty, and very hispid. ⊙. S. Native of Java. Leaves 2-lines broad, and 2 inches long. Sepals of calyx unequal in breadth, the 2 superior ones broadest, obtuse, and mucronate. Legume glabrous, many-seeded, length of calyx.

Anthyllis-like Crotalaria. Fl. Aug. Sept. Clt. 1789. Pl. 1 ft.

65 C. CALYCÌNA (Schrank, pl. rar. mon. t. 12.) leaves lanceolate, acute, canescently-pubescent beneath; flowers lateral, on short pedicels; calyx rusty and very hispid. ⊙. S. Native of Bengal. C. ramosíssima, Roxb. hort. beng. p. 54. Corolla sulphur-coloured, a little shorter than the calyx. Leaves 4-5 lines broad, and 2 inches long.

Large-calyxed Crotalaria. Pl. 1 foot.

66 C. NIPAULE'NSIS (Link. enum. 2. p. 228.) leaves lanceolate, hairy; flowers almost sessile, disposed in a short terminal raceme; calyx very hispid, and rusty. ⊙. S. Native of Nipaul. Corolla blue, hardly larger than the calyx.

Nipaul Crotalaria. Fl. June, July. Clt. 1823. Pl. 1 foot.

67 C. ROXBURGHIA'NA (D. C. prod. 2. p. 129.) leaves oblong-linear, acute, clothed with adpressed pubescence beneath, as well as the branches; flowers lateral, on short stalks; calyx and bracteas very hispid and acuminated. ♄. S. Native of the East Indies and Nipaul. C. strícta, Roxb. hort. beng. p. 54. but not of Roth. C. anthylloìdes, D. Don, prod. fl. nep. 241. but Lamarck's plant from Java appears to be distinct.

Roxburgh's Crotalaria. Fl. Ju. July. Clt. 1820. Shrub 2 feet.

68 C. CHINE'NSIS (Lin. spec. 1003.) leaves ovate, on short petioles, bluntish, rather pilose on both surfaces; racemes few-flowered; calyx hairy. ♄. G. Native of China. Corolla yellow, length of calyx. Perhaps this and the two following species are referable to the present division, but they are too imperfectly known to speak with certainty.

China Crotalaria. Fl. June, July. Clt. 1818. Sh. 2 to 3 ft.

69 C. HI'RTA (Willd. enum. 747.) leaves linear-lanceolate, pilose; peduncles subterminal, disposed in something like a raceme; stem branched, diffuse, pilose. ⊙. S. Native of the

East Indies. C. pilòsa, Roxb. Rottl. nov. act. nat. cur. 1808. C. hírta, Mart. acad. mun. 6. p. 156. t. F. Calyx densely clothed with rusty villi, hardly shorter than the corolla.

Hairy Crotalaria. Fl. Ju. Aug. Clt. 1816. Pl. 1 to 2 feet.

70 C. PROSTRA'TA (Rottl. in Willd. enum. 747.) leaves elliptic-lanceolate, obtuse, pubescent beneath; racemes opposite the leaves on long peduncles, few-flowered; stem prostrate, pubescent. ⊙. S. Native of the East Indies. Mart. acad. mun. 6. p. 155. t. F. Calyx tomentose, about the length of the corolla, which is white. Legume glabrous, sessile. Perhaps C. prostràta of D. Don, in prod. fl. nep. 241. is the same plant.

Prostrate Crotalaria. Fl. July. Clt. 1804. Pl. prostrate.

§ 2. *Leaves composed of 3-7 leaflets.*

* *Leaves trifoliate. Racemes terminal or opposite the leaves. Stipulas broad, leafy.*

71 C. ARBORE'SCENS (Lam. dict. 2. p. 199.) stipulas on short petioles, obovate, emarginate, deciduous; leaflets obovate; petioles and branchlets canescent; legume pedicellate. ♄. S. Native of the Mauritius and of the Cape of Good Hope. C. incanéscens, Lin. fil. suppl. C. Capénsis, Thunb. fl. cap. 572. Jacq. hort. vind. t. 64. Flowers yellow, about the size of those of *Colutèa*.

Arborescent Crotalaria. Fl. Ju. Oct. Clt. 1774. Sh. 6 to 10 ft.

72 C. LUNA'RIS (Lin. spec. 1005.) stipulas semi-cordate, lunate; leaflets ovate, acuminated, clothed beneath with white villi; flowers terminal, solitary, girded by a 3-leaved involucre. ⊙. ? G. Native of Africa. Lin. hort. cliff. 357. C. lunàris, Burm. cap. prod. 21.

Moon-shaped-stipuled Crotalaria. Pl.

73 C. TU'RGIDA (Delaum. herb. amat. t. 238) stipulas roundish; leaflets ovate, glabrous; flowers terminal, somewhat corymbose. ♄. S. Native of?

Turgid Crotalaria. Fl. July, Aug. Clt. 1820. Sh. 2 to 3 ft.

* * *Leaves trifoliate. Racemes* [illegible] *acuminated, terminal. Stipulas setaceous* [illegible] lanceolate; st[illegible]

74 C. [illegible] opposite the l[illegible] *the leaves, rarely* ti[illegible] nodding; legumes [illegible] *wanting.*

the East Indies. Lin. [illegible]

Dicho[illegible] OBOVA'TA; suffruticose, branched; leaflets obovate, en-[illegible], somewhat emarginate at the apex, and rather pilose beneath; racemes terminal, spike-formed; legume hairy. ♄. S. Native of Guinea. Flowers yellow.

Obovate-leafletted Crotalaria. Shrub 1 to 2 feet.

75 C. OCHROLEU'CA; shrubby, erect, branched; leaflets linear-lanceolate, entire, acuminated, clothed beneath with silky pili; racemes terminal, spike-formed, few-flowered. ♄. S. Native of Guinea. Flowers cream-coloured.

Cream-coloured-flowered Crotalaria. Shrub 2 to 3 feet.

76 C. LABURNIFO'LIA (Lin. spec. 1005. fl. zeyl. p. 278.) stipulas wanting; leaflets oval, acute, glabrous; racemes opposite the leaves; legumes pendulous, on long stipes, which are 4-times longer than the calyx. ⊙. S. Native of Malabar and Ceylon.—Rheed. mal. 9. t. 27. Burm. zeyl. t. 35. Legume cylindrical, glabrous, length of stipe. Corolla large, yellow. Keel acuminated, much longer than the wings.

Laburnum-leaved Crotalaria. Fl. July, Sept. Clt. 1739. Shrub 5 to 6 feet.

77 C. PE'NDULA (Bert. ined. D. C. prod. 2. p. 130.) stipulas wanting; leaflets oval, obtuse, glabrous; racemes opposite the leaves; legumes pendulous, stipitate; stipe twice the length of the calyx, but one-half shorter than the legume. ♄. S. Native of Jamaica. Very like the preceding species.

Pendulous-legumed Crotalaria. Fl. Jul. Sept. Clt. 1820. Sh.

78 C. ANAGYROÌDES (H. B. et Kunth, nov. gen. amer. 6. p. 404.) arborescent; stipulas subulate, minute; leaflets lanceolate-oblong, acute, mucronate, cuneated at the base, cl beneath with adpressed pubescence, younger ones with brown pubescence; racemes many-flowered, opposite the lea legumes many-seeded, and are, as well as the calyxes, pubesc ♄. S. Native of Caraccas. Allied to *C. arboréscens.*

Anagyrus-like Crotalaria. Fl. Ju. July. Clt. 1823. Sh. 6

79 C. BRÓWNEI (Bert. ined. D. C. prod. 2. p. 130.) stipulas deciduous or wanting; leaflets oval, attenuated at both ends, apiculately mucronate, adult ones glabrous; racemes terminal, opposite the leaves; legume pendulous, cylindrical, glabrous, on a very short stipe. ♄. S. Native of Jamaica, on the sides of rivulets frequent. Leaflets and young legumes clothed with shining, silky, appressed pubescence. Flowers yellowish-brown, striated.

Browne's Crotalaria. Fl. July, Aug. Clt. 1816. Shrub 4 ft.

80 C. BRACTEA'TA (Roxb. hort. beng. p. 54.) stipulas wanting; leaflets oval, tapering to the base, and acuminated at the apex, smooth above, but clothed with very minute pubescence beneath: racemes opposite the leaves: legumes pendulous, almost sessile, densely clothed with hairs. ♄. G. Native of the East Indies and Chittagong. Flowers smaller than in the two preceding species, but the bracteas are reflexed as in them. Perhaps *C. bracteàta* of Fischer is the same.

Bracteated Crotalaria. Fl. July, Aug. Clt. 1820. Sh. 2 to 4 ft.

81 C. CYTISOÌDES (Roxb. hort. beng. 54.) stipulas subulate, deciduous; leaflets elliptic, acuminated at both ends, glabrous above, but clothed with fine pubescence beneath; racemes opposite the leaves, nearly terminal; ovary pubescent, on a very short stipe. ♄. G. Native of Nipaul. C. psoraleoides, D. Don, prod. fl. nep. 242. This species comes very near to *C. bracteàta*, but the ovarium is pubescent, not as in that species densely hairy.

Cytisus-like Crotalaria. Fl. July, Aug. Clt. 1826. Shrub 2 to 4 feet.

82 C. CAJANIFO'LIA (H. B. et Kunth, nov. gen. amer. 6. p. [illegible]

glabrous. [illegible]

[illegible].) stipulas? leaflets oblong, obtuse, mucronate, cuneated at the base, glabrous above, puberulous beneath and canescent; racemes many-flowered, almost terminal; legumes many-seeded, and are, as well as the calyxes, clothed with appressed pubescence. ♄. G. Native of Mexico, on the declivity of mount Jorullo.

Pigeon-pea-leaved Crotalaria. Fl. July, Sept. Clt. 1824. Shrub 4 to 6 feet.

83 C. GRAHA'MI; shrubby, diffuse; leaves ternate; leaflets cuneate-elliptic, rather pilose, mucronate; stipulas subulate, reflexed, permanent; racemes sub-capitate, opposite the leaves. ♄. S. Native of Mexico. C. dichótoma, Graham in edinb. new phil. journ. dec. 1826. Flowers yellow.

Graham's Crotalaria. Fl. Ju. July. Clt. 1824. Sh. 1 to 2 ft.

84 C. STRIA'TA (D. C. prod. 2. p. 131.) stipulas wanting; leaflets elliptic, obtuse, mucronate, nearly glabrous; racemes terminal, and nearly opposite the leaves; bracteas setaceous, deciduous. ⊙. S. Native of the East Indies. Flowers yellow, pendulous. Keel acuminated, striped with black lines; the vexillum also striped a little.

Striped-flowered Crotalaria. Shrub 2 to 4 feet.

85 C. LÆVIGA'TA (Lam. dict. 2. p. 198.) glabrous; stipulas wanting; leaflets elliptic-oblong, obtuse; racemes opposite the leaves, 3-6-flowered; legume pedicellate. ♄. S. Native of Madagascar.

Smooth Crotalaria. Shrub 1 to 2 feet.

86 C. HETEROPHY'LLA (Lin. fil. suppl. 323.) stipulas subulate, spreading; lower leaves simple, the rest trifoliate; leaflets elliptic, emarginate. ⊙. S. Native of the East Indies. Corolla yellow, and striped. Legume smooth.

Variable-leaved Crotalaria. Pl. 1 foot.

87 C. foliòsa (Willd. enum. 747.) leaflets obovate, emarginate, covered beneath with strigose pili; racemes terminal, usually 4-flowered; stem diffuse, branched. ♄. S. Native of the East Indies. Indigófera foliòsa, Rottl.

Leafy Crotalaria. Fl. Ju. July. Clt. 1818. Sh. 2 to 3 feet.

88 C. Havane'nsis (Guss. ex Schlecht. Linnæa. 4. p. 36.) smooth; leaflets oblong, emarginate, tapering to the base; flowers racemose; legume oblong, cylindrical. ♄. S. Native of Cuba, about the Havannah.

Havannah Crotalaria. Shrub.

89 C. Orixe'nsis (Rottl. in Willd. enum. 747.) stipulas lanceolate, and bracteas ovate, both reflexed; leaflets obovate, covered beneath with strigose pili; racemes terminal; stems diffuse; legume stipitate, ovate, obtuse, glabrous. ⊙. S. Native of the East Indies. Flowers more minute than in any other species of the genus. Mart. in acad. mun. 6. p. 157. t. H.

Orixa Crotalaria. Fl. July, Aug. Clt. 1816. Pl. 1 foot.

90 C. virga'ta (Roxb. ex Mart. acad. mun. 6. p. 157. t. G.) stipulas small; leaflets obcordate, destitute of a mucrone, glabrous; raceme few-flowered, opposite the leaves, lateral; branches diffuse, rather twiggy. ♄. S. Native of Coromandel. Legume unknown.

Twiggy Crotalaria. Fl. Ju. Aug. Clt. 1816. Sh. 2 to 4 ft.

91 C. Cube'nsis (D. C. prod. 2. p. 131.) stipulas linear-setaceous; leaflets obovate-roundish; racemes nearly opposite the leaves; stem erect, hairy. ⊙. S. Native of Cuba. C. hírta, Lag. nov. spec. hort. madr. p. 22. but not of Willd.

Cuba Crotalaria. Fl. July, Aug. Clt. 1820. Pl. 1 to 2 ft.

92 C. seti'fera (Moc. et Sesse, fl. mex. ined. D. C. prod. 2. p. 131.) stipulas linear-setaceous; leaflets obovate, mucronate; racemes opposite the leaves, and are hairy, as well as the petioles and branches; legume pendulous, cylindrical, hairy, nearly sessile. ⊙. H. Native of Mexico. Flowers yellow. Keel acute, shorter than the vexillum and wings.

Bristle-bearing Crotalaria. Pl. 1 to 2 feet.

93 C. coluteoìdes (Lam. dict. 2. p. 200.) leaflets obovate, obtuse, mucronate, rather pilose beneath, longer than the petioles; racemes terminal, loose; legume glabrous, stipitate, bladdery, destitute of a style. ♄. ? S. Native of Africa. Pluk. t. 185. f. 3.

Colutea-like Crotalaria. Shrub 3 to 4 feet.

94 C. purpura'scens (Lam. dict. 2. p. 200.) stipulas setaceous, villous; leaflets obovate-cuneiform, retuse, mucronate, glabrous; racemes opposite the leaves almost terminal; calyx villous, about equal in length to the corolla; legume pendulous, sessile, oblong, bladdery. ⊙. S. Native of Madagascar, and the Mauritius. Vexillum purplish above. Branches and petioles clothed with hispid villi.

Purplish-flowered Crotalaria. Fl. July, Aug. Clt. 1824. Pl. 2 to 3 feet.

95 C. inca'na (Lin. spec. 1005.) stipulas and bracteas setaceous, villous, deciduous; leaflets oval or obovate, villous beneath; racemes spike-formed, opposite the leaves; calyxes glabrous; keel with a tomentose margin; legume pendulous, subsessile, hairy. ⊙. S. Native of the Caribbee Islands. Flowers yellow. Jacq. obs. 4. t. 82. Cav. icon. 4. t. 322. Ker. bot. reg. 377. C. pubéscens, Mœnch.

Hoary Crotalaria. Fl. Ju. July. Clt. 1714. Pl. 2 to 3 feet.

96 C. Dombeya'na (D. C. prod. 2. p. 132.) stipulas and bracteas setaceous, villous, deciduous; leaflets oval-oblong, acute, pubescent beneath; racemes spike-formed, opposite the leaves; ovarium pubescent; legume pendulous, sessile, glabrous. ♄. ? S. Native of Peru. C. incàna β, Lam. dict. 2. p. 200. Very near to *C. incàna*, but the flowers are double the size, and disposed in dense spikes.

Dombey's Crotalaria. Shrub 2 to 3 feet.

97 C. pu'bera (Vahl. eclog. 2. p. 55.) stipulas subulate, deciduous; leaflets oblong, obtuse, clothed beneath with adpressed canescent villi; racemes terminal and axillary; legume pendulous, oblong, villous. ♄. S. Native of the island of St. Martha. Branches rather villous. C. púbera, Schrank. pl. rar. mon. t. 14. differs from Vahl's plant in the racemes being opposite the leaves, and therefore the plant is more nearly allied to *C. incàna*.

Downy Crotalaria. Shrub 2 to 3 feet.

98 C. affi'nis (D. C. prod. 2. p. 132.) stipulas and bracteas setaceous and deciduous; leaflets obovate-cuneated, truncate, smoothish; petioles, branches, and legumes villous; racemes opposite the leaves. ♄. ? S. Native of the Mauritius. Allied to *C. incàna*. Calyxes villous. Legume sessile, very hairy.

Allied Crotalaria. Shrub 2 to 3 feet.

99 C. pu'mila (Ort. dec. 2. p. 23.) stipulas subulate, spreading; leaflets obovate, emarginate, glabrous, rather fleshy; racemes opposite the leaves and lateral; legumes nearly sessile, pendulous, pubescent; stem ascending. ⊙. S. Native of Cuba. Flowers yellow, smaller than those of *C. incàna*, to which the plant is very nearly allied. Stem and petioles hardly pubescent.

Dwarf Crotalaria. Fl. Ju. July. Clt. 1823. Pl. ½ to 1 foot.

100 C. falca'ta (Vahl. ined. ex herb. Puer. D. C. prod. 2. p. 132.) stipulas small, deciduous; leaflets elliptic, somewhat cuneated at the base, clothed with minute pubescence beneath, but glabrous above; racemes opposite the leaves: vexillum shorter than the keel, which is falcate. ♄. S. Native of Guinea. Flowers small. Young legumes pendulous and terete.

Falcate-keeled Crotalaria. Shrub 2 feet.

101 C. mucrona'ta (Desv. journ. bot. 1814. vol. 1. p. 76.) leaflets ovate, mucronate, clothed beneath with powdery pubescence; flowers sessile, spicate, terminal. ♄. ? S. Native of the Antilles.

Mucronate-leaved Crotalaria. Shrub.

102 C. mìcans (Link, enum. 2. p. 228.) stipulas wanting; leaflets oval, acute, beset with scattered shining hairs; racemes opposite the leaves; filaments of stamens hairy. ♃. S. Native of? Legume unknown.

Glittering-haired Crotalaria. Fl. July, Aug. Clt. 1820. Pl. 1 to 2 feet.

103 C. curta'ta (Link. l. c.) leaflets oval, obtuse, beset with scattered hairs; the nerves, petioles, and branches hoary; racemes terminal, elongated; keel shorter than the vexillum. ⊙. S. Native of?

Short-keeled Crotalaria. Fl. April, May. Clt. ? Pl. 1 foot.

104 C. pedunculòsa (Desv. journ. bot. 1814. vol. 1. p. 76.) leaflets somewhat ovate, acute; flowers in racemose spikes; racemes opposite the leaves, on long peduncles. ♄. ? S. Native of the East Indies.

Peduncled Crotalaria. Shrub.

105 C. molli'cula (H. B. et Kunth, nov. gen. amer. 6. p. 403.) branchlets terete; stipulas linear-subulate; leaflets lanceolate, obtuse, clothed with soft pubescence on both surfaces, but canescent beneath; racemes many-flowered, opposite the leaves, almost terminal: calyx clothed with adpressed pubescence. Ovary 16-ovulate, stipitate. ♄. G. Native of Mexico, near Guanaxuato. Flowers about the size of those of *C. incàna*.

Soft Crotalaria. Shrub 2 feet.

106 C. Maypure'nsis (H. B. et Kunth, nov. gen. amer. 6. p. 403.) branchlets angular; stipulas capillary; leaflets lanceolate, obtuse, somewhat mucronate, glabrous above, and clothed with adpressed pubescence beneath; racemes many-flowered, almost terminal; calyxes clothed with adpressed pubescence; legume many-seeded, hairy. ♄. S. Native on the banks of the river Orinoco, near Maypures.

Maypures Crotalaria. Shrub 2 to 3 feet.

107 C. VITELLI′NA (Ker. bot. reg. t. 447.) plant exstipulate, pubescent; leaflets oval-lanceolate, acute, twice the length of the petioles, which are covered with hairs; legume oblong, pendulous, silky-pubescent. ♄. S. Native of Brazil. Racemes 3-5 inches long. Flowers of a fulvous-yellow colour, but with the vexillum spotted with violet at the base.

Yolk-like Crotalaria. Fl. May, June. Clt. 1819. Sh. 2 to 3 ft.

108 C. HOLOSERI′CEA (Nees et Mart. nov. act. bonn. 12. p. 26.) the whole plant clothed with silky villi; stipulas subulate; leaflets rhomboidal, oval, obtuse, mucronate; racemes opposite the leaves; vexillum bicallous at the base; legume villous, elliptic, 5-6-seeded. ♄. S. Native of Brazil, in fields. Flowers yellow. An intermediate species between *C. vitellina* and *C. purpuráscens*.

Whole-silky Crotalaria. Shrub 5 to 6 feet.

109 C. CYLINDROCA′RPA (D. C. prod. 2. p. 133.) stipulas dimidiate-oblong, acute at both ends, rather falcate; leaflets elliptic-oblong, rather pubescent beneath as well as the branchlets; racemes opposite the leaves; legumes sessile, cylindrical, 26-30-seeded, rather pubescent, apiculated by the style, rather spreading; stem erect, somewhat panicled. ♄. S. Native of Senegal. C. paniculàta, Pers. in litt. but not of Willd.

Cylindrical-fruited Crotalaria. Shrub.

110 C. SENEGALE′NSIS (Bacle in litt. 1820.) stipulas small, subulate, spreading, deciduous; leaflets oval, obtuse, smoothish; racemes opposite the leaves; legumes sessile, pendulous, pubescent, obovate, 8-10-seeded, crowned by the hooked style; stem erect, much branched, pubescent. ⊙. S. Native of Senegal. C. uncinàta γ, Lam. Pers. l. c. C. gràcilis, Perr. in litt. 1825.

Senegal Crotalaria. Fl. June, July. Clt. 1819. Pl. 1 foot.

111 C. PODOCA′RPA (D. C. prod. 2. p. 133.) plant erect, hispid all over from spreading hairs; stipulas dimidiate, oval-oblong, erect, leafy; leaflets obovate, obtuse, mucronate; racemes opposite the leaves; legume stipitate, turgid, ovate, glabrous, apiculated by the style, 12-18-seeded. ⊙. S. Native of Senegal, in the Sahara desert. The plant has the habit of *Lòtus hirsùtus*.

Foot-fruited Crotalaria. Pl. 1 to 2 feet.

112 C. UNCINE′LLA (Lam. dict. 2. p. 200.) stipulas small or wanting; leaflets oval, mucronate, pubescent beneath; racemes opposite the leaves; legume stipitate, somewhat globose, hooked from the style, silky-velvety, 2-4-seeded; stem erect, much branched, pubescent. ⊙. S. Native of the island of Bourbon.

Var. β, glàbra (D. C. prod. 2. p. 133.) leaves and legumes glabrous; leaflets oblong, somewhat elliptic. ⊙. S. Native of Bourbon. Perhaps a species.

Hooked-styled Crotalaria. Pl. 1 to 2 feet.

113 C. SPHÆROCA′RPA (Perr. in litt. 1825.) stipulas small; leaflets oblong-obovate, pubescent beneath; racemes opposite the leaves; legumes sessile, ovate-globose, clothed with fine pubescence, apiculated by the filiform style, 2-4-seeded; stem erect, much branched, pubescent. ♄. S. Native of Senegal. An intermediate species between the preceding and the following. Stamens permanent, at the base of the legume.

Round-fruited Crotalaria. Shrub 1 to 2 feet.

114 C. MEDICAGÍNEA (Lam. dict. 2. p. 201.) stipulas subulate, spreading; leaflets obovate-cuneated, emarginate, clothed beneath with adpressed pubescence, shorter than the petioles; racemes opposite the leaves or terminal, elongated, and with some of the flowers disposed in axillary bundles; legume sessile, roundish, hooked from the thick base of the style, 2-4-seeded, minutely pubescent. ⊙. ? S. Native of the East Indies. C. trifoliástrum. Willd. spec. 3. p. 983. Lupìnus trifoliàtus, Rottl. nov. act. nat. cur. 4. 1803. p. 223. t. 5.

Medick-like Crotalaria. Fl. June, July. Clt. 1816. Pl. 1 ft.

115 C. LUPULI′NA (D. C. prod. 2. p. 133.) stipulas setaceous, small; leaflets lanceolate, acute, mucronate, clothed with adpressed pubescence beneath as well as the calyxes; racemes 9-10-flowered, opposite the leaves; legume ovate, many-seeded, puberulous. ⊙. G. Native of Mexico, on the burning Mount Jorullo.

Hop Crotalaria. Pl. 1 foot.

116 C. STRÍCTA (Roth. nov. spec. 342.) stipulas setaceous, adpressed; leaflets cuneated, emarginate, mucronate, canescent beneath, length of petioles; stem straight; lower flowers axillary, in fascicles, upper ones disposed in a terminal raceme; legume pilose, globose, hooked at the apex. ⊙. ? S. Native of the East Indies. Perhaps sufficiently distinct from the preceding species.

Straight Crotalaria. Pl. 1 to 2 feet.

117 C. RÍGIDA (Roth. l. c.) stipulas lanceolate-subulate; leaflets cuneiform, emarginate, covered with hoary pili beneath, length of petioles; stem divaricate; lower flowers axillary, in fascicles, upper ones disposed in terminal racemes. ♄. S. Native of the East Indies.

Stiff Crotalaria. Shrub 1 to 2 feet.

118 C. PURPU′REA (Vent. malm. t. 66.) stipulas subulate; leaflets obovate, retuse, somewhat emarginate, glabrous above, and minutely pubescent beneath; racemes terminal; legume ovate, glabrous, apiculated by the style, on a very short stipe, many-seeded. ♄. G. Native of the Cape of Good Hope. Ker. bot. reg. 128. C. élegans, Hortul. Flowers deep purple.

Purple Crotalaria. Fl. Mar. May. Clt. 1790. Sh. 3 to 6 ft.

119 C. LITTORA′LIS (H. B. et Kunth, nov. gen. amer. 6. p. 401.) suffruticose, procumbent; stipulas subulate, very minute; leaflets 3, obovate-oblong, emarginate, beset with adpressed pili; peduncles 5-7-flowered, opposite the leaves and terminal; legume usually 2-seeded, clothed with adpressed pubescence as well as the calyxes. ♄. S. Native of Cuba, near Havannah?

Shore Crotalaria. Shrub 2 to 3 feet.

120 C. MICROPHY′LLA (Vahl. symb. 1. p. 52.) stipulas setaceous, spreading; leaflets oblong, glabrous, thickish, length of petioles; peduncles opposite the leaves and terminal, 2-flowered; legume glabrous, oblong, on a short stipe; stem decumbent. ♄. G. Native of Arabia Felix. Leaflets 2 lines long.

Small-leaved Crotalaria. Fl. June, Aug. Clt. 1820. Pl. 1 ft.

121 C. MICRA′NTHA (Link, enum. 2. p. 229.) leaflets oblong, obtuse, mucronulate, beset beneath with scattered adpressed pili; racemes short, terminal; calyxes silky. ⊙. S. Native of Ceylon.

Small-flowered Crotalaria. Fl. July, Aug. Clt. 1823. Pl. 1 ft.

122 C. PA′LLIDA (Ait. hort. kew. ed. 1. vol. 3. p. 20.) leaflets lanceolate, glabrous; racemes terminal, spike-formed. ⊙. G. Native of Africa.

Pale-flowered Crotalaria. Fl. Ju. Jul. Clt. 1775. Pl. 1 to 2 ft.

123 C.? ARGE′NTEA (Jacq. hort. schœnbr. 2. p. 220.) clothed with white tomentum; leaflets lanceolate, shorter than the petiole; peduncles 1-flowered, opposite the leaves, nearly terminal; legume stipitate, compressed, clothed with silvery wool. ♄. G. Native of the Cape of Good Hope. Flowers yellow. Habit of *Lòtus* or *Coronílla*. Calyx tripartite.

Silvery Crotalaria. Fl. June, July. Clt. 1823. Sh. 2 feet.

124 C. PULCHE′LLA (Andr. bot. rep. t. 417.) leaflets linear-lanceolate, acute, longer than the petioles, clothed with adpressed pubescence beneath, as well as the branches and petioles; racemes terminal; legume cylindrical, many-seeded, tapering into a stipe at the base. ♄. G. Native of the Cape of Good Hope. Sims, bot. mag. t. 1699. Flowers large, yellow, about the size of those of *Spártium júnceum*.

Neat Crotalaria. Fl. July, Aug. Clt. 1800. Sh. 2 to 4 ft.

125 C. ANGUSTIFÒLIA (Jacq. hort. schœnbr. 2. p. 49. t. 219.) stipulas wanting; leaflets lanceolate, hoary, and silky, shorter

than the petioles; racemes terminal, elongated. ♄. G. Native of the Cape of Good Hope. Flowers cream-coloured, 6 lines long.

Var. β, elongàta (Thunb. fl. cap. 571.) leaflets ovate, obtuse; flowers yellow.

Narrow-leaved Crotalaria. Fl. May, Sept. Clt. 1815. Sh. 4 to 6 feet.

126 C. MACILE′NTA (Gailliaud, fl. meroe. 2. t. 62.) branches somewhat dichotomous, slender; petiole about the length of the leaves; leaflets 3, ovate, clothed with short hairs beneath; spike elongated, not much crowded with flowers; fruit few-seeded. ⊙.? H. Native of Egypt, at the White River. The Chamois at Sennaar eat the herb.

Lean Crotalaria. Pl. 1 to 2 feet.

127 C. WILLDENOWIA′NA (D. C. prod. 2. p. 134.) pubescent; stipulas subulate; leaflets linear, cuneated, emarginate; petioles very short; racemes terminal, 4-6-flowered; legume roundish-ovate, acuminated. ♄. G. Native of the Cape of Good Hope. C. genistoìdes, Willd. spec. 3. p. 987. but not of Lam. Flowers small, yellow. Habit of a species of *Genísta.*

Willdenow's Crotalaria. Shrub 2 to 4 feet.

128 C. ASPALATHOÌDES (Lam. dict. 2. p. 202.) plant exstipulate; leaflets linear, cuneated, hairy; racemes pedunculate, terminal, 3-6-flowered; ovary very villous. ♄. G. Native of the Cape of Good Hope. Leaflets very small.

Aspalathus-like Crotalaria. Shrub 1 to 2 feet.

129 C. OBSCU′RA (D. C. prod. 2. p. 134.) herbaceous, beset with rusty hairs; leaflets ovate, mucronate, glabrous above; flowers terminal, pedunculate; legume subcylindrical, villous. ⊙. G. Native of the Cape of Good Hope. Legume an inch long. C. pilòsa, Thunb. fl. cap. 572. but not of Mill.

Obscure Crotalaria. Fl. June, July. Clt. 1820. Pl. 1 foot.

130 C. VILLÒSA (Thunb. fl. cap. 572.) herbaceous, decumbent; branches villous, diffusely retroflexed; leaflets obovate, mucronulate, hairy; stipulas lanceolate; spikes terminal; legume oblong, pubescent. ⊙. G. Native of the Cape of Good Hope.

Villous Crotalaria. Pl. decumbent.

131 C. SALTIA′NA (Andr. bot. rep. 648.) branches downy; leaflets ovate, tomentose; stipulas wanting; racemes elongated, opposite the leaves. ♄. G. Native of Abyssinia. Flowers yellow. An elegant plant.

Salt's Crotalaria. Fl. June, July. Clt. 1810. Sh. 2 to 4 ft.

132 C. DECU′MBENS (Pers. ench. no. 50.) herbaceous, decumbent, hairy; leaflets ovate-oblong, pubescent above, and clothed beneath with silky tomentum, nerved; flowers terminal, somewhat spicate; legume pubescent. ⊙. G. Native of the Cape of Good Hope. C. lineàta, Thunb. fl. cap. 572. but not of Lam.

Decumbent Crotalaria. Pl. decumbent.

* * * *Leaves trifoliate. Flowers all axillary.*

133 C. LOTIFÒLIA (Lin. spec. 1005.) leaflets oblong-cuneated, emarginate, clothed with silky villi beneath; peduncles axillary, solitary, 1-flowered; legume sessile. ♄. S. Native of Jamaica and Santa Cruz.—Sloane, hist. 2. t. 176. f. 1-2.—Dill. elth. t. 102. f. 131. The plant is said by many authors to be glabrous, but by Vahl the leaves are said to be silky beneath.

Lotus-leaved Crotalaria. Fl. June, July. Clt. 1732. Shrub 2 to 4 feet.

134 C. VOLU′BILIS (Thunb. fl. cap. 572.) plant glabrous, between decumbent and twining; leaflets obovate, obtuse; flowers axillary, solitary, on short pedicels; legume ovate, pedicellate, glabrous. ♄. G. Native of the Cape of Good Hope.

Twining Crotalaria. Shrub decumbent.

135 C. AXILLA′RIS (Ait. hort. kew. ed. 2. vol. 3. p. 20.) leaflets oblong-lanceolate, acute, covered beneath with silky pili; pedicels axillary, twin, 1-flowered. ⊙. S. Native of Guinea. Willd. spec. 3. p. 984. Stipulas small, lanceolate-subulate. Flowers yellow. Legume pilose. In a specimen of this plant sent to M. De Candolle from the English gardens, the leaves were pubescent beneath, and the pedicels 2-4 together, not all twin.

Axillary Crotalaria. Fl. Ju. Jul. Clt. 1781. Pl. 1 to 2 ft.

136 C. TRIA′NTHA (Moc. et Sesse, fl. mex. ined. D. C. prod. 2. p. 135.) leaflets oblong, obtuse, somewhat emarginate, glabrous; peduncles 3-flowered, bearing bristles at the apex, longer than the leaves; legumes pendulous, oblong, cylindrical, sessile. ⊙. S. Native of Mexico. Flowers yellow, reddish on the outside.

Three-flowered Crotalaria. Fl. Ju. Jul. Clt. 1824. Pl. 1 to 2 ft.

* * * * *Leaves having 5 or 7 leaflets.*

137 C. QUINQUEFÒLIA (Lin. spec. 1006.) leaflets 5, narrow-lanceolate, obtuse, young ones silky-pubescent; racemes opposite the leaves, terminal; bracteas linear, at length reflexed; legume glabrous, apiculated by the style, on a short stipe. ⊙. S. Native of Malabar and Java.—Burm. fl. ind. 157. exclusive of the 3-leaved variety —Rheed. mal. 9. t. 28. Habit of a lupine.

Five-leaved Crotalaria. Fl. Ju. Jul. Clt. 1792. Pl. 1 to 2 ft.

† *Species not sufficiently known.*

138 C. PILÒSA (Mill. dict. no. 2.) leaves simple, lanceolate, pilose; petioles decurrent. Native of New Spain, at Vera Cruz.

Pilose Crotalaria. Clt. ? Pl. 1 to 2 feet.

139 C. FRUTICÒSA (Mill. dict. no. 4.) leaves simple, linear-lanceolate, hairy; petioles decurrent; stem fruticose. ♄. S. Native of Jamaica.

Shrubby Crotalaria. Fl. June, July. Clt. 1716. Tr. 28 ft.

140 C. ANGULA′TA (Mill. dict. no. 9.) leaves simple, ovate, sessile; branches angular, hairy; flowers lateral. ⊙. S. Native of Campechy.

Angular-stemmed Crotalaria. Fl. June, July. Clt. 1700. Pl. 2 to 3 feet.

141 C. STYRACIFÒLIA (Horn. hort. hafn. suppl. 151.) leaves simple, broad-ovate, nearly sessile, pubescent on both surfaces, hoary; stipulas subulate. ♄. S. Native of the Cape of Good Hope. Perhaps the same as *C. styracifòlia* of Desf. hort. par. Perhaps a species of *Podalýria.*

Styrax-leaved Crotalaria. Shrub 2 to 4 feet.

142 C. HEPTAPHY′LLA (Lour. coch. p. 433.) leaves imparipinnate, with 3 pairs of leaflets; leaflets ovate-oblong, rather tomentose; spikes elongated, axillary, and terminal, legume stipitate, turgid, villous. ♄. G. Native of Cochin-china. Flowers white. Stamens monadelphous. This plant ought certainly to be removed from the genus in consequence of its pinnate leaves.

Seven-leaved Crotalaria. Shrub 10 feet.

143 C. MACRO′STYLA (D. Don, prod. fl. nep. 242.) leaves trifoliate; leaflets obovate, retuse, coriaceous, mucronulate, clothed with silky villi beneath as well as the branches; racemes axillary; legume ovate, compressed, 1-seeded, very villous. ♄. S. Native of Shreenagur. In consequence of the stamens being diadelphous, and the style being very long and plumose, it recedes from the present genus.

Long-styled Crotalaria. Shrub 2 to 4 feet.

Cult. All the species of this genus are free flowerers, and several of them are very handsome when in bloom. All of them thrive well in any light rich soil, and young cuttings of the shrubby kinds root freely in a pot of sand, with a bell-glass placed over them; but this is generally unnecessary, as most of them ripen their seeds in abundance. The seeds of the annual kinds should be sown on a hot-bed in spring, and when the plants have attained the height of 2 or 3 inches, they may be placed separately in pots, and some may be planted out into the open border in summer, especially those natives of colder countries.

XLVIII. CLA'VULUM (diminutive of *clavus*, a club; form of legume). Desv. obs. legum. ex Schlecht. Linnæa. 2. p. 510.

Lin. syst. *Monadélphia, Decándria.* Calyx 5-cleft, somewhat bilabiate; teeth broad, acute; vexillum somewhat plicate. Keel large, short. Wings short. Stamens monadelphous, with the sheath cleft in front. Style long, acute. Ovary stalked. Legume oblong, inflated, many-seeded. Shrubs, with trifoliate leaves and racemes of flowers, which are either opposite the leaves or terminal.

1 C. MUCRONA'TUM (Desv. l. c.) leaflets ovate, mucronate, covered beneath with powdery pubescence; flowers sessile, spicate, terminal. ♄. S. Native of the Antilles. Crotalària mucronàta, Desv. journ. bot. 1814. vol. 1. p. 76. D. C. prod. 2. p. 132.

Mucronate-leaved Clavulum. Shrub.

2 C. PEDUNCULÒSA (Desv. l. c.) leaflets obovate, acute; flowers disposed in racemose spikes, which are opposite the leaves, and on very long peduncles. ♄. S. Native of the East Indies. Crotalària pedunculòsa, Desv. journ. bot. 1814. vol. 1. p. 76.

Stalked-racemed Clavulum. Shrub.

Cult. See shrubby stove species of *Crotalària* for culture and propagation.

XLIX. HYPOCALY'PTUS (ὑπο, *hypo*, under, and καλυπτω, *calypto*, to veil, meaning not evident). Thunb. prod. 124. D. C. prod. 2. p. 135.

Lin. syst. *Monadélphia, Decándria.* Calyx with 5 short lobes, thrust in at the base. Stamens monadelphous. Legume compressed, lanceolate.—A smooth shrub, with trifoliate leaves and purple flowers. All the species of *Hypocalýptus* of Thunberg have been discovered to be either species of *Podalýria* or *Virgilia*, except the present plant.

1 H. OBCORDA'TUS (Thunb. l. c.). ♄. G. Native of the Cape of Good Hope. Spártium sophoroìdes, Berg. cap. 198. Crotalària cordifòlia, Lin. mant. 266. The plant has the habit of a species of *Podalýria* or *Rǽfnia*. Leaflets obcordate, mucronate, complicated, longer than the petiole.

Obcordate-leafletted Hypocalyptus. Fl. Ju. July. Clt. 1823. Shrub 1 to 2 feet.

Cult. For culture and propagation see *Loddigèsia*.

L. VIBO'RGIA (in honour of Eric Viborg, an acute Danish botanist). Spreng. but not of Mœnch. Wibórgia, Thunb. fl. cap. p. 560. but not of Roth.

Lin. syst. *Monadélphia, Decándria.* Calyx campanulately-tubular, permanent, 5-toothed, with the recesses round. Vexillum obovate. Keel 2-edged, obtuse. Stamens monadelphous, with the sheath at length cleft in front. Style filiform, smooth, crowned by a simple terminal stigma. Legume stipitate, compressed, ovate, indehiscent, mucronate from the style, 1-seeded, subalate at the upper suture; valves rather ventricose, coriaceous, transversely nerved.—Cape shrubs, about 2 or 3 feet high, with trifoliate leaves, the leaflets rather longer than the petioles. Flowers yellow, disposed in racemes, with the pedicels reflexed. Stipulas wanting or very small. Perhaps all the three species are sufficiently distinct from each other.

1 V. OBCORDA'TA (Thunb. fl. cap. p. 560.) leaflets glabrous, oblong-cuneated, obtusely emarginate; racemes elongated; branches loose. ♄. G. Native of the Cape of Good Hope, in sandy places. Hedýsarum Capénse, Burm. cap. p. 22. Crotalària obcordàta, Berg. cap. 195. Crotalària floribúnda, Lodd. bot. cab. 509. Leaflets 2-3 lines long.

Obcordate-leafletted Viborgia. Fl. July, Aug. Clt. 1810. Shrub 2 to 3 feet.

2 V. FU'SCA (Thunb. l. c.) leaflets glabrous, ovate, mucronate; branches twiggy, erect. ♄. G. Native of the Cape of Good Hope.

Brown Viborgia. Shrub 2 to 3 feet.

3 V. SERÍCEA (Thunb. l. c.) leaflets clothed with silky pubescence, obovate, obtuse; branches twiggy. ♄. G. Native of the Cape of Good Hope. Leaves about a line long.

Silky Viborgia. Fl. July, Aug. Clt. 1810. Sh. 2 to 3 feet.

Cult. See *Loddigèsia* for culture and propagation.

LI. LODDIGE'SIA (in honour of Conrad Loddiges, nurseryman at Hackney, near London; died 1820). Sims, bot. mag. t. 956.

Lin. syst. *Monadélphia, Decándria.* Calyx somewhat inflated, acutely 5-toothed. Vexillum much smaller than the wings and keel. Stamens all connected. Ovary oblong, 2-4-ovulate, compressed.—A Cape shrub, with trifoliate leaves, and pinkish flowers.

1 L. OXALIDIFÒLIA (Sims, l. c.) ♄. G. Native of the Cape of Good Hope. Shrub much branched, smooth. Leaves stalked. Stipulas subulate. Leaflets obcordate, mucronate. Flowers 3-8, in an umbel. Keel dark-purple at the apex.

Oxalis-leaved Loddigesia. Fl. May, Sept. Clt. 1802. Shrub 1 to 3 feet.

Cult. *Loddigèsia* is an elegant plant when in flower. An equal mixture of sandy loam and peat suits it best, and young cuttings strike freely if planted in a pot of sand, with a bell-glass placed over them.

LII. DICHI'LUS (from δις, *dis*, twice, and χειλος, *cheilos*, a lip; in reference to the calyx being deeply two lipped).

Lin. syst. *Monadélphia, Decándria.* Calyx attenuated at the base, profoundly bilabiate, upper lip bidentate, lower one tridentate, the teeth all acute. Vexillum shorter than the obtuse keel. Wings nearly equal, longer than the calyx. Stamens monadelphous, with the sheath cleft above. Style filiform. Ovary linear, erect, 8-ovulate.—Smoothish Cape subshrubs, with terete branches, and with hardly any stipulas. Leaves ternate. Pedicels 1-flowered, bibracteate.

1 D. LEBECKIOÌDES (D. C. l. c. t. 35.) stem suffruticose, erect, smooth; leaves ternate, on short petioles, smooth; pedicels 1-flowered, bibracteolate. ♄. G. Native of the Cape of Good Hope.

Lebeckia-like Dichilus. Shrub 1 to 2 feet.

2 D. SERI'CEUM (Spreng. syst. tent. suppl. p. 20.) stem suffruticose, erect, silky; leaves ternate, stalked; leaflets obovate, smooth above, but with the margins fulvous and ciliated, and clothed with silky silvery-pubescence beneath; racemes stalked; legume linear-ensiform. ♄. G. Native of the Cape of Good Hope. Zeyher, no. 10.

Silky Dichilus. Shrub 1 to 2 feet.

3 D. CILIA'TUM (Spreng. l. c.) stem herbaceous, erect, smoothish; leaves ternate, on long stalks; leaflets ovate-rhomboid, rather oblique, ovate, acute, mucronate, smoothish above, ciliated with silky hairs, sparingly pilose beneath; peduncles axillary, leafy in the middle; racemes few-flowered. ♄. G. Native of the Cape of Good Hope. D. hypótrichum, Spreng. cur. post. p. 273. no. 2.

Ciliated-leaved Dichilus. Pl. 1 foot.

Cult. For culture and propagation see *Loddigèsia*.

LIII. LEBE'CKIA (from *Lebeck*, some obscure botanist).

Thunb. prod. 2. præf. fl. cap. 561. Willd. spec. 3. p. 946. D. C. prod. 2. p. 136.

Lin. syst. *Monadélphia, Decándria.* Calyx 5-cleft; lobes acute, nearly equal, with the recesses rounded. Stamens all connected, with the sheath cleft above. Legume cylindrical, many-seeded.—Shrubs or subshrubs, natives of the Cape of Good Hope, with simple or trifoliate leaves. Habit of *Genista.*

* *Leaves simple.*

1 L. subnu'da (D. C. prod. 2. p. 136.) leaves almost wanting, but at the tops of the branches they are few, linear, and deciduous, and are, as well as the branches, clothed with adpressed pubescence; flowers disposed in long racemes. ♄. G. Native of the Cape of Good Hope. Petals stipitate, with the stipes a little longer than the calyx. Perhaps the same as *L. aphýlla,* Thunb. prod. 122. but omitted in his Flora Capensis.

Nearly-naked Lebeckia. Fl. April, May. Clt. 1824. Shrub 1 to 2 feet.

2 L. contamina'ta (D. C. prod. 2. p. 136.) leaves linear-filiform, scattered, glabrous; racemes axillary, pedunculated, and elongated. ♄. G. Native of the Cape of Good Hope, in sandy places. Spártium contaminàtum, Lin. mant. 268. The bases of the leaflets are spotted with purple. Flowers yellow. Perhaps L. contaminàta of Thunb. fl. cap. 561. Flowers said to be umbellate by Thunberg; it is therefore perhaps a distinct species from the plant of Linnæus.

Contaminated Lebeckia. Fl. April, May. Clt. 1787. Shrub 2 to 6 feet.

3 L. sepia'ria (Thunb. l. c.) leaves filiform, rather crowded, glabrous; racemes subterminal, pedunculated, elongated, crowded. ♄. G. Native of the Cape of Good Hope.—Pluk. alm. t. 424. f. 1. Spártium sepiàrium, Lin. spec. 995. Genísta sepiària, Lam. Spártium pinastrifòlium, Burm. cap. p. 21.

Hedge Lebeckia. Fl. Ap. May. Clt. 1820. Sh. 3 to 6 feet.

4 L.? linea'ris (D. C. prod. 2. p. 137.) leaves in fascicles, linear-subulate, acute, glabrous, straight; flowers tern, somewhat pedicellate at the tops of the branches. ♄. G. Native of the Cape of Good Hope. Psoràlea lineàris, Burm. cap. 22.

Linear-leaved Lebeckia. Fl. April, May. Sh. 2 to 4 feet.

5 L. pu'ngens (Thunb. l. c.) leaves obovate; branches and branchlets spinescent, tomentose; flowers solitary. ♄. G. Native of the Cape of Good Hope. Erect, clothed with fine tomentum, the branches terete. Legume oblong, falcate, tomentose.

Pungent Lebeckia. Shrub 2 to 4 feet.

* * *Leaves trifoliate.*

6 L. subterna'ta (Link. enum. 2. p. 225.) leaves 1-2 or trifoliate, sessile, lanceolate, acute, scabrous. ♄. G. Native of the Cape of Good Hope. Pedicels axillary, shorter than the leaves. Flowers yellow. Vexillum longer than the wings, and acute keel.

Subternate-leaved Lebeckia. Fl. June, July. Clt. 1824. Shrub 2 to 4 feet.

7 L. arma'ta (Thunb. fl. cap. 561.) leaves trifoliate, stalked, glabrous; leaflets oblong; branches numerous, rather spinescent, terete, grey; flowers racemose. ♄. G. Native of the Cape of Good Hope. L. scórpius, Thunb. prod. 122. in fl. cap. omitted. Stem very much branched.

Armed Lebeckia. Shrub 2 to 4 feet.

8 L. de'nsa (Thunb. fl. cap. 562.) leaves trifoliate, clothed with adpressed silky-canescent down; leaflets oblong-linear, complicated; racemes few-flowered, on long peduncles, somewhat spicate; flowers erect, silky. ♄. G. Native of the Cape of Good Hope. Burch. cat. no. 2603. Leaflets 12-15 lines long, and 1 to 3 broad. Petioles, branches, and pedicels clothed with adpressed pubescence.

Dense Lebeckia. Shrub 2 to 4 feet.

9 L. hu'milis (Thunb. fl. cap. 562.) leaves trifoliate, pubescently-villous; leaflets linear-oblong; flowers racemose, reflexed; branches incurved. ♄. G. Native of the Cape of Good Hope. Stem glabrous, hardly an inch in height.

Humble Lebeckia. Shrub ½ foot.

10 L. seri'cea (Thunb. fl. cap. 562.) leaves trifoliate, silky; leaflets linear-oblong, flat; racemes few-flowered, short; flowers erect; corolla glabrous. ♄. G. Native of the Cape of Good Hope. Spártium serìceum, Ait. hort. kew. 3. p. 12. Cýtisus serìceus, Lam. dict.

Silky Lebeckia. Fl. April. Clt. 1774. Shrub 1 to 3 feet.

11 L. cytisoìdes (Thunb. l. c.) leaves trifoliate, clothed with adpressed pubescence; leaflets linear-oblong; racemes elongated; flowers erect, smoothish. ♄. G. Native of the Cape of Good Hope.—Comm. hort. amst. 2. p. 107. Spártium cytisoìdes, Lin. fil. suppl. 320. E'benus Capénsis, Lin. mant. 264. Cýtisus Capénsis, Lam. Flowers large, yellow, resembling those of a species of *Crotalària.*

Cytisus-like Lebeckia. Fl. April. Clt. 1774. Sh. 2 to 4 ft.

Cult. For culture and propagation see *Loddigèsia,* p. 142.

LIV. SARCOPHY'LLUM (from σαρξ σαρκος, *sarx sarcos,* flesh, and φυλλον, *phyllon,* a leaf; leaves fleshy). Thunb. prod. part. 2. D. C. prod. 2. p. 137.—Sarcophýllus, Thunb. fl. cap. 2. p. 573.

Lin. syst. *Monadélphia, Decándria.* Calyx campanulate, 5-parted, regular, 2 superior teeth divaricate. Carina obtuse. Stamens monadelphous. Legume compressed, elongated, falcate, many-seeded, acuminated by the style.—A smooth Cape shrub, with the appearance of *Lebéckia sepiària.*

1 S. carnòsum (Thunb. l. c.) ♄. G. Native of the Cape of Good Hope, on the mountains near False Bay. Sims, bot. mag. 2502. Leaves fleshy, filiform, articulated above the middle, disposed in fascicles. Flowers yellow, pedicellate, lateral.

Fleshy-leaved Sarcophyllum. Fl. May, Aug. Clt. 1812. Sh. 2 to 4 feet.

Cult. This plant being of a rather succulent nature care must be taken not to over water it. A mixture of loam and peat is the best soil for it, and young cuttings root readily in a pot of sand under a bell-glass.

LV. ASPALATHUS (said to be derived from α privative and σπαω, *spao,* to extract; in reference to the thorns). Lin. gen. no. 860. Lam. ill. t. 620. Thunb. fl. cap. 573. D. C. prod. 2. p. 137. Aspálathus and Erióeylax, Neck.

Lin. syst. *Monadélphia, Decándria.* Calyx with the tube hardly attenuated at the base, 5-toothed or 5-cleft, with the lobes about equal. Vexillum on a short stipe. Carina 2-edged. Stamens monadelphous, having the sheath cleft above. Legume oblong, usually oblique, few-seeded.—Shrubs or subshrubs, all natives of the Cape of Good Hope, with the exception of one. Leaves at first sight in fascicles, but are compounded of 3-5 leaflets, disposed palmately, rarely pinnately, having scarcely any or very short petioles, therefore the leaflets are sessile. Flowers furnished each with 3 bracteoles, or a leaf composed of 3 leaflets. The species are mostly known from the descriptions of Thunberg. Flowers usually yellow.

§ 1. *Flowers almost sessile.*

* *Leaves in fascicles.*

1 A. spinòsa (Lin. spec. 1000.) leaves in fascicles, linear, glabrous; branches axillary, spiny; flowers axillary, solitary, glabrous. ♄. G. Breyn. cent. t. 26. Lam. ill. t. 620. f. 3.

Thunb. fl. cap. 584. Calyx 5-toothed. Carina longer than the wings and keel. Legume pubescent, rather oblique.

Spiny Aspalathus. Fl. July, Aug. Clt. 1824. Sh. 1 to 2 ft.

2 A. ACULEA'TA (Thunb. fl. cap. 584.) leaves in fascicles, linear, hairy; flowers capitate; buds prickly. ♄. G. A villous shrub, with very short branches. Prickles yellowish under the fascicles of leaves. Flowers yellow, hairy.

Prickly Aspalathus. Shrub 2 to 3 feet.

3 A. ACUMINA'TA (Lam. dict. 1. p. 287. ill. 620. f. 4. but not of Thunb.) leaves in fascicles, very short, lanceolate, ending in a pungent acumen, rather puberulous; branchlets spinescent; flowers axillary, solitary. ♄. G.—Pluk. alm. t. 297. f. 6. Teeth of calyx spiny. Petals silky on the outside. Keel and vexillum about equal in length, but longer than the wings.

Acuminated-leaved Aspalathus. Shrub 1 foot.

4 A. SPINE'SCENS (Thunb. fl. cap. 584.) leaves in fascicles, filiform, rather fleshy; flowers lateral, solitary, glabrous; branches spinescent. ♄. G. Calyx acutely 5-cleft. Corolla 4 lines long. Petals equal among themselves. Ovary glabrous.

Spinescent Aspalathus. Shrub 2 to 4 feet.

5 A. LARICIFÒLIA (Lam. dict. 1. p. 287. but not of Thunb.) leaves in fascicles, filiform-subulate, glabrous; branches and stipulas spinescent; flowers lateral, solitary, silky-pubescent. ♄. G. A. pùngens, Thunb. prod. 129. Leaves length of those of *Pinus làrix*. Calyx pubescent, acutely 5-cleft. Wings falcate. Carina very much curved. Legume clothed with short villi.

Larch-leaved Aspalathus. Shrub 2 to 4 feet.

6 A. VERRUCÒSA (Lin. syst. veg. 537. Thunb. fl. cap. 583.) leaves in fascicles, filiform, mucronate, incurved, fleshy, glabrous; flowers lateral; buds warted. ♄. G. Calyx pubescent, acutely 5-cleft. Vexillum pilose. Legume villous, ovate-lanceolate, acuminated.

Warted Aspalathus. Shrub 2 to 3 feet.

7 A. CAPITA'TA (Lin. amœn. 6. p. 92.) leaves in fascicles, subulate, acute, much crowded, rather pilose; branches hairy; flowers capitate, terminal, glabrous. ♄. G.—Pluk t. 397. f. 6. Lam. ill. 620. f. 2. A. glomeràta, Lin. fil. suppl. 321. Bracteoles 3, deciduous, the middle one concave and largest. Calyx villous, 5-cleft, with the lobes broad and acute.

Capitate-flowered Aspalathus. Fl. July, Aug. Clt. 1823. Shrub 2 to 4 feet.

8 A. ASTROÌTES (Lin. spec. 1000.) leaves in fascicles, subulate, pungent, stiffly divaricate, glabrous; branchlets hairy; flowers lateral and terminal, somewhat capitate, smoothish. ♄. G.—Pluk. alm. t. 413. f. 2.—Seb. thes. t. 24. f. 6. Bracteoles spinescent. Calyx 5-cleft, the lobes subulate and spiny. Ovary glabrous.

Starry Aspalathus. Fl. July, Aug. Clt. 1818. Sh. 2 to 4 ft.

9 A. CHENÓPODA (Lin. spec. 1000.) leaves in fascicles, subulate, trigonal, ending in a pungent mucrone, stiff, pilose; flowers capitate, and are, as well as the branches, hairy. ♄. G.—Breyn. cent. t. 11.—Seb. thes. 1. t. 24. f. 4. Sims, bot. mag. 2225. Lodd. bot. cab. t. 316. Bracteoles subulate, villous. Calyx 5-ribbed, cleft into 5 beyond the middle; the lobes subulate and villous. Wings straight, rather adnate to the keel. Legume terete, with short pili at the apex. Style long, permanent.

Goose-foot Aspalathus. Fl. July, Aug. Clt. 1759. Shrub 2 to 4 feet.

10 A. A'LBENS (Thunb. fl. cap. 576.) leaves in fascicles, filiform, mutic, silvery from adpressed silky down; racemes leafy. ♄. G. Corolla glabrous, according to Thunberg, but in the specimen examined by M. De Candolle it is obviously tomentose. Calyx hoary from silky down. Flowers white.

White-leaved Aspalathus. Fl. July, Aug. Clt. 1774. Sh. 3 to 4 feet.

11 A. ARGYRÆ'A (D. C. prod. 2. p. 139.) leaves in fascicles, filiform, awnless, silky from adpressed down; flowers axillary, subterminal, solitary; calyx 5-toothed, and is, as well as the corolla, clothed with silky pubescence. ♄. G. Perhaps the same as *A. Albens*, Lin. mant. 261.

Silvery Aspalathus. Shrub 2 to 4 feet.

12 A. ARMA'TA (Thunb. fl. cap. 577.) leaves in fascicles, filiform, silvery, mucronate; racemes leafless; corolla tomentose. ♄. G. Flowers white. Branches silky. Racemes terminal.

Armed Aspalathus. Shrub 2 to 4 feet.

13 A. HY'STRIX (Lin. fil. suppl. 322. Thunb. fl. cap. 577.) leaves in fascicles, filiform, silky, mucronate, stiff; flowers lateral, solitary; corolla villous. ♄. G. Lam. dict. 1. p. 287. ill. t. 620. f. 1.

Porcupine Aspalathus. Fl. July, Aug. Clt. 1824. Shrub 2 to 4 feet.

14 A. SPICA'TA (Thunb. fl. cap. 578.) leaves in fascicles, subulate, rather pilose; flowers disposed in ovate, terminal spikes; calyx hairy, with the lobes acuminated. ♄. G.

Spike-flowered Aspalathus. Shrub 2 to 4 feet.

15 A. MICROCA'RPA (D. C. prod. 2. p. 139.) leaves in fascicles, subulate, pilose; flowers axillary, solitary; legume ovate, pubescent, a little longer than the calyx. ♄. G. Burch. cat. no. 265 and 284. Branches rather hairy. Calyxes rather villous, 5-cleft, with the lobes awl-shaped. Corolla small. Wings oblong, shorter than the smooth keel and silky vexillum. Legume 1-2-seeded. Leaves 1-2 lines long.—Pluk. alm. t. 413. f. 3. ?

Small-fruited Aspalathus. Shrub 2 to 4 feet.

16 A. THYMIFÒLIA (Lin. spec. 1000.) leaves in fascicles, filiformly-subulate, pilose; flowers lateral, pubescent, solitary; branches incurved, hairy. ♄. G.—Pluk. alm. t. 413. f. 1. Bracteoles villous. Calyx villous, 5-cleft, with the tube striated, and the lobes subulate. Corolla small, the wings very small, and oblong.

Thyme-leaved Aspalathus. Fl. July, Aug. Clt. 1825. Sh. 2 to 4 feet.

17 A. ERICÆFÒLIA (Lin. spec. 1000.) leaves in fascicles, filiform, rather obtuse, covered with soft hairs; flowers alternate, disposed in something like racemes; segments of the calyx linear, about the length of the corolla. ♄. G.—Pluk. alm. t. 413. f. 6. A. móllis, Lam. dict. 1. p. 290. Corolla with oblong smooth wings, equal in length to the keel, which is villous, as well as the vexillum. A. ericæfòlia, Berg. cap. 205. differs in segments of the calyx being obtuse.

Heath-leaved Aspalathus. Fl. July, Aug. Clt. 1789. Sh. 2 to 4 feet.

18 A. FRANKENIOÌDES (D. C. prod. 2. p. 139.) leaves in fascicles, terete, pubescently-hairy; branches canescent and velvety; flowers terminal and axillary, usually solitary, silky. ♄. G. Burch. cat. no. 3473. Calyx 5-toothed, 3 times shorter than the corolla. Leaves hardly more than a line long.

Frankenia-like Aspalathus. Shrub.

19 A. HI'SPIDA (Thunb. fl. cap. 579.) leaves in fascicles, filiform, obtuse, hispid from pili; flowers axillary; segments of the calyx shorter than the flower. ♄. G. A shrub, clothed with grey tomentum. Flowers sessile. Legume ovate, villous.

Hispid Aspalathus. Fl. July, Aug. Clt. 1818. Sh. 2 to 4 ft.

20 A. FLEXUÒSA (Thunb. fl. cap. 579.) leaves in fascicles, filiform, obtuse, hispid from pili; flowers axillary; segments of the calyx longer than the flower. ♄. G.

Flexuous Aspalathus. Shrub 2 to 3 feet.

21 A. PARVIFLÒRA (Thunb. fl. cap. 579. but not of Berg.) leaves in fascicles, filiform, obtuse, pubescent; flowers terminal, tern. ♄. G. Shrub pubescent. Corolla with the helmet tomentose.

Small-flowered Aspalathus. Shrub 2 to 4 feet.

22 A. INCOMPTA (Thunb. fl. cap. 579.) leaves in fascicles, filiform, obtuse, silky; flowers lateral. ♄. G. Branches retroflexed, clothed with very fine pubescence. Leaves [illegible] half long. Flowers yellow; the vexillum hairy.

Unsightly Aspalathus. Shrub 2 to 4 feet.

23 A. ASPARAGOIDES (Lin. [illegible] suppl. 321. Thunb. fl. cap. 579.) leaves in fascicles, subulate, [illegible], mucronate, rather pilose; flowers axillary; calycine segments subulate, rather pilose, about equal in length to the corolla. ♄. G. Vexillum and keel densely clothed with silky-velvety down, but with the wings glabrous. Hairs on the calyx tuberculate at the base.

Asparagus-like Aspalathus. Fl. July, Aug. Clt. 1812. Sh. 2 to 4 feet.

24 A. CORRUDÆFÒLIA (Berg. cap. 207.) leaves in fascicles, filiform, mucronately-pungent, smoothish, stiff; branches pubescent; flowers axillary, solitary; bracteas and calycine segments ending in a spiny mucrone. ♄. G. Burch. cat. no. 3320. Calyxes and legumes villous. Vexillum and keel rather puberulous.

Wild-Asparagus-leaved Aspalathus. Shrub 2 to 4 feet.

25 A. INCU'RVA (Thunb. fl. cap. 578.) leaves in fascicles, subulate, mucronulate, rather pilose; flowers axillary, solitary; legume ovate-lanceolate, rather oblique, very hairy. ♄. G. Leaves sometimes almost smooth, 4 lines long. Legume 5 lines long, rather turgid. Calyx villous, with the teeth subulate.

Incurved-leaved Aspalathus. Shrub 2 to 4 feet.

26 A. NÌGRA (Lin. mant. 262.) leaves in fascicles, filiform, glabrous; branches pubescent; flowers capitate, at length disposed in an ovate spike; calyx and corolla villous. ♄. G. Flowers yellow. Leaves bluntish.

Black Aspalathus. Shrub 2 to 4 feet.

27 A. MULTIFLÒRA (Thunb. fl. cap. 580.) leaves in fascicles, terete, obtuse, glabrous; flowers disposed in something like spikes; calyxes bractless; branches, calyx, and corolla pubescent. ♄. G. Leaves hardly a line in length. A. multiflòra, Sieb. exsic. cap. no. 49. is very different.

Many-flowered Aspalathus. Fl. July, Aug. Clt. 1818. Shrub 2 to 4 feet.

28 A. CYMBÆFÓRMIS (D. C. prod. 2. p. 140.) leaves in fascicles, terete, pubescently hairy; flowers terminal and axillary, usually solitary; segments of the calyx ovate, boat-shaped, obtuse. ♄. G. A. uniflòra, Lam. dict. 1. p. 285. but not of Lin. Corolla clothed with silky villi.

Var. α, *hírta* (D. C. prod. 2. p. 140.) leaves hairy, much crowded; flowers smaller.

Var. β, *pubéscens* (D. C. l. c.) leaves pubescent, rather distant; flowers larger.

Boat-shaped-sepalled Aspalathus. Shrub 2 to 4 feet.

29 A. UNIFLÒRA (Lin. spec. 1001. but not of Lam. ex mus. hort. par.) leaves in fascicles, filiform, mucronate, glabrous; flowers lateral, solitary; calycine segments ovate, boat-shaped, obtuse. ♄. G.—Pluk. mant. 88. t. 413. f. 7. ex Lin. Stipulas permanent, according to Lin. Keel of corolla tomentose.

One-flowered Aspalathus. Fl. July, Aug. Clt. 1812. Shrub 2 to 3 feet.

30 A. CARNÒSA (Lin. mant. 261.) leaves in fascicles, fleshy, terete, obtuse, glabrous; flowers terminal, in fours, capitate, bracteate; calycine segments ovate, obtuse. ♄. G. Berg. cap. 206. Sims, bot. mag. 1289. Flowers very smooth, yellow. This species is allied to the two preceding in the calycine segments being obtuse.

Fleshy Aspalathus. Fl. May, June. Clt. 1795. Shrub 2 to 4 feet.

31 A. PÍNGUIS (Thunb. fl. cap. 580.) leaves in fascicles, fleshy, ovate, trigonal, obtuse, glabrous; flowers lateral, glabrous. ♄. G. Branches tomentose. Leaves hardly 1 line long. Flowers yellow.

Fat Aspalathus. Shrub 2 to 4 feet.

32 A. CRASSIFÒLIA (Andr. bot. rep. 351.) leaves in fascicles, fleshy, terete, glabrous, setaceous at the apex; flowers capitate, terminal; calyx bracteate. ♄. G. Ait. hort. kew. ed. 2. vol. 4. p. 263. Flowers yellow.

Thick-leaved Aspalathus. Fl. July, Aug. Clt. 1800. Shrub 2 to 4 feet.

33 A. AFFÌNIS (Thunb. fl. cap. 580.) leaves in fascicles, fleshy, terete, glabrous; flowers lateral, bractless; branches twiggy. ♄. G. Flowers yellow. Legume ovate, glabrous.

Allied Aspalathus. Fl. June, July. Clt. 1822. Sh. 2 to 4 ft.

34 A. SANGUÍNEA (Thunb. fl. cap. 580.) leaves in fascicles, fleshy, terete, glabrous; flowers lateral, bractless; branches fastigiate. ♄. G. Flowers blood-coloured, smooth, on very short pedicels. Leaves one line long.

Blood-coloured-flowered Aspalathus. Shrub 2 to 4 feet.

35 A. LA'CTEA (Thunb. fl. cap. 580.) leaves in fascicles, filiform, glabrous, retuse; flowers lateral, bractless. ♄. G. A pubescent shrub, with spreading leaves, and whitish-yellow, smooth flowers.

Milk-coloured-flowered Aspalathus. Shrub 2 to 4 feet.

36 A. GENISTOÌDES (Lin. mant. 261.) leaves in fascicles, filiform, glabrous; flowers terminal, subracemose, glabrous; calycine teeth short. ♄. G. Flowers yellow. Leaves half an inch long. Calyx and corolla pubescent. Thunb. fl. cap. 581.

Genista-like Aspalathus. Shrub 9 feet.

37 A. SQUARRÒSA (Thunb. prod. 128.) leaves in fascicles, filiform, reflexed, glabrous; flowers solitary, terminal. ♄. G. A. squamòsa, Thunb. fl. cap. 581. Flowers yellow. Bracteas 3, under the calyx filiform. Calyx and the vexillum pubescent.

Squarrose Aspalathus. Fl. Jul. Aug. Clt. 1823. Sh. 2 to 4 ft.

38 A. GALIOÌDES (Berg. cap. 210.) leaves in fascicles, subulate, unarmed, glabrous; flowers twin, terminal, smooth; stem procumbent. ♄. G. ♃. Berg. Buds remote. Calyx smooth. Legume ovate-lanceolate, smoothish.

Galium-like Aspalathus. Fl. July, Aug. Clt. 1817. Shrub procumbent.

39 A. RETROFLE'XA (Lin. spec. 1001.) leaves in fascicles, subulate, glabrous; branchlets filiform, retroflexed, or much spreading; flowers terminal, usually solitary. ♄. G. Calyx pubescent, 5-cleft; lobes subulate. Corolla glabrous; petals about equal. Legume 1-2-seeded, obliquely lanceolate, young ones rather villous, at length pubescent.

Retroflexed Aspalathus. Shrub 2 to 4 feet.

40 A. VU'LNERANS (Thunb. fl. cap. 582.) leaves in fascicles, filiform, mucronate, spreading, glabrous; flowers lateral, drooping. ♄. G. Corolla yellow, smooth. Branches and calyxes pubescent.

Healing Aspalathus. Shrub 2 to 4 feet.

41 A. PÍNEA (Thunb. l. c.) leaves in fascicles, filiform, mucronate, erect, glabrous; flowers lateral, tufted. ♄. G. Shrub smooth. Calyx and vexillum hairy.

Pine-like Aspalathus. Shrub 2 to 4 feet.

42 A. DIVARICA'TA (Thunb. l. c.) leaves in fascicles, terete, acutely mucronate, glabrous; flowers in terminal racemes. ♄. G. Branches brown, divaricate. Branchlets pubescent. Flowers yellow, pubescent.

Divaricate Aspalathus. Shrub 2 to 4 feet.

43 A. SUBULA'TA (Thunb. l. c.) leaves in fascicles, rather fleshy, trigonal, mucronate, glabrous. ♄. G. Shrub branched above; branches tomentose. Flowers terminal, sessile, usually tern, glabrous, yellow. Calyx pubescent.

Subulate-leaved Aspalathus. Fl. July, Aug. Clt. 1789. Sh. 1 to 2 feet.

44 A. lari'cina (D.C. prod. 2. p. 141.) leaves in fascicles, terete, mucronate, glabrous; flowers lateral, woolly. ♄. G. A. laricifòlia; Thunb. l. c. but not of Lam.—A pubescent shrub, with spreading leaves and yellow flowers.

Larch-leaved Aspalathus. Fl. July, Aug. Clt. 1823. Shrub 2 to 3 feet.

45 A. globo'sa (Andr. bot. rep. 510.) leaves in fascicles, linear, tomentose; flowers in terminal heads, villous; branches long, slender. ♄. G. Flowers fuscous.

Globose-flowered Aspalathus. Fl. June, July. Clt. 1801. Shrub 2 to 4 feet.

46 A. junipe'rina (Thunb. l. c.) leaves in fascicles, terete, mucronate, glabrous; flowers terminal, glabrous. ♄. G. Branches pubescent. Flowers solitary or twin.

Juniper-like Aspalathus. Shrub 2 to 4 feet.

47 A. abietìna (Thunb. l. c.) leaves in fascicles, filiform, and are as well as the calyxes ending in spiny mucrones, glabrous; flowers lateral and terminal, solitary, glabrous; branches striated. ♄. G. Flowers yellow. Segments of the calyx long, awl-shaped, pungent, about equal in length to the corolla.

Fir-like Aspalathus. Shrub 2 to 4 feet.

48 A. trigo'na (Thunb. l. c.) leaves in fascicles, trigonal, mucronate, glabrous; flowers lateral. ♄. G. Branches pubescent. Flowers solitary, small, glabrous.

Trigonal Aspalathus. Shrub 2 to 4 feet.

49 A. àraneo'sa (Lin. spec. 1001.) leaves in fascicles, filiform, acute, loose, hispid from spreading hairs; flowers capitate; calycine segments subulate, hispid from pili, about equal in length to the corolla, which is silky. ♄. G.—Pluk. alm. t. 414. f. 4.—Seb. thes. 1. t. 23. f. 6. Flowers yellow, but white according to Sims, in bot. mag. 829. and yellow when dry. A. pilòsa, Sieb. pl. exsic. cap. no. 48. Anthýllis quinqueflòra, Lin. fil. suppl. 325. ex herb. Burm. Stamens truly monadelphous, with the sheath cleft above.

Cobwebbed Aspalathus. Fl. Ju. Jul. Clt. 1795. Sh. 2 to 4 ft.

50 A. comòsa (Thunb. fl. cap. 577.) leaves in fascicles, filiform, pilose; flowers lateral, tufted. ♄. G. Corolla yellow, with the vexillum tomentose outside. Branches villous.

Tufted Aspalathus. Shrub 2 to 4 feet.

51 A. cephalòtes (Thunb. l. c.) leaves in fascicles, filiform, bluntish, rather villous; heads terminal, hairy. ♄. G. Calycine segments linear-subulate, hairy. Flowers larger than in any other species of the genus; the vexillum is oval and nearly an inch long, silky on the outside. Branches hairy. Leaves 2-3 lines long.

Headed Aspalathus. Shrub 2 to 4 feet.

52 A. tri'quetra (Thunb. fl. cap. 578.) leaves in fascicles, trigonal, obtuse, pilose, wrinkled; heads terminal. ♄. G. Branches rather umbellate. Corolla yellow, glabrous. Leaves hardly a line long.

Triquetrous Aspalathus. Shrub 2 to 4 feet.

53 A. cane'scens (Lin. mant. 262.) leaves in fascicles, clothed with silky tomentum, subulate, mucronulate; flowers lateral, pubescent. ♄. G. Tube of calyx ventricose, rather hairy, acutely 5-toothed. Petals equal in length. Vexillum clothed with silky tomentum outside. Ovary villous.

Canescent Aspalathus. Shrub 2 to 4 feet.

54 A. vermicula'ta (Lam. dict. 1. p. 288.) leaves in fascicles, small, obtuse, glabrous; flowers lateral, racemose, rather hairy. ♄. G. Leaves hardly half a line in length.

Vermiculate-leaved Aspalathus. Shrub 2 to 4 feet.

55 A. ru'bens (Thunb. fl. cap. 576.) leaves in fascicles, subulate, silky; flowers solitary, silky. ♄. G. Branches reddish-brown; branchlets silky, spreading much. Leaves hardly half a line long.

Reddish-branched Aspalathus. Shrub 2 to 4 feet.

56 A. cilia'ris (Lin. mant. 262.) leaves in fascicles or trifoliate, trigonal, acute, ciliated; heads terminal; calyx equal in length to the corolla. ♄. G. Sims, bot. mag. 2233. Flowers yellow. Corolla tomentose. This and the five following species are perhaps more correctly referable to the following division, with the trifoliate leaves.

Ciliary-leaved Aspalathus. Fl. July, Aug. Clt. 1799. Sh. 2 to 3 feet.

57 A. quinquefòlia (Lin. mant. 6. p. 92.) leaves in fascicles, trifoliate, linear-oblong, flat, rather hairy; heads of flowers hairy; corolla glabrous. ♄. G.—Pluk. alm. t. 278. f. 4. ex Thunb. fl. cap. 575. The heads of flowers in D. C. specimen are large and round.

Five-leaved Aspalathus. Fl. Jul. Aug. Clt. 1816. Sh. 2 to 3 ft.

58 A. ca'ndicans (Ait. hort. kew. ed. 2. vol. 4. p. 264.) leaves in fascicles, trifoliate, filiform, silky; flowers sub-lateral, with the vexillum naked. ♄. G.

Whitened Aspalathus. Fl. Ju. Jul. Clt. 1774. Sh. 2 to 4 ft.

59 A. heterophy'lla (Lin. fil. suppl. 321. Thunb. fl. cap. 575.) leaves in fascicles or trifoliate, linear, pilose; flowers spicate; calyx and corolla villous. ♄. G. Leaves of branches in fascicles, of branchlets trifoliate. Vexillum tomentose on the back. Flowers yellow. Leaves and calycine segments acuminated, rather spinose.

Variable-leaved Aspalathus. Shrub 2 to 4 feet.

60 A. arge'ntea (Lin. spec. 1001.) leaves in fascicles, trifoliate, ovate, clothed on both surfaces with appressed silky pubescence; heads of flowers tomentose; stem dichotomous. ♄. G. A. serícea, Berg. cap. 212. Flowers in spicate heads. Calyx and corolla clothed with rufous, velvety, soft down.

Silvery Aspalathus. Fl. Jul. Aug. Clt. 1759. Sh. 2 feet.

* * *Leaves trifoliate, hardly in fascicles.*

61 A. virga'ta (Thunb. fl. cap. 576.) leaves in fascicles, and trifoliate, ovate, silky; heads of flowers hairy; stem twiggy. ♄. G. Branches tomentose. Spikes elongated, hairy, ex. Thunb.

Twiggy Aspalathus. Shrub 2 to 4 feet.

62 A. tridenta'ta (Thunb. l. c.) leaves trifoliate, lanceolate, villous; prickles trifid. ♄. G. Leaves glabrous. Flowers capitate, ex Lin. spec. 1002. Heads terminal, globose, hairy, ex Thunb. l. c.

Tridentate-spined Aspalathus. Shrub 2 to 4 feet.

63 A. lotoìdes (Thunb. fl. cap. 575.) leaves trifoliate, lanceolate, acute, villous; buds unarmed; heads terminal; branchlets and calyxes hairy; keel and vexillum silky. ♄. G. Lobes of calyx acuminated. Petals about equal in length. Flowers yellow. Crotalària lunàris, Burm. cap. prod. 21.?

Lotus-like Aspalathus. Shrub 1 to 2 feet.

64 A. pilòsa (Lin. mant. 263.) leaves trifoliate, linear, clothed with adpressed silky villi; heads terminal, stalked, very pilose; petals all pubescent. ♄. G. A. villòsa, Thunb. prod. 125. fl. cap. 574. Branches with a few leaves at the apex.

Pilose Aspalathus. Shrub 2 to 4 feet.

65 A. serícea (Thunb. prod. 125. fl. 574. but not of Berg.) leaves trifoliate, oblong, acute, silky; racemes oblong, terminal; flowers silky-hairy. ♄. G. Perhaps the species in Lin. fil. suppl. 321. is the same as that of Thunb.

Silky Aspalathus. Fl. July, Aug. Clt. 1816. Sh. 2 to 4 ft.

66 A. cine'rea (Thunb. prod. 125. fl. 575.) leaves trifoliate, oblong, flat, acute, tomentose; heads terminal. ♄. G. Calyx and corolla hairy on the outside.

Grey Aspalathus. Shrub 2 to 4 feet.

67 A. linearifòlia (D. C. prod. 2. p. 142.) leaves trifoliate, sessile, ending in callous mucrones, equal, covered with very fine pubescence; heads terminal; bracteas ovate-lanceolate, and

are as well as the branches hairy. ♄. G. A'ster linearifòlius, Burm. cap. 27. Anthy̆llis linifòlia, Lin. mant. 265. Heads of flowers similar to the anthodium of an *A'ster*.

Linear-leaved Aspalathus. Shrub 2 to 4 feet.

68 A. ANTHYLLOÌDES (Lin. spec. 1002.) leaves trifoliate, ovate, rather pubescent; heads terminal. ♄. G. Anthy̆llis aspalathoìdes, Lin. amœn. 4. p. 326. A. anthylloìdes, Thunb. fl. cap. 574. according to which the flowers are globose. Corolla yellow, with the vexillum rather pubescent.

Anthyllis-like Aspalathus. Shrub 2 to 4 feet.

69 A. LAXA'TA (Lin. mant. 263.) leaves trifoliate, linear, villous; flowers terminal, 5 in a fascicle; calyxes woolly; stems prostrate, terete. ♄. G. Corolla smooth, yellow. Bracteoles wanting.

Lax Aspalathus. Shrub decumbent.

70 A. AGARDHIA'NA (D. C. prod. 2. p. 143.) leaves trifoliate, linear-subulate, acute, clothed with adpressed silky down; branches pubescent; racemules terminal, few-flowered; calyx and corolla villous. ♄. G. Calyx not attenuated at the base, but obtuse, and with 5 short teeth. Corolla a little longer than the calyx.

Agardh's Aspalathus. Shrub 2 to 4 feet.

71 A. CALLÒSA (Lin. spec. 1002.) leaves trifoliate, subulate, erect, equal, glabrous, with the cicatrices round and callous; spikes ovate, terminal; flowers glabrous. ♄. G. Sims, bot. mag. 2329.—Pluk. alm. t. 345. f. 4. Flowers yellow. Bracteoles 3, subulate.

Callous Aspalathus. Fl. July, Aug. Clt. 1[illegible]2. Sh. 2 to 4 ft.

72 A. AMBÍGUA (D. C. prod. 2. p. 143.) leaves trifoliate, ovate, obtuse; branches and branchlets spinescent. ♄. G. A. acuminàta. Thunb. fl. cap. 578. but not of Lam. A smooth shrub. Leaflets 3, concave, rising from the nodi.

Ambiguous Aspalathus. Shrub 2 to 4 feet.

73 A. RUGÒSA (Thunb. prod. 125. fl. cap. 574.) leaves trifoliate, elliptic, rugose, glabrous; umbels terminal. ♄. G. Flowers whitish. Calyx and corolla clothed with grey pubescence.

Wrinkled-leaved Aspalathus. Shrub 2 to 4 feet.

74 A. FU'SCA (Thunb. l. c.) leaves trifoliate, lanceolate, acute, spreading, crowded, and are as well as the branches glabrous; flowers terminal; calycine segments subulate, rather spiny, and are as well as the corolla smooth. ♄. G. Ovary linear, glabrous. Style incurved. Wings and keel equal. Cicatrices roundish, callous. This species is usually to be seen in herbaria under the name of *A. callòsa*, but it is not the *A. callòsa* figured in Sims, bot. mag. 2329.

Brown Aspalathus. Shrub 2 to 4 feet.

75 A. MUCRONA'TA (Lin. fil. suppl. 320. Thunb. prod. 125. fl. cap. 573.) leaves trifoliate, somewhat petiolate; leaflets lanceolate, obtuse; branches spinescent; racemes terminal; flowers glabrous. ♄. G. A smooth shrub, with yellow flowers.

Mucronate-leaved Aspalathus. Fl. June, July. Clt. 1796. Shrub 2 to 4 feet.

76 A. CYTISOÌDES (Lam. dict. 1. p. 292.) leaves trifoliate, lanceolate, mucronate, pubescent on both surfaces; stem and branches panicled; flowers terminal, fascicled, villous. ♄. G. Leaves 3-4 lines long.

Cytisus-like Aspalathus. Shrub 1 to 2 feet.

77 A. MICROPHY'LLA (D. C. prod. 2. p. 143.) leaves small, trifoliate, trigonal, mucronate, glabrous; branches somewhat pubescent; flowers scattered, solitary; segments of the calyx glabrous, subulate, rather pungent; legume obliquely lanceolate, pubescent. ♄. G. Stamens with a permanent tube, about equal in length to the legume.

Small-leaved Aspalathus. Shrub 2 to 4 feet.

78 A. ORIENTA'LIS (Lin. mant. 263.) leaves trifoliate, lanceolate, pubescent; flowers 5 in a fascicle; calyxes pubescent; stems erect, angular. ♄. G. Native of the Levant. Corolla yellow, about the size of those of *Labúrnum*. Stamens connate. Perhaps a species of *Crotalària*.

Oriental Aspalathus. Shrub 2 to 4 feet.

§ 2. *Flowers distinctly pedicellate.*

* *Leaves trifoliate.*

79 A. TENUIFO'LIA (D. C. prod. 2. p. 143.) leaves trifoliate or simple; leaflets linear, very thin, and smoothish, straight, acutish; branchlets terete, rather pubescent at the apex; flowers loosely racemose or almost solitary, pedicellate; keel shorter than the vexillum. ♄. G. Leaves an inch long. Calyx smooth, 5-toothed, bractless, or pedicellate above the bracteas. Stamens all connate, with the sheath cleft in front. Legume glabrous, linear-lanceolate.

Thin-leaved Aspalathus. Shrub 2 to 4 feet.

80 A. OBTUSA'TA (Thunb. prod. 125. fl. cap. 574.) leaves on very short stalks or sessile, trifoliate; leaflets obovate, obtuse, young ones clothed with adpressed villi, but at length becoming smooth; flowers axillary, solitary, pedicellate. ♄. G. Calyx bilabiate, bractless. Vexillum and carina equal in length, but the wings are oblong and longer. Stamens monadelphous. Legume compressed, linear, clothed with adpressed pubescence, mucronate by the style.

Obtuse-leaved Aspalathus. Shrub 2 to 4 feet.

* * *Leaves in fascicles.*

81 A. PEDUNCULA'TA (Lher. sert. angl. t. 26.) leaves in fascicles, filiform, glabrous, mucronulate; pedicels axillary, 1-flowered, longer than the leaves, almost bractless at the apex. ♄. G. Curt. bot. mag. 344. Legume linear, clothed with adpressed pubescence, shorter than the pedicel. Bracteoles small at the apex of the pedicel. A. pedunculàta, Houtt. pfl. syst. is probably different from the present plant.

Pedunculated Aspalathus. Fl. Jul. Aug. Clt. 1775. Sh. 6 ft.

82 A. SUFFRUTICÒSA (D. C. prod. 2. p. 144.) leaves 3-5, linear, subulate, acute, rising from the same dot, pubescent from a few strigæ; peduncles axillary, longer than the leaves; flowers 2-3, borne in small racemes. ♄. G. Lòtus suffruticòsus, Burm. cap. prod. 22.

Suffruticose Aspalathus. Shrub 2 to 4 feet.

83 A. BRACTEA'TA (Thunb. fl. cap. 581.) leaves in fascicles, filiform, mucronulate, glabrous; pedicels axillary, length of leaves, bearing 3 bracteoles similar to leaves. ♄. G. Allied to the preceding, but the lobes of the calyx are longer, and the legumes are broader and on longer pedicels.

Bracteate Aspalathus. Shrub 2 to 4 feet.

84 A. NÍVEA (Thunb. fl. cap. 576.) leaves in fascicles, linear, obtuse, silvery, loose; peduncles lateral, filiform, 1-flowered, bracteate; calyx and corolla silky. ♄. G. Native of the Cape of Good Hope. Flowers white.

White Aspalathus. Shrub 2 to 4 feet.

* * * *Leaves stalked, pinnate.*

85 A.? PINNA'TA (Lin. amœn. 6. p. 92.) leaves pinnate, with 5 obcordate leaflets, which are rather pilose and tomentose beneath; peduncles longer than the leaves; spike roundish; corolla tomentose on the outside. ♄. G. Perhaps a species of *Indigófera* allied to *I. coriàcea*.

Pinnate-leaved Aspalathus. Shrub.

86 A.? ARBO'REA (Lour. coch. p. 431.) leaves pinnate; leaflets 5, ovate, smooth; racemes terminal. ♄. G. Native of Cochinchina, in woods. Flowers small, white. Stamens all connected, but perhaps with a dorsal fissure. Legume oblong-ovate, compressed, mutic, usually 2-seeded.

Arboreous Aspalathus. Tree.

Cult. All the species are rather ornamental when in flower. A mixture of loam, peat, and sand is the soil best adapted for them, and young cuttings of all will strike in sand, under bell-glasses, but the glasses must be wiped occasionally or the cuttings are very liable to damp off.

LVI. U'LEX (said to be derived from *ac*, a point, in Celtic, in reference to the prickly branches). *Lin. gen. no.* 881. Lam. ill. t. 621. D. C. prod. 2. p. 144.

LIN. SYST. *Monadélphia, Decándria.* Calyx bibracteate, bipartite, one of the lips 3-toothed, the other bidentate. Stamens all connected. Legume oval-oblong, turgid, many-ovulate, but few-seeded, hardly longer than the calyx.—European much-branched shrubs, with the branchlets and leaves spinescent. Flowers solitary, yellow. Legumes villous.

1 U. EUROPÆ'US (Lin. spec. 1045. var. *a.*) erect; leaves lanceolate-linear, and with the branchlets rather villous; bracteas ovate, loose; calyx pubescent, with the teeth nearly obsolete and converging. ♄. H. Native of commons, heaths, and waste places throughout Europe. Smith, engl. bot. t. 742. U. grandiflòrus, Pourr. U. vernàlis, Thore.

Provence appears to be the boundary, south, of furze; northwards it does not grow in Sweden or Russia. Linnæus lamented that he could hardly preserve it alive in a greenhouse. Many parts of Germany are perfectly destitute of this plant. The furze is either called whins or gorse in England. In France it is called *ajonc* or *jonc-marin*, contracted to *jomarin.*

Some years ago the seeds of furze were sown for hedges, and if the soil was light it soon became strong enough for a fence against cattle, but in a few years these hedges become naked. Duhamel speaks much in favour of furze as fodder for cattle. It has also been used for fodder in Scotland. Team horses may be supported by this shrub, if the tops are cut young and bruised in a mill to break the thorns. Goats, kine, sheep, and horses feed upon the tender tops. In some parts of Britain it is cultivated for fuel, where peat or coals are dear.

Var. β, flòre-plèno; flowers double. This is a very showy plant when in flower, being profusely clothed with elegant double yellow flowers. It is well adapted for ornamenting shrubberies.

European or Common Furze or Whin. Fl. Feb. Jan. Britain. Shrub [illegible] villous; [illegible] hairy. Flowers larger than in [illegible] 3 to 6 feet.

2 U. NA'NUS (Smith, fl. brit. 757. engl. bot. t. 743.) decumbent; leaves linear, and are as well as the branches smooth; bracteas minute, adpressed; calyx glabrous, with spreading, lanceolate teeth. ♄. H. Native of England on heaths, and in the western parts of France. U. mìnor, Roth. cat. 1. p. 83. U. Europæ'us β, Lin. spec. 1045. U. autumnàlis, Thore.

Dwarf Furze. Fl. Aug. Dec. Britain. Shrub decumbent.

3 U. PROVINCIA'LIS (Lois. not. 105. t. 6. f. 2.) erect; leaves lanceolate, linear, and are as well as the branches glabrous; bracteas minute, adpressed; calyx rather pubescent, with lanceolate distant teeth, hardly exceeding the corolla. ♄. H. Native of Provence, Andegavany, and Mauritania. D. C. fl. franc. suppl. no. 3799. The characters of this species, as well as the size, are intermediate between the two preceding.

Provincial Furze. Fl. Aug. Dec. Clt. 1820. Sh. 2 to 4 ft.

4 U. HIBE'RNICA (G. Don, in Loud. hort. brit. p. 280.) erect; leaves linear, ciliated; spines branched, pubescent as well as the branches, both furrowed. ♄. H. Native of Ireland. H. strícta, Hortul. This is a very upright plant, the spines more mild than in the other species. It is an excellent plant for forming hedges.

Irish Furze. Fl. July, Aug. Ireland. Shrub 6 to 10 feet.

Cult. This, although a very elegant genus of plants, is seldom cultivated unless for hedges, except the double variety of *U. Europæ'us*, which is a very elegant plant when in bloom, and is increased by young cuttings, planted under a hand-glass. The rest are usually increased by seeds.

LVII. STAURACA'NTHUS (from *σταυρος, stauros*, a cross, and *ακανθα, akantha*, a spine; in reference to the spines each having 2 small spines at the side, giving the appearance of a cross). Link. in Schrad. neue journ. 2. p. 1. and 52.

LIN. SYST. *Monadélphia, Decándria.* Calyx bipartite; upper lip bifid, lower one tridentate. Stamens all connected. Legume compressed, many-seeded, exserted, a long way beyond the calyx. A leafless shrub, with the habit of *U'lex*, and from it not probably distinct.

1 S. APHY'LLUS (Link. l. c.). ♄. H. Native of Portugal in sandy pine woods. U'lex genistoìdes, Brot. fl. lus. 2. p. 78. Bracteoles small, under the calyx. Branches divaricate. Legume quite smooth.

Leafless Stauracanthus. Fl. May, June. Clt. 1823. Shrub 2 to 3 feet.

Cult. This is a very elegant plant when in flower, and well fitted for the front of shrubberies. It may be either increased by young cuttings planted in sand under a hand-glass, or by seeds.

LVIII. SPA'RTIUM (from *σπαρτον, sparton*, cordage; use of plant in early ages). D. C. leg. mem. v. prod. 2. p. 145.—Spartiánthus, Link. enum. 2. p. 223.—Genísta, spec. Lam. Mœnch.—Spártium, spec. Lin.

LIN. SYST. *Monadélphia, Decándria.* Calyx membranous, spathaceous, cleft above, 5-toothed at the apex, somewhat bilabiate. Corolla with a roundish, complicated vexillum, and an acuminated keel, and the petals a little agglutinated, but partable. Stamens monadelphous. Legume compressed, many-seeded, glandless.—A smooth shrub, with twiggy terete branches, and a few lanceolate leaves. Flowers large, distant, yellow, disposed in terminal racemes.

1 S. JU'NCEUM (Lin. spec. 995.). ♄. H. Native of the South of Europe, in rugged dry places. Duham. arbr. ed. nov. 2. t. 22. Sims, bot. mag. 85. Genísta júncea, Lam. G. odoràta, Mœnch. Spartiánthus júnceus, Link. Flowers sweet-scented; sometimes the plant is to be found with double flowers in gardens. Bees are very fond of the flowers, and the same qualities which are attributed to the common broom belong also to this, although in an inferior degree. In Languedoc they make thread of it, and it is there used as a green food for sheep.

Rush or Spanish Broom. Fl. July, Sept. Clt. 1548. Shrub 6 to 10 feet.

Cult. Spanish Broom is a very ornamental plant when in bloom, and therefore well fitted for shrubberies. It is usually increased by seeds, which ripen in abundance; young cuttings will root if planted under a hand-glass.

LIX. GENI'STA (from *gen*, Celtic, signifying a small bush). Lam. dict. 2. p. 616. ill. t. 619. D. C. leg. mem. VI. prod. 2. p. 145.). Genísta et Spártium, spec. Lin.

LIN. SYST. *Monadélphia, Decándria.* Calyx bilabiate, upper lip bipartite, lower one tridentate, or 5-lobed, the 3 lower lobes nearly joined to the apex. Vexillum oblong-oval (f. 29. *a.*). Carina oblong, straight (f. 29. *b.*), not always containing the genitals. Stamens monadelphous (f. 29. *c.*). Legume compressed, rarely rather turgid (f. 29. *d.*), many-seeded, rarely few-seeded, glandless. Shrubs with yellow flowers.

* *Unarmed. Leaves all, or for the most part, trifoliate.*

1 G. PARVIFLO'RA (D. C. prod. 2. p. 145.) leaves trifoliate, on very short petioles; leaflets linear-lanceolate, glabrous, usually

deciduous; racemes terminal, elongated; legumes compressed, 1-3-seeded, rather pubescent from small adpressed down, erectly spreading. ♄. H. Native of the Levant, near the Gulph of Mundania. Spártium parviflòrum, Vent. hort. cels. t. 87. Flowers yellow.

Small-flowered Genista. Fl. May, Aug. Clt. 1817. Shrub 2 to 6 feet.

2 G. CLAVA'TA (Poir. suppl. 2. p. 717.) leaves trifoliate; leaflets linear-lanceolate, silky beneath; flowers terminal, capitate; legume compressed, 1-2-seeded, attenuated at the base. ♄. H. Native of Mogodor. Spártium sericeum, Vent. hort. cels. t. 17. but not of Ait. Flowers yellow, larger than those of the preceding species. Perhaps a species of *Cýtisus*.

Clavate-calyxed Genista. Fl. May, Aug. Clt. 1812. Sh. 2 to 4 feet.

3 G. CANARIE'NSIS (Lin. spec. 997.) lower leaves on short petioles, upper ones sessile, trifoliate, and are as well as the branches and calyxes clothed with pubescence; leaflets obovate-oblong; branches angular; heads of flowers terminal; legume clothed with white villi. ♄. F. Native of the Canary Islands and Spain. Ker. bot. reg. 217.—Comm. hort. amst. 2. t. 52.—Pluk. t. 277. f. 6. Spártium álbicans, Cav. ann. 1801. p. 64. Cýtisus paniculàtus, Lois. in Duham. ed. nov. et Cýtisus ramosíssimus, Poir. suppl. 2. p. 440. does not appear to differ from this species.

Canary Island Genista. Fl. April, Sept. Clt. 1656. Shrub 6 to 10 feet.

4 G. MÓLLIS (D. C. prod. 2. p. 145.) leaves on short petioles, trifoliate, and are as well as the calyxes, branches, and legumes clothed with soft villi; flowers axillary, crowded. ♄. H. Native of Mogodor. Spártium mólle, Cav. ann. 1801. p. 57.

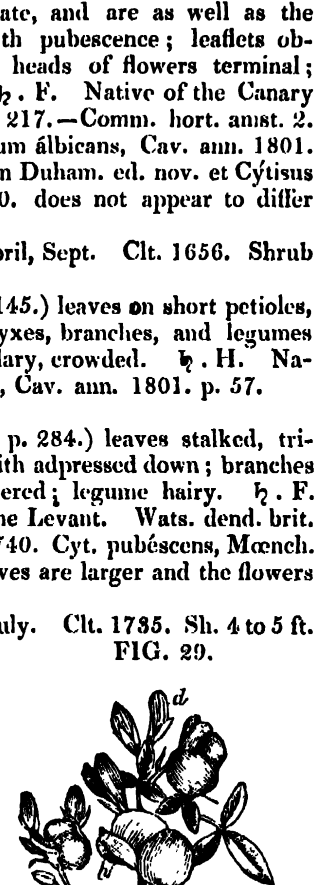
Soft Genista. Shrub.

5 G. CA'NDICANS (Lin. amœn. 4. p. 284.) leaves stalked, trifoliate; leaflets obovate, clothed with adpressed down; branches angular; heads terminal, few-flowered; legume hairy. ♄. F. Native of Mogodor, Italy, and the Levant. Wats. dend. brit. 80. Cýtisus cándicans, Lin. spec. 740. Cyt. pubéscens, Mœnch. Allied to *G. Canariénsis*, but the leaves are larger and the flowers scentless.

Whitened Genista. Fl. April, July. Clt. 1735. Sh. 4 to 5 ft.

6 G. PA'TENS (D. C. prod. 2. p. 145.) branches striated, twiggy, glabrous; leaves stalked, trifoliate; leaflets obovate, pubescent beneath; flowers in fours, pedicellate, nearly terminal; legume glabrous, 3-6-seeded. ♄. H. Native of Spain, on mountains near Albayda. Spártium pàtens, Cav. icon. 2. p. 58. t. 176. exclusive of the synonym. It differs from *Cýtisus pàtens* in the upper lip of the calyx being acutely bipartite, lower lip of 3 bristles, not with the lips nearly equal and entire.

FIG. 29.



Spreading Genista. Fl. April, July. Clt.? Shrub 4 to 8 feet.

7 G. LINIFÒLIA (Lin. spec. 405.) leaves sessile, trifoliate; leaflets linear, silky beneath, at length with the margins revolute; racemes terminal, crowded; legumes hairy; branches terete, furrowed. ♄. H. Native of the south of France, and of Spain, Canary Islands, north of Africa, and the Levant. Sims, bot. mag. 442. Spártium linifòlium, Desf. atl. 2. p. 134. t. 181. Cýtisus linifòlius, Lam. Genistoìdes linifòlia, Mœnch.

Flax-leaved Genista. Fl. Jan. Ju. Clt. 1739. Sh. 3 to 6 ft.

8 G. BIFLO'RA (D. C. prod. 2. p. 146.) leaves trifoliate, on short petioles; leaflets glabrous, linear, rather cuneiform; flowers terminal, usually twin; legume glabrous; branches angular. ♄. F. Native of the north of Africa, near Tlemsen. Spártium biflòrum, Desf. fl. atl. 2. p. 133. t. 179.

Two-flowered Genista. Shrub 1 to 3 feet.

9 G. TRIQUE'TRA (Ait. hort. kew. 3. p. 14. Lher. stirp. 183.) leaves trifoliate, the upper ones simple; leaflets ovate-lanceolate, villous; racemes terminal, short; branches triquetrous, decumbent, young ones villous. ♄. H. Native of Corsica. Curt. bot. mag. 314. G. tríquetra, Lam.?

Triquetrous-stemmed Genista. Fl. May, June. Clt. 1770. Shrub 2 to 4 feet.

10 G. BRACTEOLA'TA (Link, enum 2. p. 224.) leaves trifoliate; leaflets obovate; racemes short; branches striated, and are as well as the leaves pubescent. ♄. H. The native country of this plant as well as the legume are unknown. Calyx hairy.

Bracteolate Genista. Fl. Mar. May. Clt. 1823. Sh. 2 to 4 ft.

11 G. MICROPHY'LLA (D. C. prod. 2. p. 146.) leaves trifoliate, on short stalks; leaflets oblong-linear, and are as well as the terete branches covered with hoary-silky pubescence; flowers few, almost terminal. ♄. F. Native of the Grand Canary Island, on mountains about Ayacata. Spártium microphýllum, Cav. ann. 1801. p. 63. Legume unknown.

Small-leaved Genista. Shrub 1 to 3 feet.

12 G. SESSILIFO'LIA (D. C. leg. mem. VI.) leaflets 3, rising from the same dot on the branches, linear-subulate, silky, sometimes solitary; spike terminal, elongated, loose-flowered; corolla silky; legume ovate, acuminated, pubescent, 1-2-seeded. ♄. H. Native of Galatia, on hills. Flowers nearly like those of *G. pilòsa*, but the vexillum is shorter than the carina. Habit of *G. virgàta*, but the leaves are trifoliate.

Sessile-leaved Genista. Shrub 1 to 2 feet.

13 G. UMBELLA'TA (Poir. suppl. 2. p. 715.) leaves trifoliate, on short stalks; leaflets linear-lanceolate, rather silky; flowers in terminal, aggregate heads; calyx clothed with silky hairs; corolla and legume silky. ♄. H. Native of Barbary, on arid hills near Arzeau. Spártium umbellàtum, Desf. atl. 2. p. 133. t. 180. Lher. stirp. 183. Branches glabrous. Spártium umbellàtum, Lois. fl. gall. which is said to be from Corsica. The plant which is a native of Barbary is perhaps distinct from that from Corsica.

Var. β, *capitàtum* (D. C. prod. 2. p. 146.) branches and leaves clothed with silky villi. ♄. H. Native of Mogodor. Spártium capitàtum, Cav. annal. 1801. p. 63.

Umbellate-flowered Genista. Fl. April, June. Clt. 1799. Shrub 1 to 2 feet.

14 G. RADIA'TA (Scop. carn. no. 871.) leaves trifoliate, nearly sessile, opposite; leaflets linear, rather silky; branches angular, crowded, glabrous; heads 2-4-flowered, terminal; corolla and legumes silky. ♄. H. Native of Italy, Carniola, and Vallais. Spártium radiàtum, Lin. spec. 996. Mill. icon. t. 249. f. 1. Sims, bot. mag. 2260. G. Ilvénsis, Dalech. Legume oval, short, compressed, 2-seeded, mucronate by the style. Old branches rather spinescent.

Rayed Genista. Fl. June, July. Clt. 1758. Sh. 1 to 3 ft.

15 G. CASPARRI'NA (Guss. ex Schlect. Linnæa 4. p. 38. under *Spártium*) a beautiful shrub with slender branches, the lower leaves ternate and the upper ones simple. ♄. H. Like *G. radiàtum*.

Casparrine Genista. Shrub.

* * *Spinosæ. Leaves all or some of them trifoliate.*

16 G. HO'RRIDA (D. C. fl. fr. 4. p. 500.) leaves trifoliate, stalked, opposite; leaflets linear, complicated, rather silky; branches angular, spiny, crowded, opposite; flowers almost terminal, few; calyx pubescent. ♄. H. Native of the Pyrenees

and Arragon. Spártium hórridum, Vahl. symb. 1. p. 51. exclusive of the synonym. G. erinàcea, Gilib. bot. prat. 2. p. 239. with a figure.

Horrid Genista. Fl. May, July. Clt. 1821. Sh. 2 to 4 ft.

17 G. Lusita'nica (Lin. spec. 999. exclusive of the synonymes of Clus. and J. Bauh.) leaves trifoliate, on short stalks, opposite; leaflets linear, complicated, rather silky; branches spiny, terete, at length striated; flowers terminal, few; calyx very hairy. ♄. H. Native of Portugal. Lam. dict. 2. p. 622. exclusive of the synonymes. Andr. bot. rep. 419.

Portugal Genista. Fl. March, May. Clt. 1771. Sh. 2 to 4 ft.

18 G. acanthóclada (D. C. leg. mem. vi.) leaves trifoliate, nearly sessile; leaflets linear, complicated, rather silky; branches spinose, stiff, terete, at length striated; flowers almost opposite, disposed along the branches in a kind of interrupted spike; calyx pubescent. ♄. H. Native of the Levant, in exposed places in the island of Melos. D'Urv. enum. p. 85. Branches usually opposite, floriferous ones also spiny. Flowers silky. Ovary silky. Vexillum replicate laterally.

Spiny-branched Genista. Shrub 2 to 3 feet.

19 G. ephedroìdes (D. C. leg. mem. vi. t. 36.) leaves few, sessile, trifoliate, and simple; leaflets linear, smoothish; branches spinescent, stiff, terete, at length striated; flowers alternate, spicate; calyx rather pubescent. ♄. H. Native of Sardinia, on the sea shore. A smooth shrub, like *Ephèdra distàchya*. Corolla rather silky. Vexillum shorter than the keel. Legume compressed, ovate, acute, 1-seeded, clothed with silky-pubescence.

Ephedra-like Genista. Shrub 2 to 3 feet.

20 G. Lobe'lii (D. C. fl. fr. 4. p. 499.) leaves few, lower ones sessile, trifoliate, the rest nearly all sessile, scattered, linear-oblong, rather silky; branches crowded, spiny, striated, and rather tuberculated; flowers few, solitary, pedicellate, disposed along the branches in a kind of raceme; calyx pubescent. ♄. H. Native of Corsica and Provence, in arid places. A dwarf subshrub. Legumes 2-3-seeded, hardly pubescent.—Lob. adv. p. 409.—Chabr. sciag. p. 86. f. 1. Spártium erinaceoìdes, Lois. fl. gall. p. 441.

Lobel's Genista. Shrub 1 to 2 feet.

21 G. parvifòlia; hairy; leaves alternate, trifoliate, upper ones simple; leaflets oblong-linear, acute, complicated, smooth above, lower ones obovate; branches crowded, spiny, alternate, younger ones furrowed; flowers racemose. ♄. H. Native of Sardinia. G. microphýlla, Moris, elench. p. 13. Legume 4-5-seeded, linear, villous.

Small-leaved Genista. Fl. June, July. Shrub 1 to 2 feet.

22 G. Salzma'nni (D. C. leg. mem. vi.) leaves sessile, trifoliate or simple, oblong, obtuse, clothed with adpressed pubescence; branches at length striated, loose, spiny; flowers somewhat racemose along the branches, twin, pedicellate, clothed with adpressed silky-pubescence; the 3 lower lobes of the calyx about equal in length to the upper ones, and narrower. ♄. H. Native of Corsica, on rocks near Corfe. G. umbellàta, Salzm.

Salzmann's Genista. Shrub 2 to 3 feet.

23 G. aspalathoìdes (Lam. dict. 2. p. 620.) leaves few, lower ones sessile, trifoliate, the rest nearly all simple, scattered, linear-oblong, rather silky; branches loose, somewhat recurved, spiny, terete, at length striated; flowers twin, subracemose along the branches, pedicellate, clothed with adpressed silky pubescence; calyx trifid, the 3 lower lobes concrete into a tridentate lip. ♄. H. Native of Barbary, on rocks near Bonne. Spártium aspalathoìdes, Desf. atl. 2. p. 136.

Aspalathus-like Genista. Shrub 2 to 3 feet.

24 G. fe'rox (Poir. suppl. 2. p. 708.) leaves trifoliate, or for the most part simple, oblong, smoothish; branches striated, spinescent at the apex; flowers racemose; calyx rather pubescent; corolla smooth. ♄. H. Native of Barbary, on mountains near Lacalle. Spártium heterophýllum, Lher. stirp. 183. Spártium fèrox, Desf. atl. 2. p. 136. t. 182. Legume linear, 8-10-seeded. Seeds rather torulose, clothed with adpressed pubescence.

Fierce Genista. Fl. Ju. July. Clt. 1800. Sh. 3 to 4 feet.

25 G. Cupa'ni (Guss. cat. 1821. p. 77.) leaves sessile, trifoliate, hairy; leaflets linear-lanceolate; branches spiny; racemes terminal, few-flowered; calyx rather hairy; corolla smooth; legume 1-seeded, rather pilose. ♄. H. Native of the Nebrodes, on arid mountains. Acàcia triphýlla, &c. Cup. panph. sic. ed. 1. vol. 2. t. 233.

Cupani's Genista. Shrub 2 to 3 feet.

26 G. triaca'nthos (Brot. phyt. 130. t. 54. fl. lus. 2. p. 89.) leaves sessile, trifoliate, and simple, glabrous; leaflets linear-lanceolate; branches spiny; spines branched; racemes terminal, few-flowered; calyx, corolla, and 1-seeded legume glabrous. ♄. H. Native of Portugal, on mountains and in woods about Coimbra, and elsewhere in Beira. G. rostràta, Poir. suppl. 2. p. 719. Spines simple, trifid or branched.

Var. β, interrúpta (D. C. prod. 2. p. 147.) leaflets linear; branches usually simple and shorter. ♄. H. Native about Tangiers. Spártium interrúptum, Cav. anal. 1801. vol. 4. p. 58.

Three-spined Genista. Fl. May, July. Shrub 2 to 3 feet.

27 G. infe'sta; branches striated, spiny; leaves ternate; leaflets obovate, silky beneath; legumes compressed, and are, as well as the bracteas, covered with adpressed silky pili. ♄. H. Native of Calabria, in bushy places by the sea side. Spártium inféstum, Gussone, pl. rar. p. 290.

Troublesome Genista. Fl. May. Shrub 2 to 3 feet.

28 G. cuspidòsa (D. C. prod. 2. p. 147.) leaves trifoliate and simple; leaflets ovate, oval or lanceolate; branches spiny, terete, divaricate, young ones rather leafy; flowers alternate. ♄. G. Native of the Cape of Good Hope. Spártium cuspidàtum, Burch. cat. no. 1696. voy. 1. p. 348. A much-branched stiff shrub. Legume oblong, membranous, few-seeded.

Cuspidate Genista. Shrub 2 to 3 feet.

* * * *Spinose. Leaves all simple.*

29 G. hirsu'ta (Vahl. symb. 1. p. 51.) leaves lanceolate, and are, as well as the branches, hairy; spines trifid, striated; spikes terminal, hairy; corolla pilose, having the carina twice the length of the keel; legume pubescent, 1-seeded. ♄. H. Native of Spain and Portugal.

Var. β, cuspidàta (D. C. prod. 2. p. 148.) spines much elongated. ♄. H. Native of the north of Africa. Spártium cuspidàtum, Cav. anal. 1801. p. 56.

Var. γ, orientàlis (D. C. prod. 2. p. 148.) spines hardly longer than the leaves, trifid or simple. ♄. H. Native of the Levant, near Tschesme.

Hairy Genista. Shrub.

30 G. Algarvie'nsis (Brot. fl. lus. 2. p. 89.) leaves lanceolate; spines simple, solitary; flowers terminal, subcapitate; bracteas hairy. ♄. H. Native of Algarves. G. hirsùta var. δ Algarviénsis, D. C. prod. 2. p. 148. Calyx and corolla yellow.

Algarves Genista. Shrub 2 to 4 feet.

31 G. tricuspida'ta (Desf. atl. 2. p. 138. t. 183.) leaves lanceolate, and are, as well as the branches, hairy or glabrous; spines somewhat tetragonal, stiff, for the most part trifid; racemes spike-formed, terminal; calyx rather hairy; corolla glabrous; keel twice the length of the vexillum and wings. ♄. H. Native of Algiers, on hills. Spártium tricuspidàtum, Cav. l. c.

Tricuspidate-leaved Genista. Shrub 1 to 3 feet.

32 G. Gibralta'rica (D. C. prod. 2. p. 148.) leaves linear-lanceolate, glabrous, as well as the branches, calyxes, and corollas; branches decumbent, flexible; spines trifid and simple,

usually leafy; racemes terminal, somewhat spicate; carina longer than the vexillum and wings. ♄. H. Native on the rocks of Gibraltar, about St. Roque. This plant differs from *G. tricuspidàta* in the habit being looser, and in the calycine lobes being very acute and spiny.

Gibraltar Genista. Shrub decumbent.

33 G. trídens (Cav. anal. scienc. nat. 1801. 4. p. 59.) leaves lanceolate-oblong, glabrous; spines trifid, stiff; racemes terminal; calyxes and corollas glabrous; keel a little longer than the wings. ♄. F. Native of the north of Africa, about Tangiers. Leaves become concave when drying.

Trident-spined Genista. Shrub 2 feet.

34 G. sylve'stris (Scop. carn. no. 875.) leaves linear-lanceolate, glabrous above, but clothed with adpressed villi beneath; spines axillary, branched, slender; raceme spicate, terminal; flowers glabrous; calycine teeth rather spiny; carina longer than the vexillum and wings. ♄. H. Native of Carniola and of Croatia on hills. G. Hispánica, Jacq. icon. rar. t. 557.

Wood Genista. Fl. Ju. July. Clt. 1818. Sh. 1 to 2 feet.

35 G. Ægyptìaca (Spreng. nov. prov. 20.) leaves linear-lanceolate, ending in a spiny mucrone; spines branched; stem furrowed, beset with spreading hairs; racemes secund; corollas smooth. ♄. F. Native of Egypt. This species comes very near *G. sylvéstris*, but differs in having spreading hairs, not adpressed ones, and therefore referable to *G. Hispánica*.

Egyptian Genista. Shrub 1 to 2 feet.

36 G. falca'ta (Brot. phyt. 133. t. 55. fl. lus. 2. p. 89.) leaves ovate-lanceolate, upper and cauline ones roundish, having the margins, middle nerve, and branchlets rather villous; spines stiff, and for the most part trifid; racemes few-flowered; carina longer than the vexillum and wings; flowers glabrous; legumes falcate, many-seeded. ♄. H. Native of Portugal, in Biera and Estramadura.

Falcate-legumed Genista. Shrub 2 to 3 feet.

37 G. Córsica (D. C. fl. fr. suppl. p. 548.) plant quite smooth; leaves linear-lanceolate; stipulas rather spinescent; spines simple, rigid; flowers axillary, solitary, pedicellate; carina length of the glabrous vexillum; legume 4-8-seeded, quite smooth. ♄. H. Native of Corsica, about Bastia, Bonifacio, &c. Spártium Córsicum, Lois. fl. gall. p. 440.

Var. β, *pubéscens* (D. C. prod. 2. p. 148.) branches and young leaves clothed with adpressed pubescence. ♄. H. Native of Corsica, near Calvi.

Corsican Genista. Shrub 2 to 3 feet.

38 G. scórpius (D. C. fl. fr. 4. p. 498.) leaves very few, oblong, rather silky; spines branched, spreading, striated, smooth; flowers in fascicles, somewhat racemose, on short pedicels, glabrous; carina length of vexillum; legume 2-4-seeded. ♄. H. Native of Spain, in arid places, and south of France, as well as Barbary. Wats. dent. brit. 78. Shrub very thorny, and when in an adult state almost leafless. Spártium scórpius, Lin. spec. 995. G. spiniflòra, Lam. dict. 2. p. 621.—Clus. hist. 1. p. 106. f. 1.

Scorpion Genista. Fl. March, Ap. Clt. 1570. Sh. 2 to 3 ft.

39 G. Hispa'nica (Lin. spec. 999.) leaves lanceolate, villous; spines branched, stiff; floriferous branches unarmed; racemes terminal, somewhat capitate; carina villous, length of the vexillum, which is smooth; legume oval, 2-4-seeded, rather hispid, when mature rather smoothish. ♄. H. Native of Spain and south of France. Cav. icon. 3. t. 211. Lam. ill. t. 619. f. 3. Spines in the old branches beneath the leafy branchlets.

Spanish Genista. Fl. June, July. Clt. 1759. Sh. ½ to 1 ft.

40 G. A'nglica (Lin. spec. 999.) smooth; leaves ovate-lanceolate; spines simple; floriferous branches unarmed; racemes few-flowered, terminal; carina longer than the wings and vexillum; legume ovate-cylindrical, many-seeded. ♄. H. Native of Europe, in France, Denmark, &c. In Britain on moist, boggy, heathy commons. Smith, engl. bot. 132. G. minor, Lam. fl. fr. 2. p. 615.—Lob. icon. 2. p. 93. f. 2. Root woody, long, and creeping.

English Genista or Petty Whin. Fl. May, June. Britain. Shrub 1 to 2 feet.

41 G. Germa'nica (Lin. spec. 995.) leaves lanceolate, rather hairy; spines simple or branched; floriferous branches unarmed; racemes terminal; flowers rather villous; carina longer than the vexillum and wings; legume ovate, hairy, 2-4-seeded. ♄. H. Native of Europe, in woods, and on heaths. Scórpius spinòsus, Mœnch. meth. 134. Voglèra spinòsa, fl. Wett. 2. p. 500.—Fuchs. hist. 220. icon.

Var. β, *inérmis* (D. C. prod. 2. p. 149.) spines almost wanting.

German Genista. Fl. July, Aug. Clt. 1773. Sh. 2 to 3 feet.

* * * * *Unarmed. Leaves all simple.*

42 G. pu'rgans (Lin. spec. 999.) erect, much branched; branches terete, striated; leaves very few, lanceolate, almost sessile, rather silky; flowers axillary, solitary, on short pedicels; petals about equal in length, glabrous; young legumes clothed with adpressed pubescence. ♄. H. Native of France, on hills, especially in the Cevennes. Bull. herb. 115. Spártium púrgans, Lin. syst. 474. Perhaps nearly allied to *Cýtisus nubígenus*. The seeds are cathartic.

Purging Genista. Fl. Ju. July. Clt. 1768. Sh. 3 to 6 feet.

43 G. ramosíssima (Poir. suppl. 2. p. 715.) much branched, erect; branches striated, tuberculated; leaves few, lanceolate, villous; flowers nearly sessile along the branches, crowded; petals silky, about equal in length. ♄. H. Native of Mount Atlas, near Tlemsen. Spártium ramosíssimum, Desf. fl. atl. 2. p. 132. t. 178. Fruit unknown.

Much-branched Genista. Shrub 2 to 4 feet.

44 G. cine'rea (D. C. fl. fr. 4. p. 494.) erect, much branched; branches striated; leaves lanceolate, clothed with adpressed pubescence; flowers almost sessile along the branches, solitary; petals silky, about equal in length; legume clothed with adpressed villi, 4-6-seeded. ♄. H. Native on arid hills and mountains, from Arragon to Nice, in the limits of olives. Spártium cinèreum, Vill. prosp. 40. G. scopària, Vill. dauph. 3. p. 420. exclusive of synonymes. G. flòrida, Asso, ar. 94.

Cinereous Genista. Fl. Ju. July. Shrub 2 to 6 feet.

45 G. virga'ta (D. C. prod. 2. p. 149.) branches twiggy, terete, striated; leaves oblong-lanceolate, rather silky; flowers disposed in something like racemes; petals silky, about equal in length; legume villous, 1-3-seeded, compressed, rather torose between the seeds. ♄. F. Native of Madeira. Spártium virgàtum, Ait. hort. kew. 3. p. 11. Cýtisus tèner, Jacq. icon. rar. t. 147. G. gràcilis, Poir. suppl. 2. p. 715.

Twiggy Genista. Fl. March, Jul. Clt. 1777. Shrub 3 to 4 ft.

46 G. conge'sta (D. C. prod. 2. p. 149.) branches terete, striated, much crowded; leaves lanceolate, silky; flowers terminal, racemose, on very short pedicels; vexillum glabrous; carina pubescent. ♄. G. Native of Teneriffe. Spártium congéstum, Willd. enum. 2. p. 744. Allied to *G. virgàta*.

Crowded-branched Genista. Fl. Ap. July. Sh. 2 to 4 feet.

47 G. stylòsa (Spreng. syst. 3. p. 176.) branches slender, angular, flexuous, and are, as well as the leaves, linear and smooth; flowers in terminal racemes; calyx bracteolate; style elongated, permanent. ♄. H. Native of Portugal. Génista bracteolàta, Willd. herb. Flowers yellow.

Long-styled Genista. Shrub 2 to 4 feet.

48 G. sericea (Wulf. in Jacq. coll. 2. p. 167.) decumbent; branches erect, terete; leaves linear-lanceolate, silky beneath; flowers 3-4, terminal, sub-racemose; petals silky, about equal in length; calycine lobes oblong, acuminated. ♄. H. Native

of Austria and Croatia, in subalpine places near the shore.—Jacq. icon. rar. 3. t. 556. Floral leaves about equal in length to the calyx.

Silky Genista. Fl. May, June. Clt. 1812. Sh. ½ foot.

49 G. HUMIFU'SA (Lin. spec. 908. Vill. dauph. 3. p. 421. t. 44.) procumbent; branches twisted, tubercled, as stiff as spines at the apex, hairy, as well as the leaves, which are linear-lanceolate; flowers axillary, solitary, nearly sessile; petals silky, about equal in length; calycine lobes ovate, acutish. ♄. H. Native of the Levant and of Dauphiny, near Gap.

Trailing Genista. Fl. May, June. Clt. 1819. Sh. trailing.

50 G. APHY'LLA (D. C. prod. 2. p. 149.) branched, erect; leaves very few, linear, very short; racemes terminal, elongated, dense-flowered; legumes compressed, 2-seeded, young ones tomentose, adult ones glabrous. ♄. H. Native of Siberia, in deserts about the Volga. Flowers violaceous. Spártium aphýllum, Lin. fil. suppl. 320. Pall. itin. ed. gall. append. no. 357. t. 99. f. 2. G. virgàta, Lam. dict. 2. p. 616.

Leafless Genista. Fl. June, July. Clt. 1800. Sh. 3 to 4 feet.

51 G. MONOSPE'RMA (Lam. dict. 2. p. 616.) branches erect; leaves very few, linear-oblong, clothed with adpressed pubescence; racemes lateral, few-flowered; petals silky, about equal in length; legume ovate, inflated, membranous, glabrous, 1-2-seeded. ♄. H. Native of Portugal, Spain, Barbary, and Egypt. Spártium monospérmum, Lin. spec. 995. Curt. bot. mag. 683.—Clus. hist. 1. p. 103. G. Ræ'tam, Forsk. Flowers white. Branches slender, twiggy, flexile. The use of this shrub along the shores of Spain is very great in stopping the sand. It converts the most barren spot into a fine odoriferous garden by its flowers, which continue a long time. The leaves and young branches are delicious food for goats. The twigs are used for tying bundles. Forskœl found the plant in Arabia, and Desfontains in Barbary. The Spaniards call it *Rætamas* from its Arabian name *Rætam*.

One-seeded Genista. Fl. Ju. July. Clt. 1670. Sh. 2 to 4 ft.

52 G. SPHÆROCA'RPA (Lam. dict. 2. p. 616.) twiggy branched; leaves few, linear, smoothish; racemes lateral, many-flowered; petals glabrous, equal in length; legume ovate, rather fleshy, 1-2-seeded. ♄. H. Native of the south of Europe and Barbary. Spártium sphærocárpon, Lin. mant. 571.—Clus. hist. 1. p. 102. f. 2. Flowers small, yellow.

Round-fruited Genista. Fl. June, July. Clt. 1731. Shrub 3 to 4 feet.

53 G. ÆTHNE'NSIS (D. C. prod. 2. p. 150.) erect, much branched; leaves few, linear, silky; racemes terminal; petals rather glabrous, about equal in length; legume obliquely ovate, compressed, 2-3-seeded, young ones pubescent. ♄. H. Native of Mount Etna, in the wooded region. Spártium Æthnénse, Biv. st. sic. mant. 2. Rafin. specch. 1. p. 17. Sims, bot. mag. 2674. Spártium trispérmum, Smith in Rees' cycl. vol. 32. no. 5. Flowers yellow, twice the size of those of *G. sphærocárpa*, but one-half smaller than those of *G. júncea*.

Mount *Etna* Genista. Fl. Ju. July. Clt. 1816. Sh. 2 to 4 ft.

54 G. MULTICAU'LIS (Lam. dict. 2. p. 617.) humble; branches erect, twiggy; leaves linear-oblong, rather glabrous, tapering into the petiole at the base; flowers solitary, on short pedicels; calyx clothed with adpressed silky pubescence; corolla glabrous. ♄. H. Native of the Balearic Islands.

Many-stemmed Genista. Shrub 1 to 2 feet.

55 G. TETRAGO'NA (Besser. enum. c[illegible]t. 2. p. 73. no. 887.) stem tetragonal, furrowed, decumbent; branches ascending; leaves nearly opposite, lanceolate, young ones and calyxes rather silky; flowers somewhat racemose; corolla glabrous. ♄. H. Native of the south of Podolia, in high fields at Tyra.

Tetragonal-branched Genista. Fl. June, July. Clt. 1822. Shrub decumbent.

56 G. TENUIFO'LIA (Lois. not. 169.) stems weak; branches terete, striated, erectish; leaves linear, 1-nerved, glabrous; flowers disposed in terminal racemes, and are as well as the legumes glabrous. ♄. H. Native of Piedmont. This species is nearly allied to *G. tinctòria* and *G. depréssa*, from which it is hardly distinct, unless in the flowers being smaller.

Fine-leaved Genista. Shrub 1 to 2 feet.

57 G. DEPRE'SSA (Bieb. fl. taur. suppl. p. 460.) stems decumbent; floriferous branches triquetrous, ascending; leaves lanceolate, acute, clothed with adpressed pili; flowers in the upper axils of the leaves on short pedicels, disposed in such a manner as to appear a leafy raceme; corolla glabrous. ♄. H. Native of Tauria, on mountains, and about Constantinople. Very like *G. mánticum*.

Depressed Genista. Shrub decumbent.

58 G. SCARIO'SA (Viv. ann. bot. 1. p. 2. p. 175. fragm. fl. ital. 1. p. 5. t. 8.) quite smooth; stem ascending; young branches triquetrous; leaves, lanceolate or the lower ones are obovate, with scarious margins; flowers racemose; corolla twice the length of the calyx. ♄. H. Native of Liguria, on hills from Genoa to Sarzana, and in the kingdom of Naples, ex. Tenore, fl. nap. 2. p. 127. G. Januénsis, Viv. cat. p. 10. Bert. pl. G. Genuénsis, Pers. ench. no. 5. Legume linear, 4-7-seeded, somewhat coarctate.

Scarious-margined-leaved Genista. Fl. June, Jul. Clt. 1821. Shrub ascendent.

59 G. ANXA'NTICA (Ten. fl. nap. prod. p. 41. fl. nap. 2. p. 127. t. 66.) quite smooth; stems diffuse; branches angular; leaves ovate-elliptic, rather coriaceous, veiny; flowers racemose; corolla 3-times longer than the calyx. ♄. H. Native of valleys of Naples, called Amsantica. Corolla 8 lines long. Legume 8-10-seeded. The name is called by the author *Anxántica* in his prod. fl. nap. p. 41. and *Amsánctica* in his fl. nap. text.

Anxantic Genista. Fl. June, July. Clt. 1818. Sh. diffuse.

60 G. TINCTO'RIA (Lin. spec. 998.) root creeping; stems erect; branches terete, striated, erect; leaves lanceolate, smoothish; flowers disposed in spicate racemes, and are as well as the legumes smooth. ♄. H. Native of Europe, frequent in fields and woods; in England in pastures, thickets, and dry borders of fields. Smith, engl. bot. 44. Fuchs. hist. 809. Genistoìdes tinctòria, Mœnch. 132. The *G. tinctòria* is called *Base-broom*, *Green-weed*, *Green-wood*, *Dyers'-weed*, and *Wood-waxen*. When cows feed on it their milk and the butter or cheese made from it are said to be very bitter. A bright yellow colour may be prepared from the flowers, and for wool that is to be dyed green with woad the dyers prefer it to all others. A drachm and a half of the powdered seeds operates as a mild purgative. A decoction of the plant is sometimes diuretic, and therefore has proved serviceable in dropsical cases, and a salt prepared from the ashes is recommended to be used in that disorder.

Var. β, *latifòlia* (D. C. fl. fr. suppl. 547.) leaves broad-lanceolate. ♄. H. Native of Auvergne on the Golden Mount.

Var. γ, *hirsùta* (D. C. prod. 2. p. 151.) leaves rather villous; branches erect.

Var. δ, *praténsis* (Poll. pl. ver. 19.) leaves oblong-lanceolate, rather hairy; branches ascending. ♄. H. Native of Italy, on the upper mountains.

Dyers' Broom or Green-weed. Fl. June, Aug. Brit. Sh. 1 to 2 feet.

61 G. SIBI'RICA (Lin. mant. 571.) stems erect; branches terete, striated, erect; leaves lanceolate, glabrous; flowers disposed in spicate racemes; spikes disposed in panicles, and are as well as the legumes smooth. ♄. H. Native of Siberia. Jacq. hort. vind. t. 190. Genistoìdes elàta, Mœnch. meth. 132. The plant is very like *G. tinctòria*, but altogether smooth, erect, more slender, and usually taller.

Siberian Genista. Fl. June, Aug. Clt. 1785. Sh. 2 to 6 ft.

62 G. POLYGALÆFO'LIA (D. C. prod. 2. p. 151.) stem erect, branches terete, striated, erect; leaves lanceolate, rather silky beneath, as well as the calyxes; racemes somewhat secund, disposed in panicles; corolla smooth. ♄. H. Native of the north of Portugal. G. polygalæphy̆lla, Brot. fl. lus. 2. p. 86. G. exaltàta, Link. G. tinctòria Lusitánica máxima, Tourn. inst. 643. Allied to *G. flórida*.

Milk-wort-leaved Genista. Fl. June, Aug. Clt. 1820. Shrub 2 to 4 feet.

63 G. PERREYMÓNDI (Lois. fl. gall. ex. bull. sci. aug. 1828. p. 425.) stems decumbent; branches terete, striated, rather erect; leaves lanceolate, smoothish; flowers racemose, terminal; legume clothed with canescent villi. ♄. H. Native of France. Like *G. tinctòria*. Flowers yellow.

Perreymond's Genista. Fl. July. Shrub 2 to 3 feet.

64 G. FLÓRIDA (Lin. spec. 998.) stem erect; branches striated, terete; leaves lanceolate, and are as well as the legumes clothed with adpressed silky down; branches secund; corolla glabrous. ♄. H. Native of Spain. Legume 2-4-seeded, somewhat irregularly coarctate.

Florid Genista. Fl. June, Aug. Clt. 1752. Sh. 2 to 4 ft.

65 G. PULCHE'LLA (Visiani, pl. dalm. ex. bot. zeit. jan. 1830. p. 51.) silky; stems diffuse, much branched; branches furrowed, young ones striped, tubercled at the buds, and rufescent at the apex; leaves simple, lanceolate, entire, small; flowers in crowded racemes, the pedicels all leaning to one side; wings smooth, shorter than the keel; legumes pendulous, 2-3-seeded. ♄. H. Native of Dalmatia. Like *G. Æthnénsis* and *G. flórida*, but more silky.

Neat Genista. Shrub diffuse.

66 G. MA'NTICA (Poll. fl. ver. 2. p. 458. t. 4. f. 7.) stems numerous, prostrate, angularly striated, hairy-pubescent; leaves linear-lanceolate, pubescently-hairy; peduncles axillary, shorter than the leaves; corolla glabrous; legume clothed with silky villi. ♄. H. Native of Italy, in woods near Mantua. Spreng. pug. 2. p. 73. Horn. hort. hafn. suppl. p. 151. Allied to *G. ovàta* and *G. tinctòria*, of which last it is probably a variety.

Mantua Genista. Fl. June, Aug. Clt. 1816. Sh. prostrate.

67 G. OVA'TA (Waldst. et Kit. pl. hung. 1. t. 84.) stems numerous, hairy, erectish, somewhat herbaceous, striated, terete; leaves ovate, or ovate-oblong, and are as well as the legumes hairy; racemes short; corolla smooth. ♄. H. Native of Sclavonia and Hungary, and on the hills of Italy, from Piedmont to Naples. G. ovàta, Balb. Bert. Sav. Ten. G. nervàta, Kit. in litt. 1815. is hardly distinct.

Ovate-leaved Genista. Fl. June, Aug. Clt. 1816. Shrub 2 to 4 feet.

68 G. PA'TULA (Bieb. fl. taur. 2. p. 148.) much branched, quite smooth; branches terete, striated, panicled, spreading; leaves linear-lanceolate, acuminated; flowers and legumes glabroùs. ♄. H. Native of Tauria, on hills at the river Cyrus, near Tiflis. This species is nearly allied to *G. tinctòria*, but the flowers are one-half smaller.

Spreading Genista. Fl. Ju. Aug. Clt. 1818. Sh. 2 to 4 ft.

69 G. TRIANGULA'RIS (Willd. spec. 3. p. 939.) smooth; branches triquetrous, and are as well as the stems ascending; leaves lanceolate, mucronate; flowers axillary; legume compressed, mucronate. ♄. H. Native of Hungary, on calcareous rocks. G. triquetra, Waldst. et Kit. hung. 2. p. 165. t. 153. but not of Aiton. Legume glabrous.

Triangular-stemmed Genista. Fl. May, June. Clt. 1815. Shrub ascending, 1 foot.

70 G. SAGITTA'LIS (Lin. spec. 998.) stems prostrate; branches herbaceous, ascending, 2-edged, membranous, somewhat articulated; leaves ovate-lanceolate; flowers disposed in an ovate, terminal, leafless spike; corolla smooth, but the keel is furnished with a villous line on the back. ♄. H. Native of Europe, in mountain pastures. Mill. icon. t. 259. f. 2. Jacq. fl. austr. t. 209. G. herbàcea, Lam. fl. fr. Genistélla racemòsa, Mœnch. meth. Saltzwedèlia sagittàlis, fl. wett. 2. p. 498.

Var. β, minor (D. C. prod. 2. p. 151.) a small shrub, having the branches clothed with adpressed pubescence at the apex as well as the leaves.

Arrow-jointed Broom. Fl. May, June. Clt. 1750. Shrub prostrate, ½ foot.

71 G. TRIDENTA'TA (Lin. spec. 998.) branches shrubby, triquetrous, membranous, somewhat articulated; leaves ovate, tridentate at the apex, glabrous; flowers disposed into crowded, terminal and lateral heads; carina and legumes clothed with silky wool. ♄. H. Native of Portugal, on uncultivated hills and among bushes. Brot. fl. lus. 2. p. 86. Wings of stem rather undulated, with the margins roughly denticulated.

Tridentate-leaved Genista. Shrub 1 foot.

72 G. DIFFU'SA (Willd. spec. 3. p. 942.) branches procumbent from the neck, triquetrous; leaves lanceolate, glabrous, a little ciliated; peduncles axillary, erect, disposed in interrupted fascicles; corollas and legumes glabrous. ♄. H. Native of Italy and Styria in exposed places. G. humifùsa, Wulf. in Jacq. coll. 2. p. 169. Spártium decúmbens, Jacq. icon. rar. 3. t. 555. but not of Aiton.

Diffuse Genista. Fl. May, June. Clt. 1815. Sh. procumb.

73 G. PROSTRA'TA (Lam. dict. 2. p. 618.) stems diffuse, prostrate; branches angular, striated, rather villous; leaves ovate-oblong, rather villous beneath; flowers axillary, on long pedicels, erect; corolla glabrous; legumes villous, 3-4-seeded. ♄. H. Native of Burgundy and the Alps of Jura. G. pedunculàta, Lher. stirp. 184. G. decúmbens, Dur. bourg. 1. p. 299. Lodd. bot. cab. 718. G. Hallèri, Reyn. mem. 1. p. 211. icon.

Prostrate Genista. Fl. May, June. Clt. 1775. Sh. prostr.

74 G. PROCU'MBENS (Waldst. et Kit. in Willd. spec. 3. p. 940.) branches procumbent, terete, striated, rather pubescent; leaves lanceolate, acute, pubescent beneath as well as the calyxes; flowers pedicellate, axillary, tern; corolla glabrous. ♄. H. Native of Hungary in woods, and of Moravia. Vexillum a little shorter than the keel. Legume unknown.

Procumbent Genista. Fl. June, Aug. Clt. 1816. Sh. proc.

75 G. A'LBIDA (Willd. spec. 3. p. 942.) stems procumbent, striated, branched; leaves lanceolate or linear, clothed with white villi; flowers axillary, sessile; calyx and corolla clothed with silky villi; legume tomentose. ♄. H. Native of Tauria and Bessarabia, on stony mountains. Bieb. fl. taur. 2. p. 149. 3. p. 459. Allied to *G. pilòsa*.

Whitened Genista. Shrub procumbent.

76 G. PILÒSA (Lin. spec. 999.) stems procumbent, striated, branched, tuberculated; leaves obovate-lanceolate, obtuse, complicated, clothed beneath with adpressed silky down; flowers axillary, on short pedicels; calyx and pedicels silky; legumes pubescent, 3-4-seeded. ♄. H. Native of the south of France, Switzerland, Germany, &c.; in Britain on dry elevated downs or heaths, on high sandy ground about Bury, Suffolk. About Tornham, on the north side of Bury, also on rocks near the Lizard Point, Cornwall. At the foot of Cader Idris, North Wales. Jacq. fl. austr. t. 208. Smith, engl. bot. 208. Fl. dan. 1225.—Clus. hist. 1. p. 103. f. 2. G. rèpens, Lam. fl. fr. Genistoìdes tuberculàta, Mœnch. meth.

Pilose Genista. Fl. May, June. England. Sh. procumbent.

77 G. MICRA'NTHA (Ort. dec. 6. p. 68. t. 10. f. 1.) stems procumbent, smooth, angular; leaves linear-lanceolate; flowers disposed in terminal spikes, distant; carina rather villous; legume 2-3-seeded. ♄. H. Native of Spain, in humid places in the wood called Corazo, near Silos.

Small-flowered Genista. Fl. May, June. Sh. procumbent.

78 G. **Brote`ri** (Poir. suppl. 2. p. 720.) stems erect; branches angular, twiggy, glabrous; leaves linear-lanceolate, smoothish on both surfaces; racemes short, terminal; bracteas, calyxes, corollas, and legumes glabrous; carina longer than the vexillum, and the vexillum longer than the wings. ♃. H. Native of the north of Portugal, in glens of mountains. G. parviflòra, Brot. fl. lus. 2. p. 87.

Brotero's Genista. Shrub 4 to 6 feet.

79 G. **piloca'rpa** (Link. enum. 2. p. 223.) erect; branches angular, pubescent; leaves lanceolate, clothed beneath with silky pubescence; flowers racemose, on short pedicels; legume pilose. ♄. H. Native of?

Pilose-fruited Genista. Fl. Ju. Jul. Clt. 1823. Sh. 2 to 3 ft.

† *Species not sufficiently known.*

80 G.? **heterophy'lla** (D. C. prod. 2. p. 152.) stems erect; branches angular, sterile ones villous; leaves simple, obovate, on short petioles, clothed with silky villi; flowers usually tern, axillary, pedunculate; calyxes campanulate, villous; legume silky. ♄. H. Native of the Pyrenees, at Monney. Cýtisus heterophýllus, Lapeyr. abr. 422.

Variable-leaved Genista. Shrub 2 to 4 feet.

81 G. **angula`ta** (Rafin. prec. dec. som. p. 37. under *Spártium,*) unarmed; branches pentagonal, glabrous; leaves simple and trifoliate, stalked; leaflets thin, oblong, mucronate, almost smooth; legume solitary, pedunculate, oblong, compressed, pubescent. ♄. H. Native of Maryland, in woods.

Angular-branched Genista. Shrub 2 to 3 feet.

82 G.? **desidera`ta** (D. C. prod. 2. p. 152.) branches unarmed, terete; leaves trifoliate, petiolate; leaflets linear-subulate, pungent at the apex, clothed with adpressed silky pubescence; flowers solitary, pedicellate; calyxes and many-seeded legumes pubescent. ♄. G. Native of Port Desideratum. Calyx, stamens, and legumes nearly like *Genísta,* but the corolla is unknown. Probably a distinct genus.

Port Desideratum Genista. Shrub.

83 G.? **sca'ndens** (Lour. coch. p. 428.) stem scandent; spines simple; leaves bipinnate. ♄. ◡. G. Native of Cochinchina, on the banks of rivers. Flowers very numerous, golden yellow. This plant should certainly be removed from *Genísta.* It is perhaps a species of *Cæsalpínia.*

Climbing Genista. Shrub cl.

Cult. All the species of this genus are very elegant when in flower. The hardy species are well fitted for the front of shrubberies, as they are generally of low growth; they are usually increased by seeds or layers. The greenhouse and frame kinds thrive well in a mixture of loam, peat, and sand, and young cuttings of them root readily if planted in a pot of sand, with a bell-glass placed over them, but the glasses must be taken off and wiped occasionally, otherwise the cuttings are apt to damp off.

LX. CY'TISUS (from *Cýthnus,* one of the Cyclades, some one of the species were first found there). D. C. fl. fr. 4. p. 501. Leg. mem. VI.—Cýtisus and Calycótome, Link.—Cýtisus and Spártium, species, Lin. and Lam. &c.

Lin. syst. *Monadélphia, Decándria.* Calyx bilabiate; upper lip usually entire, lower one somewhat tridentate. Vexillum ovate, large. Carina very obtuse, inclosing the genitals. Stamens monadelphous. Legume compressed, many-seeded, glandless.—Shrubs, with the habit of the *Genista,* with trifoliate leaves. Flowers of nearly all the species yellow. Leaves of all trifoliate.

Sect. I. Alburnoìdes (*alburnum,* the white inner sap of trees; in reference to the white flowers of the species). D. C. l. c. prod. 2. p. 153. Calyx campanulate. Legume 1-4-seeded, not dilated at the upper suture. Flowers white. Leaves very few. Branches unarmed.

1 C. **nubígenus** (Link, enum. 2. p. 240.) branches terete, striated; leaves very few, petiolate; leaflets lanceolate, pilose; flowers lateral, in fascicles; legumes many-seeded, glabrous. ♄. G. Native of Teneriffe, on the sides of the Peak. Spártium nubígenum, Ait. hort. kew. 3. p. 13. Spártium supranùbium, Lin. fil. suppl. 319. Cýtisus fragrans, Lam. dict. Flowers very sweet-scented. Habit of *Genísta púrgans.*

Cloud-born Cytisus. Fl. May, June. Clt. 1779. Sh. 6 ft.

2 C. **a'lbus** (Link. enum. 2. p. 241.) branches terete, twiggy; leaves simple and trifoliate, sessile; leaflets linear-oblong, silky; flowers in fascicles, disposed in long racemes; legume 2-seeded, very villous. ♄. H. Native of Portugal and the Levant. Genísta álba, Lam. dict. 2. p. 623. Spártium álbum, Desf. fl. atl. 2. p. 132. Spártium multiflòrum, Ait. hort. kew. 3. p. 11. Spártium dispérmum, Mœnch. meth. 130.

Portugal Broom or *White*-flowered Cytisus. Fl. May. Clt. 1752. Shrub 6 to 10 feet.

Sect. II. Labu'rnum (a name formed from the Alpine name of the tree *L'Aubours*). D. C. l. c. prod. 2. p. 153. Calyx campanulate. Legume many-seeded, not dilated at the upper suture. Flowers yellow. Branches unarmed, leafy.

3 C. **labu'rnum** (Lin. spec. 1041.) branches terete, whitish; leaves petiolate; leaflets ovate-lanceolate, pubescent beneath; racemes pendulous, simple; pedicels and calyxes clothed with adpressed pubescence; legume linear, many-seeded, clothed with adpressed pubescence. ♄. H. Native of Europe, frequent on the lower mountains. Jacq. aust. t. 306. Curt. bot. mag. 176. Duham. arbr. ed. nov. 5. t. 44. C. alpinus, Lam. fl. fr. 2. p. 621.—J. Bauh. hist. 1. p. 2. p. 361. icon. *Laburnum* is usually cultivated for ornament. The wood is hard, of a fine colour, and will polish very well; it approaches near to green ebony, and is called by the French ebony of the Alps, and is there used for many kinds of furniture; but in England there are few of the trees which have been suffered to stand long enough to arrive at any considerable size. Haller observes that *Laburnum* is very bitter, that the seeds are violently purgative and emetic. He also remarks that the Latin name *Laburnum* was evidently formed from the Alpine name *L'Aubours.* In German it is called *Bohnenbaum,* and in French *Cytise des Alpes, Aubours,* and *Faux Ebenier.* The seed of *Laburnum* is frequently sown in plantations infested with hares and rabbits, who will touch no other tree as long as a twig of *Laburnum* remains. Though eaten to the ground every season, it rises again in the spring, thus affording a constant supply for these animals, so as to save the other trees till of a size to resist their attacks. The tree grows best in light loam, or sandy soil.

Var. β, quercifòlia (Hortul.) leaflets sinuated.

Laburnum. Fl. May, June. Clt. 1596. Tree 20 feet.

4 C. **alpìnus** (Mill. dict. no. 2.) glabrous; branches terete; leaves petiolate; leaflets ovate-lanceolate, rounded at the base; racemes pendulous; pedicels and calyxes puberulous; legumes glabrous, few-seeded, marginate. ♄. H. Native of Carinthia, in groves (Hoppe), in Pannonia (Willd.). In the Alps of Jura on Mount Dole and near Moret, also in the Apennines and on Mount Cenis. Waldst. et Kit. hung. 3. p. 288. t. 260. C. labúrnum β, Ait. Lam. D. C. fl. fr. Cýtisus angustifòlius, Mœnch. meth. 145. This species is nearly allied to the preceding, but is still truly distinct. The tree or *Scotch Labúrnum,* or *Cýtisus alpìnus,* is a native of Switzerland and Scotland; it is cultivated chiefly for ornament, but affords also a valuable timber; for this purpose the *C. alpìnus* is decidedly preferable to the common kind, as being more of a tree. The wood of both

the Scotch and common *Laburnum* is much used by cabinet-makers and turners, for its hardness, beauty of grain, and durability.

Alpine or Scotch Laburnum. Fl. June. Clt. 1596. Tree 15 to 20 feet.

5 C. NI'GRICANS (Lin. spec. 1041.) branches terete, twiggy; leaves stalked, clothed with adpressed pubescence beneath, as well as the branches, calyxes, and legumes; leaflets elliptic; racemes elongated, terminal, erect; calyxes bractless. ♄. H. Native of Piedmont, Vallais, and Bohemia, on hills and along way sides. Jacq. austr. t. 387. Ker. bot. reg. 802. Lam. ill. t. 618. f. 3. Dub. arb. ed. nov. 5. t. 46. f. 1. This plant turns truly black on drying.

Blackish Cytisus. Fl. Ju. July. Clt. 1730. Sh. 3 to 6 feet.

6 C. SESSILIFÒLIUS (Lin. spec. 1041.) plant quite smooth; branches terete; floral leaves almost sessile; leaflets ovate; racemes terminal, erect, short; calyxes each having a 3-leaved bractea just under it. ♄. H. Native of the south of France and Piedmont. Lam. ill. t. 618. f. 2. Duham. arb. ed. nov. 5. t. 45. f. 1. Curt. bot. mag. 255.—J. Bauh. hist. 1. p. 2. p. 374. f. 2.

Sessile-leaved Cytisus. Fl. May, June. Clt. 1629. Shrub 4 to 6 feet.

7 C. TRIFLÒRUS (Lher. stirp. 184. Desf. fl. atl. 2. p. 139. but not of Lam.) hairy; branches terete; leaves petiolate; leaflets obovate-elliptic; flowers axillary, pedicellate, terete, somewhat racemose at the tops of the branchlets. ♄. H. Native about Narbonne. In Provence, Liguria, Etruria, Sicily, and Mauritania. C. villòsus, Pourr. act. toul. 3. p. 317.—Clus. hist. 1. p. 94. f. 3. Branches rather hispid. Leaves villous. Legume hairy. It differs from *C. triflòra* of Lam. in the calyx being campanulate and broadly bilabiate, not tubular.

Three-flowered Cytisus. Fl. June, July. Clt. 1640. Shrub 3 to 4 feet.

8 C. MÓLLIS (Willd. enum. suppl. 51.) leaflets oblong, clothed with soft pubescence, acute at both ends; peduncles axillary, usually tern; calyxes subglobose, bifid, scarious. ♄. H. Native of? Perhaps sufficiently distinct from *C. triflòrus.*

Soft Cytisus. Fl. June, July. Clt. 1818. Shrub 2 to 4 ft.

9 C. PA'TENS (Lin. syst. veg. 555. ex Lher. stirp. 184.) branches striated, somewhat pubescent; leaves petiolate, trifoliate, but the upper ones are simple, and are as well as the leaflets obovate, and clothed with adpressed pubescence; flowers axillary, usually twin, pedicellate, nodding; legumes very hairy. ♄. H. Native of Portugal. C. pendulìnus, Lin. fil. suppl. 328. Genísta tomentòsa, Poir. suppl. 2. p. 719. Spártium pàtens, Lin. syst. 535. Brot. fl. lus. 2. p. 83. but not of Cav.

Spreading Cytisus. Fl. Ju. July. Clt. 1752. Sh. 4 to 6 ft.

10 C. ARBÒREUS (D. C. prod. 2. p. 154.) branches striated, glabrous; leaves stalked; leaflets obovate, clothed with fine pubescence beneath; flowers axillary, aggregate, pedicellate, nodding; legumes clothed with adpressed silky villi. ♄. H. Native of valleys about Algiers. Spártium arbòreum, Desf. atl. 2. p. 131. t. 177. Genísta péndulum, Poir. voy. 2. p. 208. A shrub 8 to 10 feet high, with a trunk about the thickness of a man's arm.

Arboreous Cytisus. Shrub 8 to 10 feet.

11 C. WELDE'NI (Visiani, pl. dalm. ex bot. zeit. jan. 1830. p. 52.) erect; leaves ternate, petiolate; leaflets elliptic, entire, cuneated at the base, and obtuse at the apex, smooth; racemes terminal, stalked, pyramidal, straight; pedicels hoary and villous; calyxes campanulate, 3-lobed; lobes tomentosely ciliated; corolla glabrous, but the carina is clothed with silky villi; legume glabrous, mucronate by the style. ♄. H. Native of Dalmatia, in woods on mounts Grab and Krivoscie. Flowers fragrant, yellow.

Welden's Cytisus. Shrub 2 to 4 feet.

12 C. GRANDIFLÒRUS (D. C. prod. 2. p. 154.) branches angular, usually glabrous; leaves in fascicles, petiolate, trifoliate, but for the most part simple, and are, as well as the leaflets, ovate-lanceolate, but the primary ones are roundish; flowers lateral, pedicellate, solitary or twin; legume woolly. ♄. H. Native of Portugal, on hills, in hedges, and in woods. Spártium grandiflòrum, Brot. fl. lus. 2. p. 80.

Great-flowered Cytisus. Fl. June, July. Clt. 1816. Shrub 3 to 4 feet.

13 C. SCOPA'RIUS (Link, enum. 2. p. 241.) branches angular, smooth; leaves trifoliate, petiolate, upper ones simple, and are oblong, as well as the leaflets; flowers axillary, pedicellate, solitary; legume pilose on the margins. ♄. H. Native of Europe, in woods and on commons; plentiful in Britain. Spártium scopàrium, Lin. spec. 996. Œd. fl. dan. t. 313. Smith, engl. bot. 1339. Genísta scopària, Lam. dict. 2. p. 623. but not of Vill. Gen. hirsùta, Mœnch. meth. 144.—Duham. arb. t. 84. The common broom is used in many parts of Britain for besoms, and in some places it serves for thatching cottages, corn, and hay ricks. The flower-buds before expansion are sometimes pickled in the manner of capers. The branches are said to be capable of tanning leather, and of being manufactured into coarse cloth, when tender they are mixed with hops in brewing, and in some places used as fodder. The old wood furnishes the cabinet-makers with the most beautiful material for vineering. The plant when burnt affords a most beautiful alkaline salt, and on this salt the efficacy of broom in dropsies must depend. The seeds of broom have a very bitter taste, and when given in decoction prove considerably diuretic. The branches have similar properties.

Var. β, álbus; flowers white.

Common-*Broom.* Fl. April, July. Britain. Sh. 3 to 10 ft.

SECT. III. CALYCÓTOME (from καλυξ, *calyx*, calyx, and τομη, *tome*, a cutting; in reference to the calyx at length falling off in part, giving it the appearance of being cut off). Link, in Schrad. neue, journ. 2. p. 2. p. 50. D. C. prod. 2. p. 154.—Calycótomon, Hoffmans. verz. plant. 1824. p. 166. Calyx campanulate, somewhat bilabiate, at length circumscisely truncate. Legume thickened on the upper suture. Shrubs, with spiny branches and yellow flowers.

14 C. SPINÒSUS (Lam. dict. 2. p. 247.) branches angular, spiny; leaves trifoliate; leaflets obovate-oblong; legumes quite glabrous. ♄. H. Native about Genoa, on hills in Corsica, and of Algiers. Spártium spinòsum, Lin. spec. 997.—J. Bauh. hist. 1. p. 2. p. 376. icon.—Lob. icon. 2. t. 95.

Spiny Cytisus. Fl. June, July. Clt. 1596. Sh. 5 to 6 feet.

15 C. LANI'GERUS (D. C. prod. 2. p. 154.) branches striated, spiny; leaves trifoliate; leaflets obovate-elliptic; legumes very hairy, and rather woolly. ♄. H. Native of Corsica, Crete, Mauritania, Gibraltar, Portugal, &c. on hills. Spártium lanígerum, Desf. atl. 2. p. 135. Sp. villòsum, Poir. voy. 2. p. 207. Calycótome villòsa, Link, l. c. Spártium spinòsum, Brot. fl. lus. 2. p. 85.

Var. β, rígidus (D. C. prod. 2. p. 154.) spines very strong. ♄. H. Native of the Great Syrtes. Spártium rígidum, Viv. fl. lib. p. 40. t. 17. f. 1.

Wool-bearing Cytisus. Fl. Ju. July. Clt. 1821. Sh. 3 to 6 ft.

SECT. IV. TUBOCY'TISUS (from *tubus*, a tube, and *cytisus;* in reference to the tubular shape of the calyx). D. C. l. c. prod. 2. p. 155.—Vibórgia,* Mœnch. meth. 132. but not of Thunb. Calyx tubular, bilabiate at the apex.—Unarmed shrubs.

* *Flowers white or whitish.*

16 C. PROLI'FERUS (Lin. fil. suppl. 328.) stems erect; branches terete, velvety; leaflets elliptic, and are, as well as the calyxes silky; flowers lateral, umbellately aggregate; legume villous.

♄. G. Native of Teneriffe, on the mountains. Ait. hort. kew. 3. p. 51. Lher. stirp. 184. Vent. cels. t. 13. Lodd. bot. cab. t. 761. Ker. bot. reg. 121. Flowers white.

Proliferous Cytisus. Fl. Ap. May. Clt. 1779. Sh. 2 to 4 ft.

17 C. LEUCA'NTHUS (Walds. et Kit. hung. 2. p. 141. t. 132.) stems erect; branches terete, and are, as well as the leaves, clothed with adpressed pubescence; leaflets elliptic, acute; flowers at the tops of the branches; heads of flowers bracteate, by two leaves. ♄. H. Native of Croatia, in woods. Willd. spec. 3. p. 1124. Sims, bot. mag. 1438. This species differs from *C. Austrìacus* in the flowers being white, not yellow.

Var. β, pállidus (Schrad. in litt.) flowers cream-coloured. ♄. H. An intermediate plant between *C. leucánthus* and *C. Austrìacus.*

White-flowered Cytisus. Fl. June, July. Clt. 1806. Shrub 3 to 4 feet.

18 C. A'LBIDUS (D. C. cat. hort. monsp. 101. no. 85.) stems erect; branches divaricate, terete, rather glabrous; leaflets oblong, pubescent beneath, as well as the calyxes; flowers axillary, usually tern, pedicellate; calyx with both lips entire. ♄. H. Native of the south of Europe and north of Africa. Flowers white. Ovary pubescent.

Whitish-flowered Cytisus. Fl. June, July. Shrub 2 to 4 ft.

* * *Flowers purple.*

19 C. PURPU'REUS (Scop. carn. no. 905. t. 43.) stems procumbent, twiggy; leaves, calyxes, and legumes glabrous; leaflets oblong; flowers axillary, solitary, on short pedicels. ♄. H. Native of Carniola and Croatia, in exposed places. Jacq. austr. append. t. 48. Lodd. bot. cab. 892. Sims, bot. mag. 1176. Flowers purple. This plant is very beautiful when in flower, but has a better effect when grafted on a rather tall laburnum.

Var. β, albiflòrus: flowers white.

Purple-flowered Cytisus. Fl. May, Aug. Clt. 1792. Shrub procumbent.

* * * *Flowers yellow.*

20 C. BIFLÒRUS (Lher. stirp. 184. Ait. hort. kew. 3. p. 52.) stems diffuse; branches terete, and are as well as the leaves rather pubescent; leaflets oblong-lanceolate; flowers on short peduncles, axillary, and usually twin; calyxes and legumes clothed with adpressed pubescence. ♄. H. Native of Austria, Pannonia, Podolia, Tauria, and Siberia. Walds. et Kit. hung. 2. p. 166. Duham. arb. ed. nov. 5. p. 45. f. 2. C. supìnus, Jacq. fl. austr. 1. t. 20. C. hirsùtus, Gmel. sib. 4. p. 17. t. 6. f. 2. C. hirsùtus and C. supìnus, Bieb. fl. taur. ex Stev. in litt. C. macrospérmus, Bess. in litt.

Var. β, glàber (Lin. fil. suppl. 325.) branches and leaves glabrous; leaflets obovate.

Var. γ, subspinéscens (D. C. prod. 2. p. 155.) branches rather hoary, more diffuse, somewhat spinescent at the apex. ♄. H. Native of Naples and Hungary.

Two-flowered Cytisus. Fl May, June. Shrub procumbent.

21 C. ELONGA'TUS (Waldst. et Kit. hung. 2. p. 200. t. 183.) stems erect; branches elongated, terete, young ones villous; leaflets obovate, clothed beneath with adpressed villi; flowers lateral, usually in fours on short pedicels; calyxes villous. ♄. H. Native of Hungary, in woods. Petioles of the upper leaves longer than the calyxes. Flowers few.

Elongated Cytisus. Fl. May, June. Clt. 1804. Sh. 3 to 4 ft.

22 C. MULTIFLÒRUS (Lindl. bot. reg. :. 1191.) stems erect; branches elongated, terete, younger ones villous; leaflets oblong, tapering to the base, villous beneath, the same colour on both surfaces; flowers usually tern; pedicels about equal in length to the petioles; vexillum emarginate, undulated. ♄. H. Native of Europe. C. elongàtus, Hortul, but not of Kit. C. elongàtus β, multiflòrus, D. C. prod.

Many-flowered Cytisus. Fl. May, June. Clt. 1800. Shrub 2 to 3 feet.

23 C. FALCA'TUS (Waldst. et Kit. hung. 3. p. 264. t. 238.) stems declinate; branches terete, twiggy, young ones, as well as the leaves clothed with adpressed villous pubescence; petioles hairy; flowers usually tern, lateral, on short peduncles; calyxes clothed with adpressed villi. ♄. H. Native of Croatia, Volhynia, Podolia, and Gallicia. Lodd. bot. cab. 520. The plant cultivated in the garden of Geneva differs from the wild plant in the flowers being almost sessile, and in the leaves being pubescent, not silky-villous.

Falcate Cytisus. Fl. Ju. Aug. Clt. 1816. Shrub 2 to 4 feet.

24 C. AUSTRI'ACUS (Lin. spec. 1042.) stems erect; branches twiggy, terete, and are, as well as the leaves, clothed with adpressed strigose pubescence; leaflets lanceolate, attenuated at both ends; flowers terminal, somewhat umbellate; calyxes and legumes sparingly villous. ♄. H. Native of Austria, upper Italy, the Ukraine, and Siberia, in woods and rough places. Mill. icon. 117. f. 2. Pall. itin. ed. gall. t. 100. f. 3. Jacq. austr. 1. t. 21.

Austrian Cytisus. Fl. Ju. Sept. Clt. 1741. Sh. 2 to 4 feet.

25 C. SUPI'NUS (Jacq. fl. austr. 1. t. 20.) stems decumbent, branched; branches terete, young ones rather hairy, adult ones smooth; leaflets obovate, obtuse, rather hairy beneath; flowers 2-4, usually terminal, pedunculate; calyxes and legumes sparingly villous. ♄. H. Native of Belgium, Austria, Pannonia, Siberia, Turkey, and Dauphiny, on exposed hills and in bushy places.—Clus. hist. p. 96. no. vii. icon. C. lotoìdes, Pourr. act. toul. 3. p. 318. Flowers pale-yellow, with the vexillum reddish.

Supine Cytisus. Fl. May, Aug. Clt. 1755. Sh. decumbent.

26 C. HIRSU'TUS (Lin. spec. 1042. Jacq. obs. 4. t. 96.) stems decumbent; branches twiggy, terete, young ones hispid, adult ones smooth; leaflets obovate, villous beneath; flowers lateral, on very short pedicels, aggregate; calyxes and legumes hairy. ♄. H. Native from Genoa to Hungary, in rugged places. C. supìnus, Bertol. pl. gen. but not of Linnæus. C. triflòrus, Lam. dict. 2. p. 250.—Clus. hist. 95. no. 4.

Hairy Cytisus. Fl. June, Aug. Clt. 1739. Sh. decumbent.

27 C. SERÒTINUS (Kit. in litt.) stems ascending; branches terete, hairy; leaflets obovate, glabrous above, rather villous beneath; flowers axillary, 2-3, pedicellate; calyxes hairy. ♄. H. Native of Hungary. This plant is sufficiently distinct from the two preceding.

Late-flowering Cytisus. Shrub 2 to 3 feet.

28 C. CAPITA'TUS (Jacq. fl. austr. t. 33.) stems erect; branches straight, hispid; leaflets ovate-elliptic, villous; flowers numerous, capitate at the tops of the branches; calyxes and legumes covered with hispid villi. ♄. H. Native of Burgundy, Italy, and Austria, on the edges of woods. Lodd. bot. cab. 497. C. supìnus, Lin. spec. 1040. C. hirsùtus, Lam. dict. 2. p. 250. Flowers sometimes lateral in the autumn.

Capitate-flowered Cytisus. Fl. June, July. Clt. 1774. Sh. 2 to 4 feet.

29 C. CILIA'TUS (Wahlenb. fl. carp. 219.) stems erect; young branches hispid, adult ones glabrous; leaflets obovate, clothed beneath with adpressed villi; flowers approximate, tern, at length lateral; legumes glabrous, ciliated. ♄. H. Native of the Carpathian mountains, on the plains of Litowa.

Ciliated-podded Cytisus. Fl. June, July. Clt. 1817. Shrub 2 to 4 feet.

30 C. POLY'TRICHUS (Bieb. fl. taur. suppl. 477.) stems declinate; branches hispid; leaflets obovate-elliptic, and are, as well as the calyxes, villous; flowers lateral, usually twin, pedicellate; legumes hairy. ♄. H. Native of southern Tauria, on the higher mountains in pine forests. This species is more hairy

than *C. capitàtus*, and the disposition of the flowers is that of *C. hirsùtus*, and the habit that of *C. supìnus*.

Many-haired Cytisus. Fl. Ju. July. Clt. 1818. Sh. 2 to 3 ft.

Sect. V. Lotoìdes (from λοτος, *lotos*, lotus, and ιδεα, form; resemblance to the genus *Lotus*). D. C. l. c. prod. 2. p. 156. Tube of calyx short, obconical, the upper lip bipartite, the lower one tridentate. Corolla hardly longer than the calyx. Many-stemmed decumbent subshrubs. Flowers few, somewhat capitate, of all yellow.

31 C. Arge'nteus (Lin. spec. 1043.) stems decumbent; leaves, calyxes, corollas, and legumes clothed with adpressed silky down; leaves petiolate, trifoliate; leaflets oblong-lanceolate; flowers 3-4, terminal. ♄. H. Native of Portugal, Spain, south of France, Italy, Carniola, and Mauritania, in rugged places. Desf. atl. 2. p. 139. Lòtus argénteus, Brot. fl. lus. 2. p. 119.—Lob. icon. 2. p. 41. f. 2.

Silvery Cytisus. Fl. Aug. Clt. 1739. Shrub decumbent.

32 C. Pygmæ'us (Willd. spec. 3. p. 1127.) stems decumbent, suffruticose; leaves petiolate, trifoliate; leaflets oblong-lanceolate, silky; flowers usually terminal; legumes oblong, villous. ♄. H. Native of Galatia.

Pygmy Cytisus. Fl. June, July. Shrub decumbent.

33 C. Calyci'nus (Bieb. fl. taur. 2. p. 166.) stems ascending; leaves, calyxes, and legumes rather hairy from spreading down; leaves petiolate, trifoliate; leaflets roundish-obovate; flowers 2-8, terminal. ♄. H. Native of Caucasus, in stony places. C. pauciflòrus, Willd. spec. 3. p. 1126.

Large-*calyxed* Cytisus. Fl. Aug. Clt. 1820. Sh. prostrate.

34 C. Lotoi'des (Willd. spec. 3. p. 1127.) stems decumbent, herbaceous, simple, and are, as well as the leaves, pubescent; leaves petiolate, trifoliate; leaflets roundish-elliptic, mucronate; flowers 7-8, capitate. ♃. H. Native of Galatia.

Lotus-like Cytisus. Shrub decumbent.

35 C. Na'nus (Willd. enum. 769.) stems erect; leaves trifoliate, obovate, clothed with strigose pubescence beneath and smooth above; raceme terminal, secund, usually 4-flowered; calyx deeply 3-parted; hairs on the stems and peduncles adpressed. Wats. dend. brit. 81. ♄. H. Native of the Levant.

Dwarf Cytisus. Fl. May, June. Clt. 1816. Sh. decumbent.

Sect. VI. Chrona'nthus (χρονος, *chronos*, a year, and ανθος, *anthos*, a flower; in reference to the permanent petals, which remain all the year). D. C. l. c. prod. 2. p. 157. Upper lip of calyx bifid, lower one trifid; lobes acute, length of the tube. Petals permanent. Legume oval, much compressed, 2-seeded. Perhaps a proper genus.

36 C. Orienta'lis (Lois. in Duham. arbr. ed. nov. p. 136.) stems erect, hairy; leaves almost sessile, trifoliate, villous; leaflets linear, acute; flowers sub-terminal, few, and are, as well as the legumes, glabrous. ♄. H. Native of the Levant. C. orientàlis, &c. Sherard and Vaill. herb. Flowers large, on short pedicels, yellow. Calyx villous, more 5-cleft than bilabiate.

Oriental Cytisus. Fl. Ju. July. Clt. 1818. Sh. 2 to 3 feet.

† *Species not sufficiently known.*

37 C. Po'nticus (Willd. spec. 3. p. 1120. exclusive of the synonyme of Tourn.) branches furrowed, ascending, and are, as well as the leaves, pubescent; leaves trifoliate; leaflets elliptic, obtuse; branches erect, terminal; calyxes villous. ♄. H. Native of Pontus. According to Willd. this plant is allied to *Adenocàrpus Hispánicus*. C. Pónticus humifusus magno flore, Tourn. cor. 44. According to Willd. the branches are terete, not sulcated, and the leaflets obovate, not elliptic.

Pontic Cytisus. Shrub ascending.

38 C. Cane'scens (Lois. in Duham. arbr. ed. nov. 5. p. 151.) the whole plant is clothed with silky hoary pubescence; leaves trifoliate; leaflets linear-oblong; racemes few-flowered, terminal; calyxes short, campanulate, canescent, 5-toothed. ♄. H. Native of? Legumes unknown.

Canescent Cytisus. Shrub.

39 C. Africa'nus (Lois. in Duham. arbr. ed. nov. 5. p. 154.) branches erect, hairy; leaves trifoliate, petiolate; leaflets linear, pilose; umbels terminal, pedunculate; calyx hairy, hardly shorter than the corolla. ♄. H. Native of the north of Africa. C. Africànus hirsùtus angustifòlius, Tourn. inst. 648. This plant is said to be allied to *Adenocárpus*.

African Cytisus. Shrub.

40 C. Pa'llidus (Poir. suppl. 2. p. 442. but not of Schrad.) branches furrowed, glabrous; leaves sessile, trifoliate; leaflets oblong-lanceolate; flowers axillary and terminal, somewhat capitate. ♄. G. Native of the Canary Islands. Corolla pale-white. Perhaps a variety of *Genísta linifòlia*.

Pale-flowered Cytisus. Shrub 2 to 3 feet.

41 C. Proce'rus (Link, enum. 2. p. 241.) branches terete, striated; leaves lanceolate, pilose; flowers solitary, axillary; legumes villous. ♄. H. Native of Portugal. Spártium procérum, Willd. enum. 742.

Tall Cytisus. Shrub 6 to 8 feet.

42 C.? Pe'rsicus (Burm. fl. ind. p. 163. t. 51. f. 1.) branches straight, divaricate, and are as well as the leaves finely pubescent; leaves petiolate, trifoliate; leaflets linear, the middle one twice the length of the others; racemes elongated, loose-flowered, opposite the leaves; ovary villous. ♄. H. Native of Persia. Spártium Pérsicum, Willd. spec. 3. p. 931. Habit almost of *Indigófera psoraleoìdes*, and if the stamens, as is suspected, are diadelphous, it is certainly referable to *Indigófera*.

Persian Cytisus. Shrub 3 to 4 feet.

43 C. Antilla'nus (D. C. prod. 2. p. 157.) spines under the origin of the leaves, shorter than the petioles; leaves trifoliate; leaflets rhomboidal-oblong, silvery beneath; flowers axillary, solitary, on short pedicels. ♄. S. Native of the Caribbee Islands. C. spinòsus, Descourt, fl. med. ant. 1. t. 8. but not of Linnæus. C. spinòsus, with yellow flowers rising from the wings. Plum. gen. p. 19. ex Desc. Calyx campanulate, bilabiate. Legume an inch long, somewhat inflated, 5-6-seeded. Stamens, according to the description, diadelphous, but from the figure monadelphous.

Antilles Cytisus. Shrub.

Cult. The species of this genus are very elegant when in flower, the hardy kinds are well adapted for ornamenting shrubberies, the trailing kinds of them are well fitted for rock-work, or to be planted on dry banks; the *C. purpùreus* is one of the handsomest of this description, and has a very beautiful appearance when grafted on a tall *Laburnum*. The larger kinds, such as the *Laburnum*, should be planted in conspicuous places. All are readily increased by seeds or layers, or by grafting the rarer on the commoner kinds. The greenhouse and frame kinds thrive best in a mixture of loam, peat, and sand, and young cuttings of them root freely if planted in a pot of sand, with a bell-glass placed over them, the glasses to be taken off and wiped occasionally.

LXI. ADENOCA'RPUS (from αδην, *aden*, a gland, and καρπος, *karpos*, a fruit; in reference to the legumes being beset with pedicellate glands). D. C. fl. fr. suppl. 549. Leg. mem. VI. prod. 2. p. 158.

Lin. syst. *Monadélphia, Decándria.* Calyx obconical, usually beset with glands, bilabiate, upper lip bipartite, lower one longer and trifid. Carina obtuse, inclosing the genitals. Stamens monadelphous. Legume oblong, compressed, bearing on all sides pedicellate glands.—Shrubs with divaricate branches, trifoliate, usually aggregate leaves, having petiolar stipulas, complicated leaflets and terminal racemes of yellow flowers, with the pedicels bracteate.

1 A. HISPA'NICUS (D. C. l. c.) calyx beset with glands and villi; lower lip of calyx with 3 equal segments, hardly longer than the upper lip; branchlets hairy; flowers crowded; vexillum smoothish. ♄. H. Native of Spain and Portugal, in shady humid places. Cýtisus Hispánicus, Lam. dict. 2. p. 248. Cýtisus anagýrius, Lher. stirp. 184.

Spanish Adenocarpus. Fl. June, Jul. Clt. 1816. Sh. 2 to 4 ft.

2 A. INTERME'DIUS (D. C. l. c.) calyx beset with glandular pubescence, with the lower lip trifid, the lateral segments shorter than the middle one, and much exceeding the upper lip; branches rather villous; flowers remotish; vexillum smoothish. ♄. H. Native of Sicily and Naples, on mountains.—Clus. hist. 1. p. 94. f. 1. Cýtisus complicàtus, Brot. fl. lus. 2. p. 92.

Intermediate Cytisus. Fl. May, July. Clt.? Sh. 3 to 4 feet.

3 A. PARVIFÒLIUS (D. C. l. c.) calyx clothed with glandular pubescence, with the middle segment of the lower lip longer than the lateral ones, much exceeding the upper lip; branches glabrous; flowers remote; vexillum pubescent. ♄. H. Native of the west of France, on exposed heaths. Cýtisus parvifòlius, Lam. dict. 2. p. 248. exclusive of the synonymes. Cýtisus divaricàtus, Lher. stirp. 184. Cyt. complicàtus, D. C. fl. fr. no. 3821. Spártium complicàtum, Lois. fl. gall. 441. Branches white.

Small-leaved Adenocarpus. Fl. May, July. Clt. 1800. Sh. 3 to 4 feet.

4 A. TELONE'NSIS (D. C. l. c.) calyx clothed with glandless pubescence, the segments of the lower lip about equal in length, a little longer than the superior lip; branchlets smoothish; flowers remote; vexillum pubescent. ♄. H. Native of the Pyrenees, Cevennes, mountains of Provence and Rome. Cýtisus Telonénsis, Lois. fl. gall. 446. and in Duh. arb. ed. nov. 5. p. 155. t. 47. f. 2. Spártium complicàtum, Gouan. hort. monsp. 356. exclusive of the synonyme.

Telone Adenocarpus. Fl. Ju. Jul. Clt. 1800. Sh. 2 to 4 ft.

5 A. FRANKENIOI'DES (Choisy. mss. in herb. D. C. prod. 2. p. 158.) calyx beset with glandular pubescence, with the lower lip having the middle segment longer than the lateral ones, and exceeding the lower lip; branches velvety; leaves much crowded, hairy; flowers crowded; vexillum pubescent at the apex. ♄. F. Native of Teneriffe, on the declivities of the Peak, at the height of 5000 feet, where it is called *Codeso*. Genìsta viscòsa, Willd. spec. 3. p. 837. It is usually confused with the following species, but differs in the calyx being glandular, as *A. parvifòlius* differs from *A. Telonénsis*.

Frankenia-like Adenocarpus. Fl. April, July. Clt. 1815. Shrub 1 to 3 feet.

6 A. FOLIOLÒSUS (D. C. l. c.) calyx covered with glandless villi, with the lower lip elongated and trifid at the apex, the segments equal; leaves and branches much crowded, hairy; vexillum pubescent. ♄. F. Native of the Grand Canary Island, among bushes, and in the woods of Laguna. Cýtisus foliòsus, Ait. hort. kew. 3. p. 49.—Pluk. alm. t. 277. f. 6. bad. Young legume furnished with a few glandular hairs, adult ones almost smooth.

Leafy Adenocarpus. Fl. May, Ju. Clt. 1629. Sh. 4 to 6 ft.

Cult. Elegant plants when in flower, and well fitted for ornamenting the front of shrubberies. Their culture and propagation is the same as that for the hardy species of *Cýtisus*. The two last species require protection in winter.

LXII. ONO'NIS (said to be from ονος, *onos*, an ass, and ονημι, *onemi*, to delight; some of the species are said to be grateful to asses). Lin. gen. no. 863. Lam. ill. t. 616. D. C. prod. 2. p. 158.—Anònis and Nàtrix, Mœnch. meth. 157. and 158.

LIN. SYST. *Monadélphia, Decándria.* Calyx campanulate, 5-cleft, with linear segments. Vexillum large, striated. Stamens monadelphous, the tenth one sometimes almost free. Legume usually turgid, sessile, few-seeded.—Herbs or subshrubs, with trifoliate leaves, seldom simple, but more rarely imparipinnate. Flowers rising from the axils of the leaves, sometimes pedunculate, sometimes sessile, yellow or purple, rarely white. Pedicels usually furnished with an awn, a floral leaf, or abortive petiole.

SECT. I. EUONÒNIS (ευ, *eu*, good, and *ononis*; genuine species. D. C. prod. 2. p. 158.). Stipulas adnate to the petiole.

§ 1. *Nàtrix* (the name of a plant which smells like a goat). *Leaves simple or trifoliate. Flowers axillary, pedunculate, yellow.*

1 O. CRÌSPA (Lin. spec. 1010. exclusive of the synonyme of Magn.) shrubby; leaves trifoliate; leaflets roundish, undulated, toothed, clothed with clammy pubescence; pedicels 1-flowered, awnless. ♄. F. Native of Spain. Wendl. in Rœm. arch. 1. p. 3. p. 106. Stipulas spreadingly-deflexed. Vexillum striped with blood-colour on the outside.

Curled-leaved Rest-harrow. Fl. June, Aug. Clt. 1739. Sh. 1 to 2 feet.

2 O. HISPA'NICA (Lin. fil. suppl. 324.) shrubby; leaves trifoliate; leaflets channelled, recurved, with the margin serrated; pedicels 1-2-flowered, furnished each with an awn. ♄. F. Native of Spain, along the Mediterranean Sea, in the sand. Sims, bot. mag. 2450. exclusive of the synonyme of Tenore.—Barr. icon. t. 775. Perhaps a variety of *O. críspa*.

Spanish Rest-harrow. Fl. May, Sept. Clt. 1799. Sh. 1 to 2 ft.

3 O. VAGINA'LIS (Vahl. symb. 1. p. 53.) shrubby; leaves crowded, sessile, trifoliate, but the upper ones are simple; stipulas sheathing; leaflets obovate, serrated; pedicels elongated, 1-flowered, permanent, each furnished with an awn. ♄. F. Native of Egypt. Vent. hort. cels. t. 32. Viv. fl. lyb. 41. t. 4. f. 4. O. Cherlèri, Forsk. descr. 130. Leaves, branches, peduncles, and calyxes clothed with clammy pubescence.

Sheathed Rest-harrow. Fl. Ju. Aug. Clt. 1815. Sh. 1 to 2 ft.

4 O. NA'TRIX (D. C. fl. fr. 4. p. 514.) shrubby; clothed with clammy pubescence; leaves trifoliate; leaflets oblong, serrated at the apex, upper ones sometimes simple; stipulas oval-lanceolate; pedicels 1-flowered, each furnished with an awn. ♄. H. Native of Europe, in places exposed to the sun.

Var. α; vexillum yellow. O. nàtrix, Lin. spec. 1008. Cam. epit. 444. with a figure. Mill. icon. t. 37. Sims, bot. mag. 329. Nàtrix pínguis, Mœnch. meth. 158.

Var. β; vexillum striated with red. O. pínguis, Lin. spec. 1009.

Goat-root Rest-harrow. Fl. June, Aug. Clt. 1683. Shrub 1 to 2 feet.

5 O. ARACHNOÌDEA (Lapeyr. abr. 409.) shrubby, villous, but not clammy; leaves pinnately trifoliate; leaflets oval-oblong, serrated at the apex, upper ones sometimes simple; pedicels 1-flowered, each furnished with an awn. ♄. F. Native of the Pyrenees, on the eastern side along the torrents. D. C. fl. fr. suppl. 552. Vexillum striated with red. Branches beset with soft hairs.

Cobwebbed Rest-harrow. Shrub 1 to 2 feet.

6 O. CUSPIDA'TA (Desf. atl. 2. p. 144.) herbaceous, villous, but not clammy; leaves trifoliate, but the upper ones are simple; leaflets elliptic, serrated; pedicels 1-flowered, each furnished with an awn, the awns broadest above. ♃. ? F. Native of Algiers. Like *O. nàtrix*, but the villi is longer and not clammy, and the corolla is not half the size.

Cuspidate Rest-harrow. Fl. May, Sept. Clt. 1818. Sh. 1 to 2 feet.

7 O. PÍCTA (Desf. fl. atl. 2. p. 144.) herbaceous, clothed with clammy villi; leaves trifoliate; leaflets elliptic, serrated; pedicels 1-flowered, each furnished with an awn, shorter than the leaves; corolla hardly higher than the calyx. ♃. F. Native of Barbary, near Mascar. Vexillum painted with purple lines.

Painted Rest-harrow. Fl. May, June. Clt. 1820. Pl. 1 ft.

8 O. LONGIFÒLIA (Willd. enum. 750.) shrubby, clothed with clammy pubescence; leaves trifoliate; leaflets linear-lanceolate, serrated at the apex; stipulas setaceous, linear; pedicels 1-flowered, each furnished with an awn. ♄. F. Native of Teneriffe and on the mountains in the Grand Canary Island.

Long-leaved Rest-harrow. Fl. June, Aug. Clt. 1816. Sh. 1 to 2 feet.

9 O. FALCA'TA (Viv. fl. lyb. 41. t. 18. f. 3.) erect, hairy; stipulas falcate, sheathing at the base; leaves all trifoliate; leaflets almost linear, toothed at the apex; pedicels 1-flowered, each furnished with a very short awn, longer than the leaves. ♄.? F. Native of Cyrenaica.

Falcate-stipuled Rest-harrow. Fl. Ju. Aug. Sh. 1 to 2 ft.

10 O. RAMOSI'SSIMA (Desf. fl. atl. 2. p. 142. t. 186.) plant suffruticose, much branched, clothed with clammy pubescence; leaves trifoliate; leaflets linear-obovate, serrated; pedicels 1-flowered, longer than the leaves, each furnished with a long awn. ♄. F. Native of Barbary, Sicily, and Nice, in the sand by the sea side. D. C. fl. fr. 4. p. 515. Vexillum striated with purple veins.

Much-branched Rest-harrow. Fl. June, Aug. Clt. 1819. Shrub ½ to 1 foot.

11 O. ARENA'RIA (D. C. cat. hort. monsp. 128. fl. fr. suppl. p. 551.) plant suffruticose at the base, much branched, clothed with clammy pubescence; leaves trifoliate; leaflets linear-obovate, serrated; pedicels 1-flowered, shorter than the leaves, hardly awned. ♄. H. Native of Montpelier, in the sand by the sea side. Anònis spinis carens lutea minor, Magn. bot. 21. Vexillum yellow, but not striated. Perhaps sufficiently distinct from the preceding.

Sand Rest-harrow. Fl. Ju. July. Clt. 1819. Sh. ½ to 1 foot.

12 O. BIFLO'RA (Desf. atl. 2. p. 143.) herbaceous? downy; leaves trifoliate; leaflets oblong, serrated; peduncles 2-flowered, nodding, each furnished with an awn, longer than the petioles. ⊙. H. Native of Barbary. Corolla yellow, painted with longitudinal lines.

Two-flowered Rest-harrow. Fl. Ju. July. Clt. 1818. Pl. 1 ft.

13 O. VESTI'TA (Viv. fl. lyb. p. 40. t. 18. f. 1.) herbaceous, flexuous, erectish, beset with glandular hairs; stipulas lanceolate, sheathing, striated with nerves; leaves trifoliate, upper ones simple; leaflets ovate, serrated; pedicels 1-flowered, awnless. ⊙. H. Native of Lybia, in the great Syrtis.

Clothed Rest-harrow. Pl. ½ foot.

14 O. VISCO'SA (Lin. spec. 1009. var. α.) herbaceous, pubescent, clammy; superior leaves simple, lower leaves trifoliate, middle leaflet largest; stipulas about equal in length to the petioles; peduncles 1-flowered, each furnished with an awn, longer than the leaves; corolla longer than the calycine lobes. ⊙. H. Native of the south of France, Spain, and Portugal.—Barr. icon. t. 1239. Awn of pedicel shorter than the calyx.

Clammy Rest-harrow. Fl. Ju. July. Clt. 1759. Pl. ½ to 1 ft.

15 O. BRACHYCA'RPA (D. C. prod. 2. p. 160.) herbaceous, pilose, rather clammy; superior leaves simple, inferior ones trifoliate; middle leaflet largest; stipulas about equal in length to the petioles; peduncles 1-flowered, each furnished with an awn, longer than the leaves, permanent; corolla and legume length of calyx. ⊙. H. Native of Spain, near Aranjuez, as well as about Madrid.

Short-podded Rest-harrow. Fl. June, July. Clt. 1823. Pl. ½ foot.

16 O. BREVIFLO'RA (D. C. prod. 2. p. 160.) herbaceous, pilose, rather clammy, upper leaves simple, lower ones trifoliate; leaflets elliptic, obtuse, serrated, middle one largest; stipulas serrated, about equal in length to the petiole; peduncles 1-flowered, each furnished with an awn, length of leaves; corolla shorter than the calycine lobes. ⊙. H. Native of Italy, Sicily, and Spain, and perhaps of the south of France. O. viscòsa β, Lin. D. C. fl. fr. 5. p. 515. Awn of pedicel about equal in length to the calyx. Legume twice the length of the calyx. Perhaps only a variety of the preceding.

Short-flowered Rest-harrow. Fl. Ju. July. Clt. 1800. Pl. ½ ft.

17 O. SI'CULA (Guss. cat. 1821. p. 78.) herbaceous, diffuse, clammy, pubescent; upper leaves simple, the rest trifoliate; leaflets linear-oblong, acute, serrated at the apex; stipulas nearly entire, about equal in length to the petiole; peduncles 1-flowered, each furnished with an awn; corolla shorter than the calyx; legumes shorter than the calyx, pendulous. ⊙. H. Native of Sicily, on the Volcanic rocks near Palagonia. Stipulas lanceolate, acuminated. Flowers yellow, reclinate. Stamens 7-18.

Sicilian Rest-harrow. Fl. Ju. July. Clt. 1817. Pl. 1 foot.

18 O. CINTRA'NA (Brot. phyt. 138. t. 57.) herbaceous, pubescent; upper leaves simple, lower ones trifoliate; leaflets oval-oblong or lanceolate, serrated; stipulas serrated, equal in length to the petioles; peduncles 1-flowered, awnless. ⊙. H. Native of Portugal, on the lower region of the Cintra mountains.

Cintra Rest-harrow. Pl. 1 foot.

19 O. PUBE'SCENS (Lin. mant. 267.) herbaceous, erect, clammy, pubescent; upper leaves simple, the rest trifoliate; leaflets oval-oblong, serrated; stipulas large, acuminated, entire; calyxes broad, striated; peduncles 1-flowered, awnless, shorter than the leaves. ⊙. H. Native of Portugal, Spain, Mauritania, and the islands of the Archipelago. D. C. fl. fr. suppl. p. 551. O. arthropòdia, Brot. phyt. 140. t. 58. O. Morisòni, Gouan. herb. 47. O. calycìna, Lam. dict. 1. p. 506. Vexillum somewhat pubescent. Legume 2-seeded; shorter than the calyx, according to Brotero, but a little longer than the calyx, and containing 4 or 6 seeds in the specimen collected in Sicily contained in the herbarum of Moricand.

Pubescent Rest-harrow. Fl. Ju. Aug. Clt. 1680. Pl. 1 to 1½ ft.

20 O. POLYMO'RPHA (Guss. pl. rar. p. 291.) plant clothed with clammy pubescence; lower leaves ternate, superior ones simple; leaflets elliptic-oblong, serrulated from the middle to the apex; peduncles 1-flowered, mutic or awned, at length exceeding the leaves; calyx nerved, equal in length to the corolla; legume pendulous, 4-6-seeded, mucronate by the reflexed style, rather longer than the calyx. ⊙. H. Native of Calabria. Flowers yellow.

Polymorphous Rest-harrow. Fl. April, May. Pl. ½ foot.

21 O. CALYCI'NA (Viv. fl. lyb. 41. t. 18. f. 3. but not of Lam.) herbaceous, erect, clothed with glandular hairs; lower leaves trifoliate, upper ones simple; leaflets obovate-cuneated, and are, as well as the stipulas, serrate-toothed; pedicels 1-flowered, awnless, shorter than the leaves; calyx equal in length to the corolla. ⊙. H. Native of the north of Africa, on the sea shore.

Large-*calyxed* Rest-harrow. Fl. July, Aug. Pl. ½ foot.

22 O. ORNITHOPODIOI'DES (Lin. spec. 1009.) herbaceous, clothed with clammy pubescence; leaves trifoliate; leaflets oblong, serrated; peduncles 1-2-flowered, each furnished with an awn; legume linear, drooping, contracted between the seeds. ⊙. H. Native of Spain, Italy, Sicily, and Mauritania. Cav. icon. 2. t. 192. Cup. panph. sic. ed. bon. t. 20. the outmost figure.

Bird's-foot-like Rest-harrow. Fl. July, Aug. Clt. 1713. Pl. ½ foot.

§ 2. *Natrídium* (from *Nàtrix* and *idea*, formed; the plants have the habit of the last division). *D. C. prod. 2. p.* 161. *Leaves simple and trifoliate. Flowers axillary, pedunculate, purplish, rarely white.*

23 O. ROTUNDIFO`LIA (Lin. spec. ed. 1. p. 719. but not ed. 2.) shrubby; leaves trifoliate; leaflets obovate-roundish, toothed; peduncles 3-flowered, bractless. ♄. H. Native of the Pyrenees and the Alps of Europe. Jacq. fl. austr. append. t. 49. Lam. ill. t. 616. Curt. bot. mag. 335.—Lob. icon. 2. p. 73. f. 1. O. latifòlia, Asso, syn. 97. mant. t. 11. f. 1. Nàtrix rotundifòlia, Mœnch.

Var. β, aristàta (D. C. prod. 2. p. 161.) peduncles 3-flowered, each furnished with an awn.

Round-leaved Rest-harrow. Fl. May, Sept. Clt. 1570. Sh. 2 to 3 feet.

24 O. TRIBRACTEA`TA (D. C. fl. fr. suppl. 553.) shrubby; leaves trifoliate; leaflets ovate, toothed; peduncles usually 3-flowered; calyx bracteated with 3 leaves. ♄. H. Native of Carinthia. O. rotundifòlia of Lin. spec. ed. 2. p. 1050. exclusive of the synonymes.

Three-bracteated-calyxed Rest-harrow. Fl. May, July. Clt. 1800. Shrub 1 to 2 feet.

25 O. FRUTICO`SA (Lin. spec. 1010.) shrubby; leaves trifoliate; leaflets sessile, lanceolate, serrated; stipulas connate into one, having 4 awns, leafless on the upper part; peduncles 3-flowered, disposed in a raceme. ♄. F. Native of Provence and Dauphiny, on the Alps. Duh. ed. nov. 1. t. 58. Mill. dict. t. 36. Sims, bot. mag. 317.

Var. β, microphýlla (D. C. prod. 2. p. 161.) leaflets small, obovate, serrated. ♄. F. Native of Arragon, on the mountains. O. fruticòsa, Asso, syn. arr. 97.

Shrubby Rest-harrow. Fl. May, Ju. Clt. 1680. Sh. 1 to 2 ft.

26 O. TRIDENTA`TA (Lin. spec. 1009.) shrubby; leaves palmately-trifoliate, smoothish, fleshy; leaflets linear-cuneated, tridentate at the apex; upper stipulas tridentate; peduncles 1-2-flowered. ♄. F. Native of Spain. Cav. icon. 2. t. 152.—Magn. bot. t. 16. O. crassifòlia, Dufour. ined. and O. arbúscula, Desv. journ. bot. 1814. 1. p. 76. ex herb. Desf.

Var. β, canéscens (Lam. dict. 1. p. 505.) branches clothed with hoary tomentum; leaflets pale, wedge-shaped, 5-toothed. ♄. F. Native of Arragon. Asso, fl. arr. no. 671. var. 2.—Barr. icon. t. 416.

Tridentate-leaved Rest-harrow. Fl. June, Aug. Clt. 1752. Shrub 1 to 2 feet.

27 O. ANGUSTIFO`LIA (Lam. dict. 1. p. 508.) shrubby; leaves palmately-trifoliate; leaflets linear, acute, serrated at the apex; peduncles 1-flowered, each furnished with an awn, longer than the leaves. ♄. F. Native of Spain, along way sides between Valentia and Denia.—Barr. icon. t. 299 or 300.

Narrow-leaved Rest-harrow. Fl. May, Ju. Clt. 1825. Sh. 1 ft.

28 O. CENE`SIA (Lin. mant. 267.) suffruticose at the base, many-stemmed, tufted, prostrate, glabrous; leaves palmately-trifoliate; leaflets cuneated, and are, as well as the stipulas serrated; peduncles 1-flowered, without an awn, longer than the leaves. ♄. H. Native of Piedmont, Provence, Dauphiny, and Savoy on rocks, in the Alps. All. fl. ped. no. 1173. t. 10. f. 2.—Barr. icon. t. 1104. O. cristàta, Mill. dict.

Var. β, subaristàta (D. C. prod. 2. p. 161.) peduncles each furnished with a kind of awn. ♄. F. Native of the Pyrenees, on the eastern side, and of Arragon. O. Cenèsia, Asso, syn. no. 674.

Mount-*Cenis* Rest-harrow. Fl. June, July. Clt. 1759. Sh. ½ to 1 foot.

29 O. FŒ`TIDA (Schousb. ex Balb. D. C. prod. 2. p. 161.) herbaceous; branchlets pilose; leaves smoothish, upper ones simple, the rest trifoliate; leaflets elliptic, serrulated, middle one largest; stipulas about equal in length to the petioles; peduncles 1-flowered, each furnished with an awn. ♄. ? F. Native of Morocco, in fields. Corolla nearly like that of *O. Cenèsia.*

Fœtid Rest-harrow. Fl. June, July. Clt. 1818. Pl. ½ foot.

30 O. GEMINIFLO`RA (Lag. nov. spec. p. 22.) herbaceous, villous; leaves trifoliate; leaflets oblong, truncate, serrate-toothed at the apex; peduncles 2-flowered, each furnished with an awn, longer than the petioles. ⊙. H. Native of Spain, near Madrid, in arid places. Legumes drooping.

Twin-flowered Rest-harrow. Fl. Ju. Aug. Clt. 1817. Pl. ½ ft.

31 O. LAXIFLO`RA (Desf. fl. atl. 2. p. 146. t. 190.) herbaceous; leaflets pubescent, obovate, and are, as well as the stipulas toothed; peduncles 1-flowered, without an awn, lax; calyx about equal in length to the corolla, but 3 times shorter than the legume. ⊙. H. Native of Algiers, on uncultivated hills. Corolla bluish.

Lax-flowered Rest-harrow. Pl. ½ to 1 foot.

32 O. BROUSSONE`TII (D. C. prod. 1. p. 161.) herbaceous; leaves trifoliate; leaflets smoothish, oblong, and are, as well as the stipulas, serrated; peduncles 1-flowered, without an awn, disposed in an almost leafless raceme; calyx one-half shorter than the corolla. ⊙. H. Native of Mogodor, in fields. Root simple. Stems numerous. Peduncles 8-10 lines long. Upper stipulas joined into a bractea-like acuminated leaf.

Broussonet's Rest-harrow. Pl. ½ foot.

33 O. SCHÓUWII (D. C. prod. 2. p. 162.) herbaceous; leaves trifoliate; leaflets oblong-obovate, smoothish, and are, as well as the stipulas, serrated; peduncles 1-flowered, without an awn, hardly the length of the calyx, aggregated into an ovate raceme; calyx shorter than the corolla and legume. ⊙. H. Native near Palermo, on mountains. Stems pilose. Allied to the following.

Schouw's Rest-harrow. Pl. ½ foot.

34 O. BROTERIA`NA (D. C. prod. 2. p. 162.) herbaceous; upper leaves simple, the rest trifoliate; leaflets pubescent, oval, and are, as well as the stipulas, serrated; peduncles 1-flowered, without an awn, shorter than the calyx, disposed in a long peduncled raceme; calyx a little shorter than the corolla; legume glabrous. ⊙. H. Native of Spain, in Estramadura, in sandy places. O. racemòsa, Brot. fl. lus. 2. p. 97. but not of Thunb.

Brotero's Rest-harrow. Pl. ½ foot.

35 O. RECLINA`TA (Lin. spec. 1011.) herbaceous, diffuse; leaves trifoliate; leaflets obovate, serrated, covered with clammy pubescence; stipulas broad-ovate, acute, serrated; peduncles 1-flowered, length of leaves, somewhat bracteolate under the apex; calyx longer than the corolla. ⊙. H. Native of the south of France, by the sea side. D. C. fl. fr. 4. p. 512.—Barr. icon. t. 761. Legume, according to Linnæus, villous, and one-half longer than the corolla.

Reclinate Rest-harrow. Fl. June, Aug. Clt. 1800. Pl. trailing.

36 O. MÓLLIS (Lag. nov. spec. p. 22.) herbaceous, erectish; leaves trifoliate; leaflets oblong-obovate, serrated at the apex; stipulas nearly entire; peduncles 1-flowered, without an awn, length of leaves; calyx equal in length to the corolla, and at length also to the legume. ⊙. H. Native of Spain and Italy, on hills in exposed places. Stems and calyxes rather hispid. O. Desfontàinii, Dufour, in litt. O. móllis, Sav. mem. soc. ital. 9. p. 351. t. 8.

Soft Rest-harrow. Pl. ½ foot.

37 O. CHERLE`RI (Lin. spec. 1007.) herbaceous, hairy; leaves trifoliate; leaflets oblong-cuneated, serrated at the apex; stipulas almost entire; peduncles 1-flowered, without an awn, shorter than the leaves, aggregate into a raceme; calyx longer than the corolla, but about equal in length to the legume. ⊙. H. Native of Montpelier, on rocks, Nice, and Barbary.—J. Bauh. hist. 2. p. 394. f. 2.

Cherler's Rest-harrow. Fl. June, July. Clt. 1771. Pl. ½ ft.

37 O. PE′NDULA (Desf. atl. 2. p. 197. t. 191.) herbaceous, rather hairy; leaves trifoliate; leaflets obovate, obtuse, and are, as well as the stipulas, serrated; peduncles 1-flowered, without an awn, nearly the length of the leaves; calyx a little shorter than the corolla and legume. ⊙. H. Native of Barbary, in corn-fields near Mascar.

Pendulous Rest-harrow. Fl. June, Aug. Clt. 1818. Pl. 1 ft.

38 O. SIEBE′RI (Besser, in litt. D. C. prod. 2. p. 162.) stem herbaceous, hairy; leaves smoothish, and for the most part simple, oval, serrated at the apex, rarely trifoliate with the lateral leaflets, oblong-linear, acute, and small; stipulas acute, entire; pedicels 1-flowered, awnless, longer than the leaves; corolla length of calyx. ⊙. H. Native of Crete. O. péndula, Sieb. herb. but not of Desf. Legume 2-4-seeded, a little longer than the calyx. This species comes very near to O. Gussoniàna, but the flowers in the dried specimens appear red.

Sieber's Rest-harrow. Pl. ½ foot.

§ 3. *Bugràna* (*Bugrane* is the French name of *Rest-harrow*). *D. C. prod. 2. p. 162. Leaves simple or trifoliate. Flowers sessile or on very short pedicels, purple or rose-coloured, rarely white.*

39 O. ARBORE′SCENS (Desf. fl. atl. 2. p. 149. t. 193.) erect; branchlets unarmed, sparingly villous; leaves trifoliate; leaflets obovate, serrated; calycine lobes villous, 3-nerved, rather longer than the legume. ♄. G. Native of Barbary, about Arzeau on mountains. Flowers rose-coloured.

Arborescent Rest-harrow. Fl. May, July. Clt. 1826. Shrub 10 feet.

40 O. ALTI′SSIMA (Lam. dict. 1. p. 506.) erect; branches unarmed, villous, rather viscid; leaves trifoliate; leaflets oblong-lanceolate, acute, serrated; flowers usually twin; calycine lobes villous, length of legume. ♃. H. Native of Europe, in cultivated fields and sandy places. O. hircìna, Jacq. hort. vind. t. 93. O. fœ′tens, All. ped. no. 1164. t. 41. f. 1. O. arvénsis, Retz, obs. 2. p. 21. O. spinòsa α, Lin. spec. 1006. Flowers red.

Tallest Rest-harrow. Fl. May, Aug. Clt. 1596. Pl. 3 to 6 ft.

41 O. PROCU′RRENS (Wallr. sched. crit. p. 381.) stems rooting at the base, creeping, diffuse; floriferous branches ascending, pubescent; leaves trifoliate; leaflets ovate-roundish, glandular on both surfaces, somewhat serrated; calycine lobes exceeding the legume. ♃. H. Native of Europe, in sandy fields frequent. O. arvénsis, Lam. dict. 1. p. 505. D. C. fl. fr. 4. p. 509. Flowers purple or white.

Running Rest-harrow. Fl. June, July. Clt. 1820. Pl. prostrate.

42 O. RE′PENS (Lin. spec. 1006.) stems prostrate, unarmed, hairy; lower leaves trifoliate, the upper ones simple, cuneate-elliptic, serrulated at the apex; flowers usually solitary. ♃. H. Native of Europe, in sandy places on the sea coast; plentiful in Britain.—Dill. hort. elth. t. 25. f. 28. O. inèrmis β, Huds. 313. O. spinòsas γ, rèpens, Smith, engl. fl. 3. p. 267. Flowers white r rose-coloured.

Var. β, *cadùca* (Vill. dauph. 3. p. 428.) branches clothed with clammy villi; leaflets oblong, pubescent. ♃. H. Native of Dauphiny, on mountains.

Creeping Rest-harrow. Fl. June, Aug. Brit. Pl. prostrate.

43 O. SPINÒSA (Wallr. sched. crit. p. 379. Lin. syst. veg. ed. 14. p. 651.) stems erect, and are, as well as the branches, spiny and hairy; lower leaves trifoliate, the rest simple; leaflets and leaves oblong, cuneated at the base, almost entire; flowers usually solitary; calycine lobes shorter than the legume. ♃. H. Native of Europe, by way sides and in fields; plentiful in Britain on the borders of fields, and in barren pastures. O. spinòsa β, Lin. spec. 1006. Mart. rust. 129. Fl. dan. 783.—Tab. hist. 913. icon. O. arvénsis, Smith, engl. bot. 682. and perhaps O. senéscens, Lapeyr. abr. p. 405. Flowers either white or red.

Var. β, *angustifòlia* (Wallr. l. c.) leaflets oblong; branches pubescent on one side. ♃. H. Native of Thuringia.

Var. γ, *glàbra* (D. C. prod. 2. p. 163.) leaflets oblong; branches smooth. ♃. H. Native of the south of France, in dry places.

Spiny Rest-harrow. Fl. June, Aug. Britain. Pl. 1 to 2 feet.

44 O. HI′SPIDA (Desf. fl. atl. 2. p. 146. t. 189.) stems erect, clothed with spreading hairs, unarmed; leaves trifoliate; leaflets obovate, serrated; flowers solitary; calyx hispid, about equal in length to the corolla, but twice the length of the legume. ♃. F. Native of Barbary, in corn fields.

Var. β, *spinéscens* (D. C. prod. 2. p. 163.) branches spinescent; leaflets oval-oblong. ♃. H. Native of Tauria. O. spinòsa hirsutíssima, Steven in litt.

Hispid Rest-harrow. Pl. 1 to 2 feet.

45 O. MITÍSSIMA (Lin. spec. 1007.) stems erect, rather pilose, white; leaves trifoliate; leaflets ovate, serrated; flowers disposed in an elongated spike, furnished with stipular, scarious, variegated bracteas. ⊙. H. Native of Portugal, Corsica, and the islands of the Archipelago.—Dill. hort. elth. t. 24. f. 27. Anònis scariòsa, Mœnch.

Very-mild Rest-harrow. Fl. June, July. Clt. 1732. Pl. 1 ft.

46 O. DIFFU′SA (Ten. prod. p. 41. append. 1815. p. 62. cat. 1819. p. 59.) stems diffuse, pubescent, white; leaves trifoliate; leaflets oblong-cuneated, glabrous, serrated; stipulas lanceolate, serrated; flowers disposed in a spike; calyx scarious, shorter than the corolla, and about equal in length to the legume. ⊙. H. Native of Naples and Barbary, in uncultivated places.

Diffuse Rest-harrow. Fl. Ju. July. Clt. 1820. Pl. ½ to 1 ft.

47 O. VILLOSÍSSIMA (Desf. fl. atl. 2. p. 147. t. 192.) stems diffuse, very villous, and clammy; leaves trifoliate; leaflets obovate, and are, as well as the stipulas, serrated; flowers disposed in spicate racemes; corolla and legume shorter than the calyx. ⊙.? H. Native of Algiers, in corn fields. Flowers small, rose-coloured.

Very-villous Rest-harrow. Pl. 1½ foot.

48 O. SERRA′TA (Forsk. descr. 130. Vahl. symb. 1. p. 52.) clothed with clammy pubescence, many-stemmed, decumbent; leaves trifoliate; leaflets obovate or oblong, serrated; stipulas a little toothed; flowers disposed in spicate racemes; calyx length of corolla and legume; calycine segments somewhat 3-nerved. ⊙. H. Native of Egypt, Islands of the Archipelago, Corsica, and Mogodor, in sandy places. Flowers white, but with the vexillum red.

Serrated-leaved Rest-harrow. Pl. ½ to 1 foot.

49 O. HI′RTA (Desf. hort. par. ex Poir. suppl. 1. p. 741.) plant hairy, much branched; leaves trifoliate; leaflets obovate, sharply denticulated; stipulas crenated; flowers disposed in spicate-racemes; calyx rather shorter than the corolla, but rather longer than the legume. ♃. H. Native of the Levant. Flowers blue. Floral leaves simple. Hairs on the stem soft, and spreading.

Hairy Rest-harrow. Fl. Ju. July. Clt. 1816. Pl. 1 foot.

50 O. ALOPECUROI′DES (Lin. spec. 1008.) stem solitary, erect, rather pilose, branched at the base; leaves simple, elliptic, obtuse, and are as well as the large stipulas a little serrated; flowers in dense spikes; calyx hispid, nearly twice the length of the corolla and legume. ⊙. H. Native of Sicily, Spain, and Barbary. Desf. fl. atl. 2. p. 146. Schkuhr, handb. t. 194. Corolla rose-coloured.

Fox-tail-like Rest-harrow. Fl. Jul. Aug. Clt. 1696. Pl. 1 ft.

51 O. MONOPHY′LLA (Desf. fl. atl. 2. p. 145. t. 188.) stem branched, erect, rather villous; leaves simple, elliptic, and are, as well as the large stipulas, sharply serrated; flowers in dense spikes;

calycine lobes villous, about equal in length to the corolla. ⊙. H. Native of Barbary and Mogodor. Very like the preceding species.

One-leaved Rest-harrow. Fl. July, Aug. Clt. 1800. Pl. 1 ft.

52 O. a'lba (Poir. voy. barb. 2. p. 210.) stem erect, villous; leaves simple, oblong, and are, as well as the stipulas, serrulated; flowers distant, almost sessile, disposed in spicate racemes; calyx covered with soft villi, rather longer than the corolla. ⊙. H. Native of Barbary and Naples. Vahl. symb. 2. p. 80. Desf. fl. atl. 2. p. 145. Flowers white.

White-flowered Rest-harrow. Fl. May, Sept. Clt. 1823. Pl. 1 to 2 feet.

53 O. oligophy'lla (Ten. prod. 69. cat. 1815. app. p. 62. fl. nap. 2. t. 67.) stem ascending; leaves glabrous, simple, orbicular, and are, as well as the stipulas, serrated; flowers pedicellate, racemose; calyx villous, shorter than the corolla. ⊙. H. Native of Naples and of Sicily, near Palermo, &c. There are varieties of this plant with the stems and leaves glabrous on the upper part, and pilose. Allied to *O. álba*, and hardly to be distinguished from it unless in the flowers being on longer pedicels.

Few-leaved Rest-harrow. Fl. May, Sept. Clt. 1823. Pl. 1 ft.

§ 4. *Bugranoìdes* (so called from the similarity of the species of this section to the last). *D. C. prod. 2. p. 164. Leaves simple or trifoliate. Flowers sessile or sub-sessile, yellow.*

54 O. Arragone'nsis (Asso, syn. arr. 96. t. 6. f. 2.) shrubby; leaves trifoliate, glabrous; leaflets roundish, serrated; flowers almost sessile, twin, disposed in a leafless raceme; calyx villous, one-half shorter than the corolla. ♄. H. Native of Spain, in the kingdom of Valentia, on mountains; also of Arragon, and in the Pyrenees on the confines of France, and about Vena. D. C. fl. fr. suppl. p. 552. O. dumòsa, Lapeyr. arb. 410.—Magn. hort. monsp. 17. t. 21.

Arragon Rest-harrow. Fl. May, July. Clt. 1816. Shrub 1 to 2 feet.

55 O. specio'sa (Lag. nov. spec. 22. p. 294.) shrubby, pubescent; leaves trifoliate; leaflets ovate, doubly serrated; raceme sub-spicate, terminal, elongated, hairy; lower pedicels solitary, upper ones twin, shorter than the bracteas. ♄. H. Native of Spain, in Granada.

Shewy Rest-harrow. Shrub 1 to 2 feet.

56 O. ju'ncea (Asso, syn. arr. 96. t. 5. f. 2.) shrubby, glabrous; leaves trifoliate; leaflets obovate, and are, as well as the stipulas, serrated; flowers almost sessile, disposed in a long spike; bracteas stipular, and are, as well as the calyxes, scarious; corolla length of calyx. ♄. H. Native of Spain, in Arragon. Very like *O. minutíssima*, but the flowers are pale-yellow, and the stems are shrubby at the base.

Rushy Rest-harrow. Shrub ½ to 1 foot.

57 O. capita'ta (Cav. icon. 2. p. 43. t. 154. f. 2.) glabrous; stems prostrate, branched, filiform; leaves trifoliate; leaflets ovate-oblong, toothed; flowers capitate; corolla a little longer than the calyx. ♃. H. Native of Spain, in the kingdom of Valentia.

Capitate-flowered Rest-harrow. Fl. June, Aug. Clt. 1820. Pl. ½ foot.

58 O. stria'ta (Gouan. ill. 47. D. C. fl. fr. 4. p. 511.) stems diffusely prostrate, branched; leaves trifoliate, rather scabrous; leaflets obovate-cuneated, striated, and are, as well as the stipulas, serrated; flowers capitate; corolla longer than the hairy clammy calyx. ♃. H. Native of mountain pastures from Arragon to Provence, near the limits of olives. O. aggregàta, Asso, syn. arr. 56. O. reclinàta, Lam. fl. fr. exclusive of the synonymes. There are varieties of this plant almost smooth, and beset with rough glandular hairs.

Striated Rest-harrow. Pl. ½ to 1 foot.

59 O. Colu'mnæ (All. ped. 1. no. 1166. t. 20. f. 3.) pubescent; stems tufted; leaves trifoliate; leaflets obovate-oblong, and are, as well as the stipulas, serrated, but the upper leaves are simple; flowers aggregate into a leafy spike; corolla shorter than the calyx. ♃. H. Native of Spain, France, Piedmont, Switzerland, Hungary, and Tauria, on hills. O. parviflòra, Lam. dict. 1. p. 510. but not of Thunb. O. subocculta, Vill. dauph. 3. p. 429. O. minutíssima, Jacq. austr. 240.

Columna's Rest-harrow. Fl. Ju. July. Clt. 1732. Pl. ¼ foot.

60 O. minutíssima (Lin. spec. 1007.) glabrous; stems rather tufted; leaves trifoliate; leaflets oblong-obovate, serrated; stipulas subulate, entire; flowers collected into a leafy spike; corolla shorter than the calyx. ♃. H. Native of Spain, in rugged places, and the south of France. O. saxátilis, Lam. dict. 1. p. 509. O. barbàta, Cav. icon. t. 153. Root sometimes shrubby. Lobes of calyx subulate, elongated.

Very-minute Rest-harrow. Fl. June, July. Clt. 1818. Pl. ¼ to ½ foot.

61 O. variega'ta (Lin. spec. 1008.) glabrous, diffuse; leaves simple, sessile, obovate, striated, serrated; stipulas large, rather sheathing, serrated; flowers almost sessile, axillary; corolla longer than the pubescent calyx. ⊙. H. Native of Spain, in the sand by the sea side. Desf. atl. t. 185.

Var. β, *erióclada* (D. C. prod. 2. p. 165.) branches and calyxes hairy. ⊙. H. Native about Gibraltar.

Variegated Rest-harrow. Fl. July, Aug. Clt. 1784. Pl. proc.

62 O. euphrasiæfòlia (Desf. fl. atl. 2. p. 141. t. 184.) erect, glabrous, simple; leaves simple, petiolate, lanceolate, and are, as well as the stipulas, serrated; flowers disposed in a somewhat leafy spike; corolla longer than the rather hairy calyx. ⊙. H. Native of Barbary, near Mascar, in sand.

Eye-bright-leaved Rest-harrow. Pl. ½ foot.

§ 5. *Pteronònis* (from πτερον, *pteron*, a wing, and *ononis*, so called in allusion to the pinnate leaves of the species). *D.C. prod. 2. p. 165. Lower leaves impari-pinnate, having many pairs of leaflets. The species contained in this section are not sufficiently known.*

63 O. rosæfòlia (D. C. leg. mem. vi. prod. 2. p. 165.) suffruticose, erect, hispid; leaflets 4 pairs, ovate, serrated, rather villous, the odd leaflet very remote from the upper pair; flowers in dense spikes. ♄. F. Native of Spain. Anònis Hispánica frutéscens folio rosæ sylvestris, Tourn. inst. 409. ex herb. Vaill. O. Arragonénsis β, Lam. dict. 1. p. 510. exclusive of the synonymes. Stipulas large, leafy, semi-ovate, serrated. Lower leaves with 4 pairs of leaflets, upper ones with one pair, some of them reduced to the odd leaflet. Flowers large, yellow. Calyx very villous.

Rose-leaved Rest-harrow. Shrub 1½ foot.

64 O. cicerifòlia (D. C. leg. mem. vi.) suffruticose, erect, hispid; leaves having 3 pairs of oblong-cuneated leaflets, which are acutely-serrated at the apex, and very villous; flowers spicate. ♄. F. Native perhaps of the Levant. Stipulas leafy, semi-ovate, acute, serrated at the apex. Lower leaves with 3 pairs of leaflets, upper ones with one pair. Calyx very villous, with linear awl-shaped lobes. Flowers yellow.

Cicer-leaved Rest-harrow. Shrub 1 foot.

65 O. inæquifòlia (D. C. prod. 2. p. 165.) somewhat herbaceous, erect, beset with clammy villi; leaves with 3 pairs of oval-oblong, serrated, villous leaflets, the odd one approximate to the superior pair; racemes terminal; flower pedicellate. ♃. H. Native of the Levant. Anònis orientàlis pentaphýlla et heptaphýlla viscòsa, Vaill. herb. Stipulas lanceolate, elongated. Lower leaves with 3 pairs of leaflets, upper ones with one pair; floral leaves simple, shorter than the pedicels. Vexillum striated.

Unequal-leaved Rest-harrow. Pl. 1 foot.

66 O. PINNA'TA (Brot. fl. lus. 2. p. 99.) herbaceous, and clothed with clammy villi; leaves with 3-4 pairs of cuneated, ciliated, somewhat serrated leaflets; spikes terminal. ⊙. H. Native of Portugal, in sand. Corolla large, white, but with the vexillum rose-coloured.

Pinnate-leaved Rest-harrow. Pl. 1 foot.

† *Species belonging to section Euonònis, but are not sufficiently known.*

67 O. MACRACA'NTHA (Clark. in Spreng. neue entd. 3. p. 16.) suffruticose, spiny; peduncles awnless, 1-flowered; upper leaves simple, obovate, glandular, toothed at the apex; calyx glandular, shorter than the corolla. ♄. F. Native of the Levant.

Long-spined Rest-harrow. Shrub.

68 O. PANICULA'TA (Cav. anal. scienc. nat. 1801. 4. p. 69.) villous; stem panicled; lower leaves trifoliate, middle leaflet larger; superior leaves simple; stipulas large, lanceolate, very acute. ♄. ? F. Native of the north of Africa.

Panicled-flowered Rest-harrow. Shrub.

69 O. PYRAMIDA'LIS (Cav. l. c. p. 71.) stem pilose, terete; branches alternate, pyramidal; leaves trifoliate; leaflets linear-lanceolate, serrated; flowers sessile, capitate; legume 2-seeded. ♄. ? F. Native of the north of Africa, near Sale.

Pyramidal-branched Rest-harrow. Shrub.

70 O. SUBCORDA'TA (Cav. l. c. p. 70.) erect, herbaceous; leaves all simple, and somewhat cordate, ovate-oblong, and are, as well as the stipulas, serrated; peduncles awned, 1-flowered, shorter than the leaves. ⊙. H. Native of the north of Africa, near Mogodor.

Subcordate-leaved Rest-harrow. Pl. 1 foot.

71 O. COMPRE'SSA (Lag. anal. scienc. nat. 1801. p. 261.) stem herbaceous, compressed; peduncles 1-flowered, each furnished with an awn; leaves simple, lower ones trifoliate; stipulas entire. ⊙.? H. Native of Spain.

Compressed-stemmed Rest-harrow. Pl. ½ to 1 foot.

72 O. PE'RSICA (Burm. ind. 157. t. 49. f. 1.) plant rather diffuse, small; peduncles without an awn, 2-flowered, racemose; leaves trifoliate, with linear, truncate, serrated leaflets; stipulas quite entire. ⊙. H. Native of Persia. Flowers yellow, with the habit almost of *Melilòtus*.

Persian Rest-harrow. Pl. diffuse.

73 O. RHINANTHOI'DES (Lapeyr. abr. 407.) erect, small, clothed with clammy villi; leaves trifoliate, with cuneated emarginate leaflets, which are awnedly-toothed; stipulas acutely-toothed; flowers almost sessile, solitary, terminal; legume ovate, villous, awned, shorter than the calyx. ⊙. H. Native of the Pyrenees. Flowers having a purplish vexillum.

Rhinanthus-like Rest-harrow. Pl. 1 foot.

74 O. SCA'BRA (Lapeyr. abr. 407.) erect; leaves distant, trifoliate, dotted from points; leaflets cuneated, truncate, dentate at the apex; stipulas ovate, acute, entire; calyx equalling the corolla in length. ⊙. H. Native of the Eastern Pyrenees. Corolla white, with a rose-coloured vexillum.

Scabrous Rest-harrow. Pl. 1 foot.

75 O. PA'LLIDA (Horn. hort. hafn. 2. p. 676.) peduncles 1-flowered; leaves trifoliate; leaflets roundish, cuneated at the base, toothed from the middle to the apex: calyxes and legumes villous, drooping. ⊙. H. Native of?

Pale-flowered Rest-harrow. Pl. 1 foot.

SECT. II. LOTONÒNIS (from *Lotus* and *Ononis;* the plants appear intermediate between the two genera). D. C. Leg. mem. VI. prod. 2. p. 166. Stipulas hardly or not adnate to the petiole, leafy as in *Lòtus*, but with the stamens monadelphous, as in the rest of *Onònis*. The species of this section are all from the Cape of Good Hope, but none of them are sufficiently known.

76 O. SPICA'TA (Thunb. prod. 129. fl. cap. 584.) leaves simple, stipulate, ovate, silky; stem shrubby, erect; flowers spicate. ♄. G. Leaves acute, sessile. Spikes a finger long.

Spicate-flowered Rest-harrow. Shrub.

77 O. HIRSU'TA (Thunb. l. c.) leaves simple, lanceolate, hairy; stem herbaceous, decumbent; racemes ovate, drooping. ♃. G. Plant very hairy. Leaves imbricately spreading.

Hairy Rest-harrow. Pl. decumbent.

78 O. STIPULA'TA (Thunb. l. c.) leaves trifoliate, villous; leaflets oblong, obtuse, convolute; stipulas ovate; flowers spicate; stem frutescent. ♄. G. Flowers yellow. Superior stipulas large, bract-formed.

Stipulate-leaved Rest-harrow. Shrub.

79 O. PARVIFLÒRA (Berg. cap. 214. Thunb. l. c. but not of Lam.) leaves trifoliate, villous; leaflets lanceolate, intermediate one largest; umbels lateral; stem herbaceous, villous. ⊙. G. Branches twiggy.

Small-flowered Rest-harrow. Fl. June, July. Clt. 1818. Pl. ½ to 1 foot.

80 O. MICROPHY'LLA (Lin. fil. suppl. 324. Thunb. l. c.) leaves trifoliate, scabrous; leaflets ovate, convolute; stipulas and bracteas ovate; flowers axillary; branches and branchlets spinescent. ♄. G. Petiole trigonal. Legume lanceolate, reflexed, scabrous.

Small-leaved Rest-harrow. Shrub.

81 O. CAPILLA'RIS (Thunb. l. c.) leaves trifoliate, glabrous; leaflets linear-lanceolate, mucronate; peduncles axillary, 1-flowered; stem erectish, suffrutescent. ♄. G. Leaves appearing in fascicles at first sight.

Hair-leaved Rest-harrow. Shrub.

82 O. VILLÒSA (Thunb. l. c.) leaves trifoliate, villous; leaflets lanceolate; stipulas length of petioles; peduncles lateral, 1-flowered, each furnished beneath the leaves with an acute, linear leaflet; stems hairy, decumbent. ♄. G. Legume villous, turgid. Perhaps a species of *Cýtisus* or a proper genus.

Villous Rest-harrow. Fl. June, July. Clt. 1820. Sh. dec.

83 O. HETEROPHY'LLA (Thunb. l. c.) leaves trifoliate, pilose beneath; lower leaflets ovate, superior ones lanceolate; flowers solitary, pedunculate, terminal; stem herbaceous. ♃. G.

Variable-leaved Rest-harrow. Shrub.

84 O. PROSTRA'TA (Lin. mant. 266. Thunb. l. c.) leaves trifoliate, pubescent; leaflets ovate, obtuse; stipulas much shorter than the petiole; peduncles 1-flowered, lateral; stem decumbent. ♃. G. Lòtus prostràtus, Lin. spec. 1090.

Prostrate Rest-harrow. Pl. prostrate.

85 O. DECU'MBENS (Thunb. l. c. but not of Miller) leaves trifoliate, pubescent beneath; leaflets obovate, acute; stipulas oblong; flowers solitary, lateral, on short pedicels; stem decumbent. ♃. G. Flowers yellow. Legume oblong, rather turgid.

Decumbent Rest-harrow. Pl. decumbent.

86 O. SERÍCEA (Thunb. l. c.) leaves trifoliate, clothed beneath with silky-villi; leaflets oblong, acute; stipulas ovate, pilose; flowers disposed in a secund, 3-flowered, terminal spike. ♃. G. Stems ascending.

Silky Rest-harrow. Pl. prostrate.

87 O. EXCÌSA (Thunb. l. c.) leaves trifoliate, pubescent beneath; leaflets obovate, emarginate; flowers twin, terminal; stem decumbent. ♃. G. Stem glabrous. Petiole longer than leaflets. Stipulas subulate (Willd.).

Cut-leaved Rest-harrow. Pl. decumbent.

88 O. GEMINA'TA (Ait. hort. kew. 3. p. 23.) leaves trifoliate; leaflets obovate; peduncles lateral, 2-flowered. ♃. G. Allied to *O. excìsa* according to Willd.

Twin-flowered Rest-harrow. Fl. July, Sept. Clt. 1788. Pl. decumbent.

89 O. RACEMÒSA (Thunb. l. c. but not of Brot.) leaves trifoliate, pubescent beneath; leaflets oblong, acute; flowers race-

mose; stem decumbent. ♃. G. Flowers 4, yellow, remote, drooping.

Racemose Rest-harrow. Pl. decumbent.

90 O. ELONGA'TA (Thunb. l. c.) leaves trifoliate, hairy; leaflets ovate, acute; peduncles lateral, 1-flowered; stem decumbent, hairy. ♃. G. Peduncles 2 inches long.

Elongated Rest-harrow. Pl. decumbent.

91 O. MICRA'NTHA (Thunb. l. c.) leaves trifoliate, finely pubescent beneath; leaflets oblong, obtuse; umbel of flowers terminal; stem glabrous, decumbent. ♃. G. Corolla yellow, very minute.

Small-flowered Rest-harrow. Pl. decumbent.

92 O. INVOLUCRA'TA (Lin. fil. suppl. 324.) leaves trifoliate, villous; leaflets oblong, obtuse; flowers umbellate, involucrated; stem hairy, decumbent. ♃. G. Anthýllis involucràta, Lin. mant. 265. Lòtus ononoìdes, Lam. dict. 3. p. 608. Flowers yellow.

Involucrated-flowered Rest-harrow. Pl. decumbent.

93 O. UMBELLA'TA (Lin. mant. 266. Thunb. l. c.) leaves trifoliate, villous; leaflets oblong, obtuse; flowers umbellate; stem decumbent, hairy. ♃. G. An allied genus according to Agardh.

Umbellate-flowered Rest-harrow. Pl. decumbent.

94 O. SECU'NDA (Thunb. l. c.) leaves trifoliate, glabrous; leaflets oblong, acute; umbels terminal; stem decumbent, pilose. ♃. G. Umbels involucrated, 6-flowered.

Secund-flowered Rest-harrow. Pl. decumbent.

95 O. STRIGÒSA (Thunb. l. c. but not of Burm.) leaves trifoliate, villous beneath; leaflets ovate, obtuse; umbels terminal; stem decumbent, frutescent. ♄. G. Leaflets longer than the petiole.

Strigose Rest-harrow. Shrub decumbent.

96 O. GLA'BRA (Thunb. l. c.) leaves trifoliate, glabrous; leaflets ovate, obtuse; flowers umbellate; stem decumbent, suffrutescent. ♄. G. Petiole twice the length of the leaflets. Umbels many-flowered. Corolla yellow.

Glabrous Rest-harrow. Pl. decumbent.

97 O. LA'GOPUS (Thunb. l. c.) leaves trifoliate, villous; leaflets lanceolate, setaceously mucronate; spike leafy, hairy; stem erect, frutescent. ♄. G. Leaves in fascicles.

Hare's-foot Rest-harrow. Shrub.

98 O. FASCICULA'TA (Thunb. l. c.) leaves in fascicles, lanceolate, crenated, glabrous; flowers spicate; stem erect, pubescent, shrubby. ♄. G. Bracteas cucullately-convolute. Vexillum flesh-coloured, pubescent on the back.

Fascicled-leaved Rest-harrow. Shrub.

99 O. QUINA'TA (Thunb. l. c.) leaves with 5 leaflets, somewhat pubescent; leaflets lanceolate, convolute; flowers lateral, usually twin; stem decumbent, glabrous, suffrutescent. ♄. G. Legume oblong, glabrous.

Quinate-leaved Rest-harrow. Shrub decumbent.

100 O. CAPE'NSIS (Lin. amœn. 6. afr. 41. Burm. cap. 21.) leaves trifoliate, with the leaflets orbicular, rather pilose and mucronate; racemes pedunculate, long. ⊙. H. Branches, peduncles, and petioles hairy. Teeth of calyx linear-subulate, rather villous. Flowers purplish.

Cape Rest-harrow. Fl. June, July. Clt. 1800. Pl. ½ foot.

101 O. CE'RNUA (Lin. spec. 1011.) leaves trifoliate, cuneiform, hardly emarginate; raceme erect, pilose; branches beset with white hairs. ♄. G. Comm. hort. amst. 2. t. 82. Lòtus cérnuus, Lam. dict. 3. p. 612. Onònis Æthiópica, Burm. cap. 21. Cýtisus Æthiópicus, Lin. spec. 1042. Stamens monadelphous. Calyx trifid. Lower segment tridentate. Legume linear, compressed, drooping, torulose. Flowers yellow.

Drooping Rest-harrow. Shrub 2 feet.

102 O. ASPALATHOÌDES (D. C. prod. 2. p. 167.) hairy; leaves trifoliate; leaflets linear-oblong, attenuated at the base; stipulas oblong-linear, acute, filiform, about equal in length to the petiole; heads subterminal, 4-5-flowered, pedunculate, furnished with a trifoliate bractea under the flowers. ⊙. G. Anthýllus aspalathoìdes, Burm. cap. 21. Lòtus ononoìdes, Desv. in Lam. dict. 3. p. 609. Habit of *Lòtus*. Calyx almost that of *Anthýllis*. Stem herbaceous. Stamens monadelphous. Ovary very villous.

Var. β, lineàris (D. C. prod. 2. p. 168.) leaflets linear. Lòtus Pérsicus, Desv. in Lam. dict. 3. p. 608. Burm. fl. ind. t. 49. f. 3. but both description and country remain doubtful.

Var. γ, angustíssima (D. C. prod. 2. p. 168.) leaflets linear-subulate. Cýtisus hírtus, Burm. cap. 22. and is to be found in his herbarium, under the name of *Anthýllis aspalathoìdes angustifòlia*. Flowers yellow.

Aspalathus-like Rest-harrow. Pl. ½ foot.

103 O. ANTHYLLOÌDES (D. C. prod. 2. p. 168.) leaves trifoliate; leaflets obovate, cuneated, retuse, glabrous; racemes opposite the leaves, subterminal, pedunculate; flowers pedicellate, at length drooping. ♄. G. Anthýllis ononoìdes, Burm. fl. cap. 21. Psoràlea herbàcea, Sieb. pl. exs. cap. no. 52. Stamens monadelphous. Flowers yellow.

Anthyllis-like Rest-harrow. Shrub.

104 O. VISCIFLÒRA (D. C. prod. 2. p. 168.) shrubby, prostrate; leaves digitately pinnate; leaflets linear; heads 5-6-flowered; calyxes hairy. ♄. G. Anthýllis visciflòra, Lin. fil. suppl. 335. Peduncles leafless. Corolla yellow.

Viscid-flowered Rest-harrow. Shrub prostrate.

† *Species not sufficiently known.*

105 O. A'NIL (Mill. dict. no. 14.) leaves trifoliate; leaflets ovate; petioles very long, pilose; spikes terminal; legumes very hairy. ⊙. H. Native of the American islands, where it is called *Indigo-dare*. Perhaps a species of *Indigófera*.

Anil Rest-harrow. Pl. 2 feet.

106 O. MILLE'RI (D. C. prod. 2. p. 168.) stem decumbent; leaves rather pilose, trifoliate; leaflets linear-lanceolate; flowers in lateral spikes, yellow. ♃. S. Native of Vera-Cruz. O. decúmbens, Mill. dict. no. 15. but not of Thunberg. Perhaps a species of *Indigófera*.

Miller's Rest-harrow. Pl. decumbent.

107 O. GLUTINÒSA (Mart. acad. mun. 6. p. 154.) shrubby, clothed with clammy pili; leaves simple, oblong, entire; stipulas subulate; flowers racemose. ♄. S. Native of the East Indies. The colour of the flowers is unknown.

Clammy Rest-harrow. Shrub.

Cult. The greater part of the species of *Onònis* are rather handsome when in flower. The hardy shrubby kinds are increased by seeds and layers; the hardy perennial kinds by dividing the plants of the roots in spring, or by seeds; these are well fitted for flower-borders. The seeds of the hardy annual kinds only require to be sown in open borders in April. The greenhouse and frame species thrive well in a mixture of loam, peat, and sand; these are usually increased by seeds, which ripen in abundance; they may also be propagated by young cuttings, planted in sand under a bell-glass.

LXIII. REQUIE'NIA (in honour of M. Requien of Avignon, a French botanist). D. C. leg. mem. VI. prod. 2. p. 168.

LIN. SYST. *Monadélphia, Decándria.* Calyx acutely and almost equally 5-cleft, permanent, but not inflated after flowering. Carina obtuse; petals free. Stamens monadelphous, with the tube cleft in front. Anthers 5. Style filiform, hardly incurved. Legume compressed, oval, 1-seeded, hooked by the base of the style.—African subshrubs, with bistipulate, simple, obcordate, mucronate, feather-nerved leaves, and with small flowers crowded in the axils of the leaves, almost sessile. This genus is very distinct from *Podalýria*, and is more nearly allied to *Hállia*, *Anthýllis*, and *Heylándia*.

1 R. obcorda'ta (D. C. l. c. t. 37.) stipulas about equal in length to the calyx; legume villous; seeds ovate-oblong. ♄. S. Native of Senegal. Podalýria obcordàta, Lam. ill. t. 327. f. 5. Poir. dict. 5. p. 445. Sophòra Senegalénsis, herb. Deless. Crotalària ramiflòra, Perr. in litt. 1825. Flowers sessile. Legume not attenuated at the base.

Obcordate-leaved Requienia. Fl. July. Clt. 1825. Sh. 1 ft.

2 R. sphærospe'rma (D. C. l. c. t. 38.) stipulas shorter than the calyx; legumes pubescent, attenuated at the base; seeds spherical. ♄. G. Native of the Cape of Good Hope. Flowers on short pedicels.

Spherical-seeded Requienia. Shrub 1 foot.

Cult. A mixture of loam, peat, and sand answers these shrubs, and young cuttings will strike root readily if planted in a pot of sand, with a bell-glass placed over them, the glass to be taken off and wiped occasionally.

LXIV. ANTHY'LLIS (from ανθος, *anthos*, a flower, and ιουλος, *ioulos*, down, in reference to the flowers being usually downy). Lin. gen. no. 864. Lam. ill. t. 615. D. C. prod. 2. p. 168.

Lin. syst. *Monadélphia, Decándria.* Calyx tubular, 5-toothed, permanent after flowering, more or less inflated. Wings about equal with the carina and vexillum. Stamens all connected. Legume ovate, 1-2-seeded, rarely oblong-linear, many-seeded, always hidden by the calyx. Herbs or subshrubs, variable in habit. Perhaps the genus ought to be divided into several genera.

Sect. I. Dorycnioìdes (from *Dorycnium*, and *idea*, like; plant resembling species of *Dorýcnium*). D. C. Leg. mem. VI. prod. 2. p. 168. Calyx hardly inflated. Legume 1-celled, 1-seeded. Perennial herbs, with suffrutescent roots and pedunculate leafless heads of flowers. Leaves impari-pinnate, with the leaflets about equal in size and form, the odd one sessile.

1 A. Gera'rdi (Lin. mant. 100.) herbaceous, diffuse; leaves pinnate, glabrous; leaflets 5-9, oblong-linear, mucronate; heads 15-20-flowered. ♃. H. Native of Provence and Corsica, on exposed rocks and in grassy woods. Ger. galloprov. 490. t. 18. Flowers rose-coloured.

Gerard's Kidney-vetch. Fl. June, Aug. Clt. 1806. Pl. 1 ft. prostrate.

2 A. onobrychioìdes (Cav. icon. 2. p. 40. t. 150.) herbaceous, erectish; leaves pinnate, smoothish; leaflets 7-11, linear; heads 10-12-flowered. ♃. H. Native of Spain at Valldigna. Very like the preceding species, but the flowers are said to be yellow.

Saintfoin-like Kidney-vetch. Fl. Ju. Jul. Clt. 1817. Pl. 1½ ft.

Sect. II. Aspalathoìdes (from *Aspalathus* and *idea*, form; plants like *Aspálathus*). D. C. leg. mem. VI. prod. 2. p. 169. Calyx hardly inflated. Legume 1-celled, 1-2-seeded. Flowers in interrupted spikes, or nearly sessile in the axils of the superior leaves, few or solitary.—Humble, much-branched shrubs, usually spinescent. Leaves trifoliate or simple.

3 A. cytisoìdes (Lin. spec. 1013.) shrubby, unarmed, much branched, twiggy; leaves simple or trifoliate; odd leaflet much larger than the lateral ones; branches hoary from adpressed velvety pubescence; flowers few, sessile in the axils of the upper leaves, forming an interrupted spike; calyxes hairy. ♄. F. Native of Spain and the south of France, on hills and among rocks.—Barr. icon. 1182. Calyx woolly. Flowers yellow. The upper leaves are simple. Perhaps the leaves are all simple, furnished with 2 leafy stipulas.

Cytisus-like Kidney-vetch. Fl. Apr. Ju. Clt. 1731. Sh. 2 ft.

4 A. geni'stæ (Dufour, in litt. D. C. prod. 2. p. 169.) shrubby, unarmed, much branched, twiggy; branches hoary; leaves simple, lanceolate, nearly sessile, glabrous; flowers few, almost sessile in the axils of the upper leaves, forming an interrupted spike; calyx pubescent. ♄. F. Native of Spain, in Valentia on arid mountains, and in Murcia. Genísta terniflòra, Lag. nov. spec. 22. no. 290. Flowers yellow.

Genista-like Kidney-vetch. Shrub 1 to 2 feet.

5 A. Herma'nniæ (Lin. spec. 1014.) shrubby, much branched; branches spinescent, smoothish; leaves almost sessile, simple, or trifoliate; leaflets oblong-cuneated, glabrous or clothed with adpressed pubescence; heads few-flowered, nearly sessile in the axils of the upper leaves. ♄. F. Native of Corsica, Crete, Palestine, and in the islands of the Archipelago. Sims, bot. mag. 2576. Spártium spinòsum, Alp. exot. t. 26. Aspálathus Crética, Lin. spec. 1002. Cýtisus Græ'cus, Lin. spec. 1043. ex Smith, prod. fl. græc. 2. p. 60. Aspálathus erinàcea, Lam. dict. 1. p. 291. Flowers small, yellow. Calyx shorter and less villous.

Hermann's Kidney-vetch. Fl. April, July. Clt. 1739. Sh. 2 to 4 feet.

6 A. aspa'lathi (D. C. prod. 2. p. 169.) shrubby, much branched; branches spinescent, glabrous; leaves almost sessile, oblong-cuneated, simple, smooth; flowers nearly sessile, solitary along the tops of the branches. ♄. F. Native of the Levant and Crete. Aspálathus Créticus, Lin. spec. 1002. Spártium Créticum, Desf. cat. 213. Aspálathus spiniflòra, Lher. herb. Very like the preceding species, but differs in the flowers being smaller and solitary, the branches more spinescent. The stamens are also monadelphous, as in the rest of *Anthýllis*, not having the vagina cleft in front, as in *Aspálathus*. Flowers yellow. Lodd. bot. cab. 1169.

Aspalathus-like Kidney-vetch. Fl. April, July. Clt. 1824. Shrub 2 to 4 feet.

Sect. III. Erina'cea (from *erinaceous*, a hedge-hog; in reference to the shrubs being prickly). Clus. hist. 1. p. 107. with a figure. D. C. prod. 2. p. 169. Calyx evidently inflated and bladdery after flowering. Legume 1-celled, 1-2-ovulate, compressed, lanceolate, longer than the calyx. A much-branched, spiny, almost leafless shrub. Heads few-flowered, on short peduncles, bracteate.

7 A. erina'cea (Lin. spec. 1014.) shrubby; branches spinescent; leaves very few, oval, or oblong; flowers somewhat capitate. ♄. F. Native of Spain and Barbary. Andr. bot. rep. 1. t. 15. Sims, bot. mag. 676. Flowers bluish-purple.

Hedge-hog Kidney-vetch. Fl. April, July. Clt. 1759. Sh. ½ to 1 foot.

Sect. IV. Vulnera'ria (from *vulnerárius*, for wounds; in reference to reputed vulnerary properties in *A. vulnerària*.) D. C. leg. mem. VI. prod. 2. p. 169. Calyx evidently inflated and bladdery after flowering. Legume 1-celled, 1-2-seeded, shorter than the calyx, or equal to it, ovate. Heads of flowers bracteate. Shrubs or perennial herbs with impari-pinnate leaves.

8 A. ba'rba-jòvis (Lin. spec. 1013.) shrubby; leaves pinnate, and are as well as the branches clothed with silky tomentum; leaflets 9-13, oblong-linear, equal in size and shape; bracteas about equal in length to the globose, many-flowered head. ♄. F. Native of Spain, Barbary, the Levant, and Italy, on rocks. Sims, bot. mag. 1927. Barr. icon. t. 378. Duh. arb. ed. nov. 2. t. 67. Vulnerària argéntea, Lam. fl. fr. Bárba-jòvis argyrophýlla, Mœnch. Flowers pale-yellow.

Jupiter's-beard or Silver-bush. Fl. Mar. May. Clt. 1640. Shrub 4 to 8 feet.

9 A. sple'ndens (Willd. spec. 3. p. 1018.) shrubby; leaves pinnate, and are, as well as the branches, clothed with silky tomentum; bractea longer than the few-flowered head. ♄. F. Native of Crete. Perhaps only a variety of the preceding. Flowers yellow.

Splendid Kidney-vetch. Shrub 2 to 4 feet.

10 A. I'ndica (Lour. coch. p. 429.) shrubby; leaves pinnate, smooth; leaflets ovate, nearly equal; racemes oblong. ♄. G. Native of Cochin-china, on mountains. Calyx red. Corolla white. Perhaps the head of flowers is bracteate. A large scandent shrub.

Indian Kidney-vetch. Shrub cl.

11 A. heterophy'lla (Lin. spec. 1013.) shrubby, procumbent; leaves pinnate, silky; leaflets 17, lanceolate, acute; floral ones palmately-trifoliate; heads pedunculate, few-flowered. ♄. F. Native of Portugal and Spain. Flowers small, variegated, according to Tournefort.

Variable-leaved Kidney-vetch. Fl. June, July. Clt. 1768. Shrub procumbent.

12 A. seri'cea (Lag. nov. gen. et spec. p. 22. no. 291. but not of Willd.) shrubby, erect; leaves pinnate, clothed with silky pubescence; leaflets linear-oblong, unequal; floral ones palmately 3-5-foliate; heads pedunculate, few-flowered. ♄. F. Native of Spain, in the kingdom of Murcia.

Silky Kidney-vetch. Shrub 1 foot.

13 A. polyce'phala (Desf. fl. atl. 2. p. 150. t. 195.) herbaceous, procumbent; leaves pinnate, and are, as well as the branches, villous; leaflets 23-35, oval-oblong, equal, heads numerous, sessile, distant, alternate. ♃. F. Native of Algiers, in the fissures of rocks near Tlemsen. Flowers yellow.

Many-headed Kidney-vetch. Pl. 1 foot.

14 A. monta'na (Lin. spec. 1012.) herbaceous, tufted; leaves pinnate, and are, as well as the branches, white from villi; leaflets 15-19, oval-oblong; heads solitary, on long peduncles. ♃. H. Native of the Alps of Europe. Jacq. fl. austr. t. 334. Lam. ill. t. 615. f. 5. Lodd. bot. cab. 578.—Barr. icon. 722. Flowers pink or purplish.

Var. β, albiflòra; flowers white.

Mountain Kidney-vetch. Fl. Ju. July. Clt. 1759. Pl. ¼ to ½ ft.

15 A. vulnera'ria (Lin. spec. 1012.) herbaceous, erectish; leaflets pinnate, with 5 or more unequal leaflets, the lower ones smallest, and the terminal one much the largest; heads of flowers twin. ♃. H. Native of Europe, in fields and pastures frequent, where the soil is dry and rather barren; plentiful in Britain. D. C. fl. fr. no. 3850. Smith, engl. bot. 104. Vulnerària rústica, Lam. fl. fr. 2. p. 649. Vuln. heterophýlla, Mœnch. meth. 146. *Anthýllis vulnerària* is recommended as an excellent pasturage for sheep. A Mr. Young informs us that it abounds greatly in the best meadows of the Pyrenees, at the same time he says that its produce is not large. With us the whole plant is dry, and looked upon as astringent; this is owing most probably to its affecting dry calcareous soils; cultivated in a rich soil it would doubtless become more succulent. Gesner, it seems, first raised the report of the vulnerary properties of this plant, which perhaps, like other soft and downy applications, may on an emergency staunch the blood of rustic wounds, and give nature and a good constitution time to perfect a cure.

Var. a, lùtea; flowers yellow; leaves and stems villous or smooth. Lam. ill. t. 615. f. 1.

Var. β, albiflòra; flowers white.—Tourn. inst. 291. A. rústica, Mill. dict. no. 3.

Var. γ, rubiflòra; flowers red; leaves and stems sparingly villous or smooth.—Dill. hort. elth. 320. f. 413. A. Dillénii, Schultes in herb. Balb. This plant is said to grow wild in Pembrokeshire.

Var. δ, hirsutíssima; flowers scarlet or red; plant very hairy.

Var. ε, Alliònii; flowers yellow; leaves, stems, and heads very hairy. Astrágalus vulnerarioìdes, All. ped. no. 1278. t. 19. f. 2. exclusive of the description of the fruit.

Common *Wound-wort*. Fl. May, Aug. Britain. Pl. 1 foot.

16 A. polyphy'lla (Kit. ex Bess. in litt.) herbaceous; leaves pinnate, villous; leaflets 11-15, lower ones oblong, upper ones linear, terminal one largest; stem erect; heads aggregate. ♃. H. Native of Hungary, Volhynia, and Lithuania. Flowers yellow. A. vulnerària var. ζ polyphýlla, D. C. prod. 2. p. 170.

Var. β, Schiweréckia; flowers yellow; leaflets 9-13, all oval. A. vulnerària, Schiw. ex herb. Besser. Very like A. polycéphala of Desf.

Many-leafletted Wound-wort. Fl. May, Aug. Clt. 1816. Pl. 1 foot.

17 A. inci'sa (Willd. spec. 3. p. 1017.) herbaceous, erectish; leaves pinnate, with 1-2-pairs of wedge-shaped, deeply toothed, leaflets, terminal one largest. ♃. H. Native of the islands of the Archipelago. Flowers purplish-violet. Stipulas ovate. Head of flowers small.

Cut-leafletted Kidney-vetch. Pl. ½ to 1 foot.

Sect. V. Cornici'na (from *cornu*, a horn; in reference to the shape of the pods). D. C. leg. mem. vi. prod. 2. p. 170. Calyxes inflated. Legume glabrous, 2 or many-celled, the seeds separated by small dissepiments.—Annual herbs, with pinnate leaves, and yellow, capitate, bracteate flowers. Perhaps a proper genus.

18 A. tetraphy'lla (Lin. spec. 1012.) herbaceous, procumbent; leaves pinnate, the terminal leaflets ovate and large, the other 3 small and acute; heads axillary, sessile, few-flowered; legume straight, 2-celled, 2-seeded, inclosed within the calyx. ⊙. H. Native of the south of Europe, in exposed places. Vulnerària vesicària, Lam. fl. fr. 2. p. 650. Curt. bot. mag. 108.—Cam. hort. t. 47. Barr. icon. t. 554. Perhaps the leaves are trifoliate, furnished with a small acute stipule. Flowers white.

Four-leaved Kidney-vetch. Fl. July, Aug. Clt. 1640. Pl. decumbent.

19 A. cornici'na (Lin. spec. 1012.) herbaceous, erectish; leaves pinnate; leaflets 6-8, alternate, terminal one oblong, large, the rest oblong-linear; heads axillary, pedunculate; legume arched, 2-3-seeded, 2-3-celled, inclosed within the calyx. ⊙. H. Native of Spain.—Cav. icon. 1. t. 39. f. 2. Flowers pale-yellow. Stems erect, but usually procumbent.

Horned Kidney-vetch. Fl. July, Aug. Clt. 1759. Pl. ¾ foot.

20 A. hamòsa (Desf. fl. atl. 2. p. 151.) herbaceous, procumbent; leaves pinnate; leaflets 7-11, lanceolate, superior one largest; heads pedunculate; legume hooked, 1-6-seeded, longer than the calyx. ⊙. H. Native of Barbary, in corn-fields near Calle. A. cornicìna, Poir. itin.

Hooked Kidney-vetch. Fl. July, Aug. Clt. 1821. Pl. proc.

21 A. lotoi'des (Lin. spec. 1012.) herbaceous, erectish; leaves pinnate; leaflets 5, oblong-linear, nearly equal; heads of flowers pedunculate; legume straight, 6-8-seeded, 6-8-celled, longer than the calyx. ⊙. H. Native of Spain, in fields. Cav. icon. 1. t. 40. Lower leaves hairy, the terminal leaflet largest.

Lotus-like Kidney-vetch. Fl. June, July. Clt. 1739. Pl. ½ foot.

22 A. Chile'nsis (D. C. prod. 2. p. 171.) herbaceous, decumbent, hairy; leaves pinnate, with 4 elliptic-lanceolate or oblong, nearly equal leaflets; flowers axillary, solitary; legume straight, hairy. ⊙. ? H. Native of Chili, at Talcahuana. Lòtus utriculàtus, Domb. et Lag. herb. Lòtus subpinnàtus, Lag. nov. gen. 23. Stamens monadelphous. Legume longer than the calyx. Root fibrous, furnished with globose scattered tubercles. Stems numerous from the root.

Chili Kidney-vetch. Pl. decumbent.

Cult. All the species of *Anthýllis* are very beautiful when in flower. The hardy, herbaceous, perennial kinds thrive best in dry light soil, and are very readily increased by seeds; they are well adapted for ornamenting rock-work. The seeds of the hardy annual kinds should be sown in a rather dry warm situation in the open ground. The green-house and frame kinds thrive best in a mixture of loam, sand, and peat, most of them produce perfect seed, by which they are readily increased. Young cuttings of them will also root if planted in a pot of sand with a bell-glass placed over them; the glasses to be taken off and wiped occasionally to prevent damp.

Subtribe II. TRIFOLIE'Æ (plants agreeing with *Trifòlium* in some important characters). Bronn. diss. l. c. D. C. prod. 2. p. 171. Legume 1-celled. Stamens diadelphous. Stems herbaceous, rarely frutescent. Leaves usually palmate, with 3-5 leaflets, rarely impari-pinnate. Primordial ones alternate.

LXV. MEDICA'GO (from *Medike*, a name given by Dioscorides to a Median grass). Lin. gen. no. 1214. Gært. fruct. 2. p. 348. t. 155. f. 7. D. C. prod. 2. p. 171.

Lin. syst. *Diadélphia, Decándria.* Calyx somewhat cylindrical, 5-cleft. Carina rather remote from the vexillum (f. 30. *b.*). Stamens diadelphous. Legume many-seeded, of various forms, reniform, falcate, cochleate, but usually twisted in a spiral manner (f. 30. *c.*).—Herbs or shrubs. Stipulas usually cut. Leaves stalked, trifoliate in all; leaflets usually toothed. Peduncles axillary, 1-2 or many-flowered. Flowers yellow.

Sect. I. Lupula'ria (from *lupulus*, hops. The *M. lupulìna* is called *Hop-Trefoil*, from the heads of flowers resembling hops). Ser. mss. in D. C. prod. 2. p. 172. Legume reniform, falcate, or somewhat cochleate, glabrous or pubescent, with entire margins.—Leaves trifoliate.

1 M. rupe'stris (Bieb. fl. taur. 2. p. 225. suppl. p. 517.) stems prostrate; leaves trifoliate; leaflets oblong, cuneiform, toothed at the apex, pubescent; peduncles usually 2-flowered; legume reniformly twisted, reticulated, hoary; seeds rather ovate, brown; radicle hardly prominent. ♃. H. Native of Tauria, among calcareous rocks. Allied to *M. prostràta*, but differs in the peduncles being few-flowered, in the flowers being smaller, and in the legumes being less twisted.

Rock Lucern. Fl. June, July. Clt. 1820. Pl. ascending.

2 M. brachyca'rpa (Fisch. in Bieb. fl. taur. suppl. p. 517.) pilose; stem ascending; leaves trifoliate; leaflets obovate, denticulated, with numerous nerves; stipulas lanceolate-linear; heads spherical; calycine segments 3 times longer than the tube, linear; legumes 1-seeded, with numerous transverse and parallel nerves; the seminiferous margin thick and straight; seeds ovate, cordate, compressed. ⊙. H. Native of Tauria, near Tiflis.

Short-fruited Medick. Fl. May, Jul. Clt. 1823. Pl. prostrate.

3 M. lupuli'na (Lin. spec. 1097.) stem procumbent; leaves trifoliate; leaflets obovate-cuneated, denticulated at the apex; stipulas lanceolate, acute, toothed; peduncles bearing ovate spikes of flowers; flowers sessile; legumes reniform, 1-seeded, arched, reticulated; seeds ovate, somewhat kidney-shaped. ⊙. H. Native of Europe, in meadows, pastures, and cultivated fields; plentiful in Britain. Smith, engl. bot. 971. Fl. dan. 992. Curt. fl. lond. fasc. 2. t. 57. Mart. fl. rust. t. 19.—Fuchs. hist. 819. icon. M. Willdenòvii, Mer. fl. par. 296. is a variety having the stem and leaves more or less pilose. This is one of the most valuable of artificial grasses, affording excellent fodder for sheep. For its culture and uses see *Trifòlium procúmbens.*

Var. β, polistàchya (Ser. mss. D. C. prod. 2. p. 272.) heads aggregate into a terminal raceme; leaflets large. ⊙. H. Native of Switzerland, about Bern.

Var. γ, corymbòsa (Ser. mss. D. C. prod. 2. p. 172.) flowers almost abortive and corymbose; pedicels filiform, elongated. ⊙. H. Native about Geneva.

Hop-Trefoil or Black Nonsuch. Fl. May, Aug. Brit. Pl. tr.

4 M. mnioca'rpa (Wallr. in litt.) stems procumbent; leaflets obovate-cuneated, denticulated at the apex; stipulas lanceolate, acute, almost entire; flowers apetalous, disposed in racemose spikes; legumes falcate, hardly nerved, stipulate, unguiculate. ⊙. H. Native of Switzerland about Longirod, and of Belgium.

Moss-fruited Medick. Fl. May, Aug. Clt. 1816. Pl. prostrate.

5 M. creta'cea (Bieb. fl. taur. 2. p. 223. suppl. 517.) glabrous; stems ascending, suffruticose; leaves trifoliate; leaflets nearly orbicular, coriaceous, almost entire, having numerous nerves; stipulas lanceolate, acute, nerved; peduncles many-flowered; legume falcately-reniform, quite entire, rayed with numerous nerves. ♃. H. Native of Tauria, in sterile cretaceous places. M. nummulària, Stev. in Bess. cat. hort. crem. 1816. p. 85. but not of D. C. Flowers the colour and form of those of *M. falcàta*, but a little smaller. A very distinct species.

Cretaceous Lucern. Fl. July. Clt. 1805. Pl. 2 to 3 feet long.

6 M. corymbífera (Schmidt in Schlecht. Linnæa. 4. p. 74.) stems ascending; leaflets obovate-cuneated, denticulated at the apex; stipulas toothed; corymbs compound, dense; peduncles and pedicels beset with glandular pili; legume reniform, rugose, pilose, 1-seeded. ⊙. H. Native on the shores of the Baltic sea.

Corymb-bearing Medick. Pl. ascending.

7 M. falca'ta (Lin. spec. 1096.) stems prostrate; leaflets oblong, toothed at the apex; stipulas quite entire; peduncles racemose; legumes falcate, smoothish or pubescent; seeds oblong; radicle hardly prominent. ⊙. H. Native of Europe, in dry, mountainous pastures. In Britain on dry gravelly banks and old walls; between Watford and Bushy-hill by the foot-way; in Cambridgeshire; common about Norwich in gravelly fields, and on many parts of the city walls, also about Bury St. Edmund. Smith, engl. bot. 1016. Flowers usually pale-yellow, but occasionally violet and green. This is said to be the kind of *lucern* cultivated in Switzerland. For its culture see *M. sativa.*

Var. β, annulàris (Ser. mss. D. C. prod. 2. p. 172.) leaflets narrower and smaller; legumes more arched. ⊙. H. M. annulàris, Besser. in litt.

Var. γ, túmida (Ser. mss. D. C. prod. 2. p. 173.) flowers tumid; carpels tumid. ⊙. H. About Geneva.

Falcate-podded Lucern. Fl. July. Britain. Pl. prostrate.

8 M. procu'mbens (Besser. prim. fl. galiz. 2. p. 127.) stems procumbent; leaflets oblong-linear, toothed at the apex; stipulas toothed at the base; peduncles racemose; legume falcate, almost naked, reticulated, 2-seeded; seeds irregularly cordate. ♃. H. Native of Cracovia, in dry fields and on hills. Perhaps only a variety of *M. falcàta*, but differs in the legumes being a little broader, short and long in the same specimen.

Procumbent Lucern. Fl. Ju. July. Clt. 1818. Pl. prostrate.

9 M. cancella'ta (Bieb. fl. taur. 226. but not of Ten.) stems prostrate; leaflets oblong-cuneiform, toothed at the apex, quite smooth; stipulas subulate, lower ones denticulated; peduncles many-flowered; legume cochleate, reticulately-veined, glabrous, with the veins radiating towards the margins. ♃. H. Native of Caucasus. Flowers fewer and smaller than in *M. falcàta*, always yellow.

Latticed-veined Lucern. Fl. June, July. Clt. 1818. Pl. prostrate.

10 M. suffruticòsa (Ram. in D. C. fl. fr. 4. p. 341.) stems prostrate, suffruticose; leaflets obovate-roundish, almost entire or obcordate; stipulas lanceolate, broad, toothed; peduncles racemose, twice the length of the petioles; legume pubescent, almost spiral, reticulated with arched veins; seeds irregularly

cordate, with a prominent radicle. ♃. H. Native of the Pyrenees. Flowers at first rather violaceous, but at length becoming yellow.

Suffruticose Lucern. Fl. June, July. Clt. 1820. Pl. prostrate.

11 M. ARBÒREA (Lin. spec. 1096.) villous, shrubby; leaflets obovate-cordate, nearly entire; stipulas linear, acute, entire; peduncles racemose; legumes stipitate, twisted, reticulated from transverse veins, 2-3-seeded; seeds somewhat kidney-shaped. ♄. F. Native of Italy.--Lob. icon. 2. p. 46.

Tree Medick. Fl. May, Nov. Clt. 1596. Shrub 6 to 8 feet.

12 M. SIBI'RICA (D. C. prod. 2. p. 173.) stems herbaceous, villous at the apex; leaflets obovate-roundish, ciliated, a little toothed; stipulas broad, semi-ovate, acuminated, toothed on the outside; spikes oblong, crowded; calycine segments setaceous, unequal; legume lenticular, rather villous. ⊙. H. Native of Siberia. Melilòtus Sibírica, Poir. suppl. 3. p. 647. Flowers small, yellow. Calyx at length cleft on the upper side.

Siberian Lucern. Fl. June, July. Clt. 1817. Pl. prostrate.

13 M. ME'DIA (Pers. ench. 2. p. 356.) stems ascending; leaflets linear-cuneated, retuse, toothed at the apex, pilose beneath; peduncles corymbose; flowers pale-blue, at length yellow. ♃. H. Native of Europe, in meadows, on hills, and in divisions of fields. M. falcàta, Lam. dict. 3. p. 639. Perhaps only a variety of *M. satìva.*

Intermediate Lucern. Fl. Ju. July. Clt. 1817. Pl. 1 to 2 ft.

14 M. SATI'VA (Lin. spec. 1096.) stems erect, glabrous; leaflets obovate-oblong, toothed, mucronate; stipulas lanceolate, somewhat toothed; peduncles racemose; legumes smooth, cochleately-twisted, finely reticulated; seeds flat, irregularly-ovate or irregularly cordate, brownish. ♃. H. Native of Spain, but now cultivated throughout Europe in fields. In Britain, but hardly a native. Smith, engl. bot. 1749. Mart. rust. 48.--Clus. hist. 2. p. 242. Flowers large, violet.

Lucern or *medick* is highly extolled by Roman writers; it is much grown in Persia and Lima, and mown in both countries all the year round; it is also of unknown antiquity in old Spain, Italy, and the south of France. It was introduced, according to Miller, from the latter country in 1657. It is now only cultivated in a few places, and chiefly in Kent. Columella estimated *lucern* as the choicest of all fodders, because it lasted many years, and bore being cut down 4 or 5 times every year. About three quarters of an acre of it is, he thinks, sufficient to feed three horses during the whole year. But though it was so much esteemed by the ancients, and has been long cultivated to advantage in France and Switzerland, it has yet found no great reception in this country. Where the climate and soil suit, a field of it perhaps may be advantageously sown to afford early cutting or food for young or sick animals, for which it is said to be well adapted; but though it will produce good crops for 8 or 10 successive years, yet from the time the farmer must wait till this crop attains its perfection, and from the care requisite to keep it from grass and weeds, it is not likely that the plant will ever come into general culture in this country. *Lucern* has been observed to thrive best in dry, sandy, chalky, marly or gravelly soils; in short, all soils that are good enough for wheat, and dry enough for turnips, to be fed on the land, do well for *lucern.* The latter end of March is the best time for sowing *lucern* seed, which will allow the plants to be fully established before the hot months. If the plants be intended to be transplanted out in the garden method, it will also be the best practice to sow the seed-bed as early in the spring as the frosts will admit, in order that they may be strong enough and fit to set out early in August. *Lucern* may be either sown broad-cast or in drills, and either with or without an accompanying crop of corn the first year. Broad-cast and a very thin crop of barley or other spring crop is generally preferred. Drilling, however, at nine inches apart, perhaps has many advantages over the broad-cast method, especially as far as regards keeping the crop clean and free from weeds. The quantity of seed required in the broad-cast method is said to be 15 to 20 pounds per acre, and from 8 to 12 if drilled. The same depth of covering as for clover will answer. Transplanting is sometimes resorted to, but it does not seem to us adviseable, unless for filling up blanks. The after culture of *lucern,* sown broad-cast, consists in harrowing to destroy weeds, rolling after the harrowing to smooth the soil for the scythe, and such occasional top-dressings of manure as the state of the plants may seem to require. Where *lucern* is drilled horse-hoeing may be substituted for harrowing, which is, as already observed, the only advantage of this mode of sowing. *Lucern* frequently attains a sufficient height for the scythe towards the end of April, and in soils that are favourable for its culture will be in a state of readiness for a second cutting in the course of six weeks longer, being capable of undergoing the same operation at nearly similar distances of time during the whole of the summer season. The application of *lucern* is nearly the same as clover, the principal practice in its application is that of soiling horses, neat cattle, and hogs; but as a dry fodder it is also capable of affording much assistance, and as an early food for ewes and lambs may be of great value in particular cases. All agree in extolling it as a food for cows, whether in a green or dried state. It is said to be much superior to clover, both in increasing milk and butter, and improving their flavour. Care must be taken not to give the animals too much of it in a green state, as they may be hoven or blown with it as with clover. The produce of *lucern* may be estimated as equal in bulk and value to a crop of red clover. The nutritive product of *lucern,* according to Sir H. Davy, is $2\frac{3}{10}$ per cent.; as to that of clover and saintfoin, as 23 to 39. The diseases of *lucern* are the same as those of clover, and the manner of saving seed the same.

Var. β, versícolor (Ser. mss. D. C. prod. 2. p. 173.) flowers yellow and blue on the same plant. M. falcàta versícolor, Wallr. sched. crit. p. 398. M. lùteo-cœrùlea, Hortul.

Cultivated Lucern. Fl. June, Aug. Britain. Pl. 2 feet.

15 M. PROSTRA'TA (Jacq. hort. vind. 1. p. 39. t. 89.) stems prostrate; leaflets linear, toothed at the apex; stipulas linear-subulate, toothed at the base, and having numerous parallel nerves; peduncles racemose; legumes smooth, cochleately-twisted, finely reticulated, 2-seeded; seeds exactly reniform, black. ♃. H. Native of Hungary, Willd. spec. 3. p. 1405. M. declinàta, Kit. in litt. Allied to *M. falcàta,* but the legume is more twisted and much smaller. Flowers yellow.

Prostrate Lucern. Fl. June, Jul. Clt. 1793. Pl. prostrate.

16 M. INTERME'DIA (Schult. obs. p. 160.) stem procumbent; leaflets linear, obcordate, rather serrulated at the apex; stipulas sagittate; peduncles bearing corymbose racemes; legumes falcate, rather pubescent. ♃. H. Native of Galicia.

Intermediate Lucern. Pl. procumbent.

17 M. GLOMERA'TA (Balb. elench. 93. D. C. fl. fr. 4. p. 540.) stems erectish; leaflets obovate-oblong, cuneiform, emarginate, and mucronate, hardly toothed; stipulas lanceolate, acute, hardly toothed at the base; peduncles racemose; legumes twisted, obscurely and reticulately veined, pubescent; seed oblong-reniform, brownish. ♃. H. Native of the mountains of Tenda, near Barra, and on hills about Turin.

Glomerate-flowered Lucern. Fl. Ju. Jul. Clt. 1817. Pl. 1 to 2 ft.

18 M. GLUTINÒSA (Bieb. casp. p. 191. append. no. 60. fl. taur. 2. p. 224. et suppl. 516.) clothed with clammy hairs; stems ascending; leaflets obovate-cuneiform, somewhat retuse, pilose, obsoletely toothed; stipulas lanceolate, toothed a little at the base; peduncles racemose; calycine segments broad at the base, length of tube; legume twisted, cochleate, reticulately

veined, pubescent. ♃. H. Native of Caucasus, in mountain meadows. Flowers violet and yellow. Calyx clammy.

Var. β, *Panzeriana* (Ser. mss. in D. C. prod. 2. p. 174.) stem pilose, but the rest of the plant is quite smooth; leaflets obcordate, cuneiform. M. glutinòsa, Panzer, in litt.

Clammy Lucern. Fl. June, July. Clt. 1817. Pl. 1 to 2 ft.

Sect. II. Spiroca'rpus (from σπειρα, *speira*, a spire, and καρπος, *karpos*, a fruit; in reference to the fruit of all the species being spirally twisted (f. 30. *c.*). Ser. mss. in D. C. prod. 2. p. 174. Legume twisted into an orbicular form (f. 30. *c.*), pilose, or glabrous, with the margins either entire, wrinkled, or spiny. Leaves trifoliate.

§ 1. *Legumes with thin, unarmed margins.*

19 M. obscu'ra (Retz, obs. fasc. 1. p. 24. t. 1.) stems decumbent; leaflets obovate-rhomboid, denticulated, having numerous prominent nerves; stipulas lanceolate, profoundly toothed; peduncles racemose, many-flowered; legume reniform, or twisted into an orb, quite entire, glabrous, radiately veined, 2-seeded. ⊙. H. Native of the south of France. M. lenticulàris, Desr. in Lam. dict. 3. p. 630. Seeds exactly reniform, brown.

Var. β, *triflòra* (Ser. in D. C. prod. 2. p. 174.) peduncles 3-flowered; leaflets very acutely toothed; legume somewhat coriaceous, twisted into a round form, having prominent nerves.

Obscure Medick. Fl. June, Aug. Clt. 1734. Pl. procumb.

20 M. interme'dia (D. C. herb.) the same as the last species, but differs in the legumes being furnished with warted nerves, and in the seeds being yellow. ⊙. H. Native about Naples. M. obscùra, var. γ, rugulòsa, Ser. mss. in D. C. prod. 2. p. 174.

Intermediate Medick. Fl. June, Aug. Clt. 1817. Pl. pr.

21 M. læ'vis (Desf. fl. atl. 2. p. 213.) procumbent; leaflets obovate, toothed; stipulas dentately-pinnatifid, the segments bristle-formed; peduncles many-flowered; legume unarmed, cochleate, orbicular, flat. ⊙. H. Native of the north of Africa, in fields. M. hèlix, Willd. spec. 3. p. 1409. Legume nearly like that of *M. obscùra*.

Smooth Medick. Fl. July, Aug. Clt. 1816. Pl. tr.

22 M. orbicula'ris (All. ped. no. 1150.) stems diffuse; leaflets obcordate, toothed at the apex; stipulas jagged, the segments very narrow and diverging; peduncles 1-2-flowered; legumes cochleate, compressed, glabrous, irregularly and reticulately veined, many-seeded; seeds subtriangular, rugged from dots. ⊙. H. Native of the south of Europe. M. orbiculàta, J. Bauh. hist. 2. p. 384. Gærtn. fruct. 2. p. 155.—Mor. hist. 2. t. 15. f. 2. M. polymórpha *a*, Lin. spec. 1097.

Var. β, *microcárpa* (Moricand, herb.) fruit smaller.

Orbicular-fruited Medick. Fl. Jul. Aug. Clt. 1688. Pl. diff.

23 M. margina'ta (Willd. enum. p. 802.) procumbent; leaflets obovate, dentate; stipulas divided into many setaceous segments; peduncles usually 2-flowered; legume unarmed, twisted into an orbicular, flat form, the circles loose. ⊙. H. Native of the south of Europe.—Moris. hist. sect. 2. t. 15. f. 2. This species is very like the preceding, but differs in the legumes being flat on both sides. It is perhaps only a variety of *M. orbiculàris*.

Margined Medick. Fl. June, Aug. Clt. 1816. Pl. trail.

24 M. applana'ta (Willd. suppl. p. 52. ex Horn. hort. hafn. suppl. p. 85.) procumbent; leaflets obovate, toothed; stipulas divided into many setaceous segments; peduncles usually 1-flowered; legumes unarmed, orbicular, flattish on both sides, and ciliated on the margins, the circles distant and large. ⊙. H. Native of? Perhaps only a variety of *M. orbiculàris*.

Flat-podded Medick. Fl. June, Aug. Clt. 1810. Pl. trail.

25 M. scutella'ta (All. ped. no. 1155.) pilose; stems diffuse; leaflets obovate, toothed around; stipulas lanceolate, toothed; peduncles 1-2-flowered; legume cochleate, many-seeded, hemispherically convex above, but flat below, beset with dense, oblique, reticulated veins; the veins thin at the margins, and anastomosing; seeds large, kidney-shaped, smooth, brown. ⊙. H. Native of the south of Europe. Gærtn. fruct. 2. t. 155. f. 7.—J. Bauh. hist. 2. p. 384. with a figure.—Moris. hist. sect. 2. t. 15. f. 3. M. polymórpha β, Lin. spec. 1097.

Dish-like-podded Medick. Fl. Ju. Aug. Clt. 1562. Pl. diff.

26 M. rugòsa (Lam. dict. 3. p. 632.) procumbent; leaflets obovate-rhomboid, denticulated towards the apex; stipulas lanceolate, toothed; peduncles 2-4-flowered; legume having 2-3 circles, obliquely and reticulately veined, the veins becoming thicker towards the margins, but the margin is smooth and thinner; seeds reniform, compressed, dark, truncate at the apex. ⊙. H. Native of the south of Europe. M. élegans, Willd. spec. 3. p. 1408.—Moris. hist. 2. sect. 2. t. 15. f. 4.

Wrinkled-fruited Medick. Fl. June, Aug. Clt. 1680. Pl. pr.

27 M. saxa'tilis (Bieb. fl. taur. 2. p. 225.) procumbent; leaflets oblong-cuneiform, toothed at the apex, rather pubescent; stipulas subulate, a little toothed; peduncles few-flowered; legume cochleate, veiny, with the margins beset with spiny denticulations, glabrous. ♃. H. Native of Tauria, on rocks. Legume about the size of that of *M. rupéstris*, but the form is different, the windings being only 3 or 4.

Rock Medick. Fl. June, Aug. Pl. procumbent.

§ 2. *Legumes with thickened, unarmed margins.*

28 M. torna'ta (Willd. spec. 3. p. 1409.) stems diffuse; leaflets obovate, denticulated; stipulas ciliately-toothed; peduncles many-flowered; legume twisted into a cylindrical form, truncate at both ends, glabrous, with thick, smooth, nerveless margins, having the circles almost concrete; seeds kidney-shaped, truncate at the apex, smooth, orange-coloured. ⊙. H. Native of the south of Europe. M. polymórpha γ, tornàta, Lin. spec. 1098.

Turned-podded Medick. Fl. June, Aug. Clt. 1658. Pl. diff.

29 M. turbina'ta (Willd. spec. 3. p. 1409.) stems diffuse; leaflets obovate-rhomboid, toothed; stipulas lanceolate, toothed; peduncles usually 2-flowered; legumes twisted into an ovate form, convex at both ends, with thick, lined, somewhat concrete margins; seeds kidney-shaped, truncate at the apex, pale-yellow. ⊙. H. Native of the south of Europe. M. polymórpha δ, turbinàta, Lin. spec. 1098.—Moris. hist. 2. p. 153. sect. 2. t. 15. f. 5.

Turbinate-podded Medick. Fl. Ju. Jul. Clt. 1680. Pl. diff.

30* M. tubercula'ta (Willd. spec. 3. p. 1410.) stems procumbent; leaflets obovate-rhomboid, toothed; stipulas lanceolate, toothed; peduncles 1-2-flowered; legume twisted into an ovate form, with thick, subconcrete margins, bearing a double row of tubercles, leprous in the summer; seeds reniform, truncate at the apex, yellow. ⊙. H. Native of the south of Europe. M. mágna turbinàta, J. Bauh. hist. 2. p. 385. f. 1.—Moris. hist. sect. 2. t. 15. f. 6.?

Tubercled Medick. Fl. June, Aug. Clt. 1658. Pl. pr.

31 M. olivæfórmis (Moris. elench. sard. 1827. fasc. 1.) pubescent; leaflets somewhat rhomboidal-obovate, denticulated; stipulas lanceolate, toothed; peduncles few-flowered; legumes cochleate, ovate, pubescent, having 6-7 turnings, with very thick, reticulated, warted, or tubercled margins. ⊙. H. Native of Sardinia.

Olive-formed-podded Medick. Pl. prostrate.

32 M. stria'ta (Bast. journ. bot. 1814. 3. p. 19.) stems procumbent; leaflets obovate, denticulated; stipulas lanceolate, toothed; peduncles 5-6-flowered; legumes with 3-5 circles, twisted into a cylindrical form, having thickened margins, beset

with mamillary dots above, and marked with lines beneath; seeds reniform, truncate at the apex, small, brownish. ⊙. H. Native of Scandinavia, in sand on the sea-shore. M. tricycla, D. C. cat. monsp. 125.

Striated-podded Medick. Fl. June, Aug. Clt. 1820. Pl. pr.

§ 3. *Legumes spiny.*

33 M. APICULA'TA (Willd. spec. 3. p. 1414.) stems prostrate; leaflets obovate, hardly denticulated at the apex; stipulas ciliately-toothed; peduncles 3-7-flowered; legumes cochleate, flat at both ends, of 3 circles, reticulate and somewhat lacunose, having muricated, smooth margins; spines straight, diverging; seeds oblong-kidney-shaped, yellow. ⊙. H. Native about Nice, in corn-fields. M. coronàta, Gærtn. fruct. 2. p. 155. f. 7. but not of Lam. M. muricàta γ, Lam. dict. 3. p. 635. M. polycárpa, Willd. enum. suppl. 52. M. polycéphala, Hortul.

Apiculated Medick. Fl. June, Aug. Clt. 1800. Pl. prost.

34 M. CATALO'NICA (Schrank, hort. mon. t. 28.) pubescent; stems elongated, diffuse; leaflets rhomboidal-ovate, denticulated; stipulas toothed; peduncles many-flowered; legume cochleate, compressed, having 4 muricated circles. ⊙. H. Native of Catalonia. Allied to *M. spinulòsa.*

Catalonian Medick. Fl. June, Aug. Clt. 1820. Pl. diff.

35 M. DENTICULA'TA (Willd. spec. 3. p. 1414.) stems prostrate; leaflets obovate or obcordate, denticulated; stipulas ciliately-toothed; legumes flat at both ends, having 2 circles, obliquely reticulated, with prickly smooth margins, the prickles diverging and hooked; seeds oblong-kidney-shaped, rather truncate at the apex. ⊙. H. Native of the south of France, and about Conception, in Chili. This species comes very near to *M. apiculàta*, but differs in the legumes being larger, and in the spines being longer and hooked.

Var. β, ciliàris (Ser. mss. in D. C. prod. 2. p. 176.) prickles elongated. *M. ciliàris*, Savi, cent. p. 148. but not of Willd.

Denticulated Medick. Fl. June, Aug. Clt. 1800. Pl. prost.

36 M. GLOBULÒSA (Desv. journ. bot. 1814. 1. p. 77.) stems procumbent, hairy; leaflets somewhat rhomboidal, crenated, rather pilose; peduncles usually 2-flowered; legume twisted into a globose form, glabrous, having 7 approximate circles, bearing remote incurved prickles on the back. ⊙. H. Native of Numidia.

Globulose-fruited Medick. Fl. June, Aug. Pl. procumbent.

37 M. FLEXUÒSA (Ten. cat. 1819. p. 54.) glabrous, procumbent; leaflets obovate, retuse, toothed; stipulas ciliately-toothed; peduncles many-flowered; legume cochleate, flexuous, glabrous, having only 2 circles, which are reticulated and prickly, the prickles arched and short. ⊙. H. Native of Naples, in fields.

Flexuous-podded Medick. Fl. June, Aug. Clt. 1819. Pl. tr.

38 M. GLOBULÍFERA (Poir. dict. suppl. 3. p. 526.) smoothish; stems erect; leaflets ovate, denticulated; stipulas pinnatifidly-jagged; peduncles 3-4-flowered; legume twisted into a globose form, usually with 3 circles, having short, hispid, straight prickles. ⊙. H. Native of?

Globe-bearing Medick. Pl. 1 foot.

39 M. SPINULÒSA (D. C. fl. fr. 5. p. 569.) pilose; stems prostrate; leaflets obovate or obcordate, sharply denticulated; stipulas lanceolate, toothed; peduncles 2-flowered; legume cochleate, egg-shaped, having 3-4 circles, prickly beneath the margins, the prickles straight, converging, and adpressed, concrete, hardly longer than the lacunose margins; seeds reniform, brown, rather truncate at the apex. ⊙. H. Native of the south of France, and of the islands of the Archipelago. M. apiculàta, Bast. ess. p. 280. but not of Willd. M. rugòsa, D'Urv. enum. p. 98. but not of Lam.

Spinulose Medick. Fl. June, Aug. Clt. 1820. Pl. prostr.

40 M. PUBE'SCENS (D. C. cat. monsp. p. 124. but not of Horn.) plant prostrate, clothed with soft pubescence or villi; stems elongated; leaflets broad, obovate, denticulated; stipulas lanceolate, acuminated, somewhat denticulated at the base; peduncles 5-8-flowered; legumes cochleate, having 2-3 circles, smooth, hardly arcuately reticulated under the margin; the prickles thick, converging, straight, adpressed, longer than the margin. ⊙. H. Native about Montpelier.—J. Bauh. hist. 2. p. 385. with a figure. Very like *M. spinulòsa*, but differs in the prickles being much longer than the margins.

Pubescent Medick. Fl. Ju. Aug. Clt. 1819. Pl. prostrate.

41 M. SARDÒA (Moris. elench. sard. p. 15.) smoothish; leaflets rhomboidal-obovate, denticulated, mucronate; stipulas jagged; peduncles many-flowered; legumes cochleate, cylindrical, having 4 turnings, reticulately nerved, prickly on the margins. ⊙. H. Native of Sardinia.

Sardoa Medick. Fl. June, Aug. Pl. prostrate.

42 M. TEREBE'LLUM (Willd. spec. 3. p. 1416.) stems prostrate; leaflets obovate, retuse, toothed; stipulas ciliately-toothed; peduncles many-flowered; legume twisted into a cylindrical form, flat at both ends, having 5 reticulated, smooth circles; the prickles very short, distinct, subulate, and spreading; seeds reniform and dark. ⊙. H. Native of the south of Europe. M. aculeàta, Gærtn. fruct. 2. p. 349. t. 155. f. 7.

Awl-spined Medic. Fl. June, Aug. Clt. 1798. Pl. prostr.

43 M. MARÌNA (Lin. spec. 1097.) plant densely clothed with tomentum, procumbent; leaflets cuneiform, quite entire; stipulas lanceolate, entire; peduncles many-flowered; legumes cochleate, obliquely nerved, rather spiny; seeds exactly kidney-shaped, yellow. ♃. H. Native of Europe, by the sea-side. Gærtn. fruct. 2. p. 155. f. 7. Cav. icon. 2. t. 130.

Sea-side Medick. Fl. June, Aug. Clt. 1596. Pl. prostrate.

44 M. CORONA'TA (Lam. dict. 3. p. 634.) villous; stems prostrate; leaflets obovate or obcordate-roundish, small, denticulated; stipulas lanceolate, entire; peduncles 4-7-flowered, much longer than the leaves; legume cochleate, of 1 or 2 circles, villous, reticulated, the form of a crown, having divaricate, marginal, parallel, straight prickles; seeds reniformly-lunulate, small, brown. ⊙. H. Native of the south of Europe, Egypt, &c.—Moris. hist. sect. 2. t. 15. f. 16. M. coronàta Cherlèri, J. Bauh. hist. 2. p. 386. with a figure. M. polymórpha coronàta, Lin. spec. 1098.

Crown-formed-podded Medick. Fl. June, Aug. Clt. 1668. Pl. prostrate.

45 M. TENTACULA'TA (Willd. spec. 3. p. 1413.) prostrate; leaflets obovate, toothed; stipulas subulate, toothed; peduncles usually 2-flowered; legume cochleate, cylindrical, flat at both ends; prickles smooth, lanceolate, distich, closely adpressed. ⊙. H. Native of the south of Europe. M. truncatulàta, Gærtn. fruct. 2. p. 350. t. 155. f. 7.

Tentaculated Medick. Fl. June, Aug. Clt. 1800. Pl. prost.

46 M. HORNEMANIA'NA (Ser. mss. D. C. prod. 2. p. 177.) stems hairy; leaflets rhomboid-obovate, toothed, pubescent; stipulas jagged; peduncles 2-3-flowered; legume twisted into a cylindrical form, rather pilose, small, with the circles approximate; prickles strong, subulate, reflexed, hooked. ⊙. H. Native of Morocco. M. pubéscens, Horn. hort. hafn. 2. p. 726. but not of D. C.

Horneman's Medick. Fl. June, Aug. Clt. 1818. Pl. trailing.

47 M. LITTORA'LIS (Rhode in Lois. not. 118. but not of Tenore,) villous; stems procumbent; leaflets obcordate or obovate-cuneiform, toothed at the apex; stipulas lanceolate, toothed; peduncles 2-4-flowered; legumes twisted, subcylindrical, glabrous, with 4 circles, obliquely and flexuously reticu-

lated, and with prickly margins; circles thick, coriaceous; prickles stiff, rather hooked; seeds reniform, bay-coloured. ⊙.? ♃.? H. Native of Europe, by the sea side.—J. Bauh. hist. 2. p. 385. with a figure.

Var. β, *brevisèta* (D. C. fl. fr. 5. p. 568.) prickles short, straight. M. polymórpha rigídula, Bert. pl. gen. 97. exclusive of the synonymes.

Shore Medick. Fl. June, Aug. Clt. 1822. Pl. prostrate.

48 M. LAPPA'CEA (Lam. dict. 3. p. 637.) smoothish; stems procumbent; leaflets obcordate, toothed; stipulas ciliately-toothed; peduncles 3-5-flowered; legumes twisted, smooth, obliquely and flexuously-nerved, having 3 circles, and with the margins prickly; prickles long, hooked; seeds kidney-shaped, rather truncate, yellow. ⊙. H. Native about Montpelier, and also about Naples. M. híspida, Gært. fruct. 2. p. 155. f. 7.? Allied to *M. littoràlis*, but the legume and seeds are larger.

Burdock Medick. Fl. June, Aug. Clt. 1810. Pl. trailing.

49 M. PENTACY'CLA (D. C. cat. monsp. p. 124.) rather pilose; stems prostrate; leaflets obovate, denticulated; stipulas ciliately-toothed; peduncles many-flowered; legume cochleate, glabrous, convex at both ends; circles 5, reticulated with lacunæ above; spines long, diverging, hooked at the apex; seeds ovate-reniform, compressed, bay-coloured. ⊙. H. Native about Narbonne.—Moris. hist. sect. 2. t. 15. f. 19.? Like the preceding, and perhaps not distinct.

Five-circled Medick. Fl. June, Aug. Clt. 1820. Pl. trailing.

50 M. HI'STRIX (Ten. prod. p. 45. cat. 1819. p. 58) glabrous, prostrate; leaflets obovate, retuse, denticulated; stipulas pectinately-multifid: peduncles usually 2-flowered, longer than the leaves; legumes cochleate, cylindrical, compressed at both ends; circles 5, rather distant; prickles subulate, diverging, hooked, rather pilose. ⊙. H. Native in fields about Naples. This plant differs from *M. ciliàris* in the legumes being glabrous, and from *M. lappàcea*, Lam.

Porcupine Medick. Fl. June, Aug. Clt. 1820. Pl. prostrate.

51 M. DIFFU'SA (Poir. suppl. 3. p. 524.) stems diffuse; leaflets obcordate, small; stipulas broad, ciliated; peduncles usually 3-flowered; legume cochleate, globose, having 5 circles; prickles straight, hooked at the apex. ⊙. H. Native of Teneriffe, on rocks. This plant differs from *M. lappàcea* in the leaflets and fruit being smaller.

Diffuse Medick. Fl. June, Aug. Pl. diffuse.

52 M. DISCIFÓRMIS (D. C. cat. monsp. p. 124.) plant pilose; stems procumbent; leaflets obcordate, dentate: stipulas lanceolate, toothed; peduncles 3-4-flowered; legume cochleate, glabrous, having 5 approximate circles, which are veiny beneath, and flat above, the 4 lower circles have their margins furnished with long setaceous spines, which are hooked at the apex, the fifth circle naked from abortion; the margins of the whole channelled between the spines. ⊙. H. Native about Montpelier, in sterile places. The herb is like *M. mínima*, but the form of the legume is very distinct from all the other species.

Disk-formed Medick. Fl. June, Aug. Clt. 1822. Pl. prostrate.

53 M. CARSTIE'NSIS (Jacq. icon. rar. 1. t. 156.) stem erect, branched; leaflets ovate, toothed; stipulas lanceolate, toothed; peduncles racemose; legume cochleate, compressed at both ends, obliquely-nerved, having about 3 or 4 circles, green, but at length black; the margins thin, nerveless, and spiny; spines long, straight, hardly diverging; seeds rather reniform, bay-coloured. ♃. H. Native of the Alps of Carinthia, about Carst. Sims, bot. mag. 909. M. Nóccæ, Balb. M. umbellàta, Hortul.

Carst Medick. Fl. June, July. Clt. 1789. Pl. 1 to 2 feet.

54 M. NÍGRA (Willd. spec. 3. p. 1418.) leaflets obovate, toothed; stipulas ciliately-toothed; peduncles usually 2-flowered; legume cochleate, cylindrical, the circles approximate; prickles subulate, straight, hooked. ⊙. H. Native of the south of France.—Moris. hist. 2. p. 154. sect. 2. t. 15. f. 19.

Black-fruited Medick. Fl. Ju. Aug. Clt. 1789. Pl. prostrate.

55 M. TRIBULOÌDES (Lam. dict. 3. p. 635.) pilose; stems prostrate; leaflets obovate, toothed; stipulas profoundly toothed; peduncles 2-flowered: legume cochleate, cylindrical, flat at both ends, having 5 circles, wrinkled from lacunæ; spines thick, diverging, rather hooked at the apex, lateral, not marginal, with the margins thick and elevated, not channelled; seeds kidney-shaped, bay-coloured, obliquely-truncate at the apex. ⊙. H. Native of Europe, particularly of France.

Var. β, *Narbonénsis* (D. C. prod. 2. p. 178.) spines adpressed, short, and are, as well as the circles, more turgid; legume with tumid warts. D. C. fl. fr. 5. p. 568.

Caltrop-like Medick. Fl. Ju. Aug. Clt. 1730. Pl. prostrate.

56 M. CRASSISPÌNA (Visiani, in bot. zeit. March, 1829. p. 20.) pubescent; stems prostrate, tetragonal; leaflets obovate, sharply toothed at the apex; stipulas lanceolate, acuminated, cut at the base; peduncles 3-flowered; legumes cochleate, ovate, depressed, and veiny; prickles stiff, conical, incurved, disposed in two rows. ⊙. H. Native of Dalmatia. This species is nearly allied to *M. tribuloìdes*.

Thick-spined Medick. Fl. June, Aug. Pl. prostrate.

57 M. CYLINDRA'CEA (D. C. cat. monsp. p. 123.) stems prostrate; leaflets obcordate, dentate; stipulas deeply-toothed; peduncles many-flowered; legume cochleate, cylindrical, truncate at both ends; circles very thick, 5-6, nearly concrete, with a denticulated, 1-lined, flattish margin; seeds regularly kidney-shaped, bay-coloured. ⊙. H. Native of? M. ternàta β, Lam. dict. 3. p. 633.

Cylindrical-fruited Medick. Fl. June, Aug. Clt. 1822. Pl. prostrate.

58 M. PRÆ'COX (D. C. cat. monsp. p. 123.) stems prostrate; leaflets obcordate, denticulated; stipulas ciliately-toothed; peduncles short, 1-2-flowered; legume cochleate, glabrous, flat at both ends: circles thin, rather wrinkled from lacunæ, with the margins thick, nerveless, and flat, bearing the spines laterally; spines rather diverging, hooked at the apex; seeds ovate-reniform, bay-coloured. ⊙. H. Native of Provence.

Early Medick. Fl. June, Aug. Clt. 1820. Pl. prostrate.

59 M. MOLLI'SSIMA (Roth, cat. bot. 3. p. 74.) very soft; stipulas broadest at the base, toothed at the apex; peduncles 2-flowered; legume cochleate, having 5 circles; spines long, hooked at the apex. ⊙. H. Native of Spain and France.

Very-soft Medick. Fl. June, Aug. Clt. 1818. Pl. prostrate.

60 M. GRÆ'CA (Hórn. hort. hafn. p. 24 and 728.) stems prostrate; leaflets obovate, toothed at the apex, villous on both surfaces; stipulas obsoletely-serrated: peduncles many-flowered: legume cochleate, rather pilose; prickles long, bent. ⊙. H. Native of Greece. Willd. enum. p. 805. Perhaps distinct from *M. mínima var. longisèta*.

Greek Medick. Fl. July, Aug. Clt. 1804. Pl. prostrate.

61 M. MI'NIMA (Lam. dict. 3. p. 636.) plant pilose; stems prostrate; leaflets hairy, obovate or obcordate, entire, tridentate at the apex; stipulas half-ovate, nearly entire; peduncles many-flowered, short; legume cochleate, rather globose, having 3-5 very narrow flattish circles; spines compressed, channelled at the base, hooked; seeds reniform, yellow. ⊙. H. Native of Europe, in sandy fields. In England at Narburgh, Norfolk, and near Newmarket. M. polymórpha mínima, Lin. spec. 1099. Fl. dan. 211. M. hirsùta, All. pedem. no. 1156. ex herb. Balb. M. echinàta hirsùta and M. mínima hirsùta, J. Bauh. hist. 2. p. 386. with a figure. Moris. hist. sect. 2. t. 15. f. 15. Trifòlium echinàtum arvénse; flore minore, C. Bauh. pin. p. 330. no. 7.

Var. β, *canéscens* (Ser. mss. D. C. prod. 2. p. 178.) plant canescent: spines longish. About Geneva, in arid places.

Var. γ, *longisèta* (D. C. herb.) spines very long; stems elongated; peduncles many-flowered, elongated. M. mollíssima, Roth, cat. bot. 3. p. 74.? Trifòlium echinàtum arvénse, C. Bauh. pin. p. 329. no. 6.

Least Medick. Fl. May, June. Britain. Pl. prostrate.

62 M. ARENA'RIA (Ten. cat. 1819. p. 59.) stems prostrate; leaflets obovate, denticulated; stipulas rather dentate or quite entire: peduncles usually 2-flowered, shorter than the leaves; legumes cochleate, somewhat cylindrical, flat at both ends; circles 4, approximate; prickles few, arched, diverging, hooked, glabrous. ⊙. H. Native of Naples, in sandy places. M. littoràlis, Ten. prod. 45. but not of Rhode.

Sand Medick. Fl. June, Aug. Clt. 1820. Pl. prostrate.

63 M. MURICOLE'PTIS (Tineo, pl. sic. rar. pug. 1. p. 18. Tenore, app. 4. fl. neap. p. 29.) stems branched, diffuse, angular; leaves obovate or obcordate, small, serrulated at the apex; stipulas ciliately-toothed; peduncles usually 1-flowered, about equal in length to the leaves; legume usually solitary, cochleate, compressed at both ends; circles 3-4, coarsely reticulated, prickly; prickles oblong, setaceous, arched, marginal in two rows, very broad at the base; margins flat and thickish. ⊙. H. Native near Palermo, Calabria, &c. The habit of the plant is that of *M. discifórmis*, but the legume in that species is much larger, reticulated, and the margins beset with long awns.

Slender-warted Medick. Fl. Ju. Aug. Clt. 1820. Pl. prostrate.

64 M. UNCINA'TA (Willd. spec. 3. p. 1417.) stems prostrate; leaflets obovate, toothed; stipulas toothed; peduncles many-flowered; legume cochleated, cylindrical, flat at both ends; circles distant; prickles distich, reflexed, subulate, hooked. ⊙. H. Native of the south of Europe. Allied to *M. rigídula* and *M. nìgra*. Perhaps not distinct from *M. pentacýcla*.

Hooked-spined Medick. Fl. June, July. Pl. prostrate.

65 M. DI'STANS (Poir. dict. suppl. 3. p. 326.) stems prostrate; leaflets somewhat cordate, denticulated at the apex; stipulas dentately-ciliated; peduncles 2-4-flowered; legume cochleated, ovate, having 3 distant circles, which are prickly; prickles straight, diverging, hooked at the apex. ⊙. H. Native of the south of Europe.—Moris. hist. sect. 2. t. 15. f. 21. Perhaps M. uncinàta of Willd.

Distant-circled Medick. Fl. June, Aug. Clt. 1810. Pl. prostrate.

66 M. RE'CTA (Desf. fl. atl. 2. p. 212.) stem erect; leaflets cuneiform, toothed, pubescent; stipulas entire; peduncles 1-flowered; legume twisted into a globose form, almost nerveless, prickly, and rather pilose; prickles long, straight, hooked; circles of legume 3-5, flattish; spines compressed, channelled, hooked. ⊙. H. Native of Barbary. Perhaps only a variety of *M. mínima*.

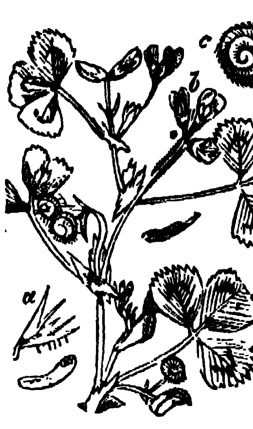
Straight-stemmed Medick. Fl. Ju. Aug. Clt. 1810. Pl. 1 ft.

67 M. ACULEA'TA (Willd. spec. 3. p. 1410.) prostrate; leaflets rhomboid-obovate, toothed; stipulas toothed; peduncles usually 2-flowered; legume cochleate, cylindrical, flattish at both ends, with the margins of the circles muricated. ⊙. H. Native of? Very like *M. tuberculàta*, but differs in the prickles of the legume being unequal, thick, very short and obtuse.

Prickly-podded Medick. Fl. June, Aug. Clt. 1802. Pl. prostrate.

68 M. MACULA'TA (Willd. spec. 3. p. 1412.) stems prostrate; leaflets obcordate or obovate, toothed, spotted; stipulas dilated, toothed; peduncles 2-3-5-flowered; legumes cochleate, compressed at both ends, white, having 3-5 circles, which are circularly and densely nerved, the margins fringed with 2 rows of long, spreading, slender, weak, partly hooked bristles; seeds kidney-shaped, yellow. ⊙. H. Native of Europe, in sand. In England, on gravelly soil in the southern parts.—Moris. hist. sect. 2. t. 15. f. 12. M. cordàta, Desrous. in Lam. dict. 3. p. 636. M. polymórpha, Smith, engl. bot. 1616. Curt. fl. lond. 3. t. 47. Mart. fl. rust. t. 76. (f. 30.)

FIG. 30.



Spotted-leaved Medick. Fl. May, Aug. Britain. Pl. prostrate.

69 M. GERA'RDI (Waldst. et Kit. ex Willd. spec. 3. p. 1415.) stems prostrate; leaflets obovate, denticulated; stipulas with setaceous teeth; peduncles usually 2-flowered; legume cochleate, villously-tomentose, flattish at both ends, having 5 nerveless, prickly, thick circles; spines hooked at the apex, hardly diverging; seeds reniform, bay-coloured. ⊙. H. Native of the south of Europe and Egypt. M. villòsa, D. C. fl. fr. 4. p. 545.—Moris. hist. 2. p. 153. sect. 2. t. 15. f. 18. M. rigídula, Thuill. ex herb. Reyn.

Var. β, *minor* (Ser. mss.) legume cylindrical, with short prickles. M. villòsa β, D. C. l. c.

Gerard's Medick. Fl. Ju. Aug. Clt. 1816. Pl. prostrate.

70 M. AGRE'STIS (Ten. prod. suppl. 2. et cat. 1819. p. 59.) pubescent; stems prostrate; leaflets cuneiform, toothed at the apex; stipulas with setaceous teeth; peduncles usually 2-flowered; legume twisted, muricated, flat at both ends, having 5 circles; prickles about equal in length to the breadth of the legume. ⊙. H. Native of Naples near Caserta, in fields.

Field Medick. Fl. June, Aug. Clt. 1820. Pl. prostrate.

71 M. RIGÍDULA (Lam. dict. 3. p. 634.) stems prostrate; leaflets obovate, denticulated at the apex; stipulas toothed at the base; peduncles 2-3-flowered; legume cylindrical, flat at both ends, beset with muricate-like spines on the back, which hardly diverge. ⊙. H. Native of the south of France. Allied to *M. tornàta* according to Lamarck.

Stiffish-podded Medick. Fl. June, Aug. Clt. 1730. Pl. prostrate.

72 M. MURICA'TA (All. pedem. no. 1158.) stems prostrate; leaflets rhomboid-obovate, toothed; stipulas ciliately-toothed; peduncles 1-3-flowered; legume twisted into an ovate form, glabrous, having 5 thick, somewhat nerved circles, the margin thick, marked by an evanescent narrow zone, not furrowed; spines disposed in a single row, stiff, conical, arched, tooth-formed; seeds irregularly kidney-shaped, of a bay colour. ⊙. H. Native of Europe, in fields. In England, at Orford, Suffolk, on the sea bank plentifully.—Vaill. bot. par. t. 33. f. 7. M. polymórpha muricàta, Lin. spec. 1098.

Muricated-podded Medick. Fl. May, July. England. Pl. prostrate.

73 M. SPHÆROCA'RPOS (Bert. ital. pl. dec. 3. p. 60.) glabrous, prostrate; leaflets rhomboidal-obovate, sharply-serrulated; stipulas jagged; peduncles many-flowered; legume twisted into a globose form, with the circles so closely adpressed as to be almost concrete, the margin thick, and bisulcate lengthwise; prickles short, thickish. ⊙. H. Native of Italy, on grassy hills about Sarzena. Seb. pl. rom. p. 15. t. 3.—Moris. hist. sect. 2. t. 11. f. 12? This species is distinguished from *M. terebéllum* of Willd. in the legumes being globose, not cylindrical.

Round-fruited Medick. Fl. Ju. Aug. Clt. 1818. Pl. prostrate.

74 M. MU'REX (Willd. spec. 3. p. 1410.) stems prostrate; leaflets obovate, toothed, lower ones obcordate; stipulas ciliately-toothed; peduncles usually 2-flowered; legume cochleate, cylindrical, rather convex at both ends, prickly, and transversely veined; prickles long, straight, and thick. ⊙. H. Native of? This species is very nearly allied to *M. muricàta*, but the lower

peduncles are longer, the circles of the fruit thinner and nerved, and the prickles longer.

Prickly Medick. Fl. June, Aug. Clt. 1802. Pl. procumbent.

75 M. LACINIA'TA (All. pedem. no. 1159.) stem erect; leaflets linear, deeply-toothed, truncate; stipulas ciliately-toothed; peduncles 1-2-flowered; legume twisted into a globose form, very spiny; prickles straight, subulate, hooked, compressed, channelled; margin thick, flattish, but neither sulcate nor zonate; seeds oblong-reniform, bay-coloured. ⊙. H. Native of the south of Europe, in corn-fields. M. polymórpha var. laciniàta, Lin. spec. 1099.—Breyn. cent. 81. t. 34. good.

Jagged-leaved Medick. Fl. July, Aug. Clt. 1683. Pl. 1 ft.

76 M. TENOREA'NA (Ser. mss. in D. C. prod. 2. p. 180.) pubescent; stems procumbent; peduncles usually 2-flowered, shorter than the leaves; legume twisted into the form of a cylinder, having 5, distant, densely and longitudinally veined circles, the margins rather cartilaginous and rather concave, but not zonate nor sulcate; prickles setaceous, arcuately divaricate, adpressed; seeds reniform, pale. ⊙. H. Native in fields about Naples. M. cancellàta, Ten. cat. 1819. p. 58. but not of Bieb.

Tenore's Medick. Fl. June, Aug. Clt. 1820. Pl. prost.

77 M. GRANATE'NSIS (Willd. enum. p. 803.) stems erect; leaflets obovate, toothed; stipulas pinnatifid; peduncles usually 2-flowered; legume twisted into a subglobose form, having 5 rather distant, reticulated circles, the margin rather cartilaginous, narrow, and convex; prickles conical, firm, and subulate, distich, and adpressed; seeds reniform, large, and black. ⊙. H. Native of Spain, near Malaga. M. polymórpha pinnatífida, Jacq. coll. suppl. 148. t. 15. f. 2. Allied to *M. intertéxta* and *M. Tenoreàna*, but very distinct from either.

Granada Medick. Fl. June, Aug. Clt. 1816. Pl. 1 foot.

78 M. INTERTE'XTA (Willd. spec. 3. p. 1411.) stem procumbent; leaflets obovate, toothed; stipulas ciliately-toothed; peduncles usually 2-flowered; legume pilose, cochleate, ovate, disk-formed? rather membranous, obliquely reticulated, having a thin margin; prickles straight, thick, rigid, rather channelled at the base, acute, and adpressed. ⊙. H. Native of the south of Europe. Gærtn. fruct. 2. p. 350. t. 155. f. 7.?—Moris. hist. 1. p. 153. sect. 2. f. 8. Perhaps distinct from *M. ciliàris*.

Interwoven Medick. Fl. June, Aug. Clt. 1629. Pl. proc.

79 M. CILIA'RIS (Willd. spec. 3. p. 1411.) stems prostrate; leaflets obovate, toothed; stipulas ciliately toothed; peduncles usually 2-flowered; legume cochleate, ovate-globose, pilose, membranous, much reticulated, having a thick, concave, somewhat cartilaginous margin; spines conical, firm, divaricate; seeds reniform, large, black. ⊙. H. Native of the south of Europe.—Moris. hist. 1. p. 153. sect. 2. t. 15. f. 7.

Ciliated-podded Medick. Fl. June, Aug. Clt. 1686. Pl. pr.

80 M. ECHÌNUS (D. C. fl. fr. 4. p. 546.) stems prostrate; leaflets obovate or obcordate, obsoletely-toothed; stipulas lanceolate, rather ciliately toothed; peduncles 5-6-flowered, longer than the petioles; legume twisted into an oval form, smooth, membranous, and much reticulated; spines compressed, channelled laterally, divaricate, adpressed, very long, and very acute, having 6-7 circles; seeds reniform, black. ⊙. H. Native of the south of France, about Nice. Moris. hist. sect. 2. t. 15. f. 9.

Hedge-hog Medick. Fl. June, Aug. Clt. 1818. Pl. prost.

81 M. ÆGAGRÓPHILA (Desv. journ. bot. 1814. 1. p. 76.) stem procumbent, glabrous; leaflets obovate, toothed, mucronate, somewhat emarginate; stipulas pinnatifidly-toothed; peduncles usually 2-flowered; legume cochleate, smooth, somewhat compressed, having 6 approximate circles, bearing thick prickles on the back. ⊙. H. Collected in gardens.

Wild-goat-loved Medick. Fl. June, Aug. Clt. 1820. Pl. pr.

Cult. The seeds of the annual species of this genus only require to be sown in the open border in spring. The perennial herbaceous species may be increased by dividing the plants at the root in spring. The shrubby species, as *M. arbòrea*, are easily raised from cuttings.

LXVI. HYMENOCA'RPOS (from ὑμην, *hymen*, a membrane, and καρπος, *karpos*, a fruit; in reference to the membranous legumes). Savi, fl. pis. 2. p. 205. Medicàgo, sect. 1. Hymenocárpos, Ser. mss. in D. C. prod. 2. p. 171.

LIN. SYST. *Diadélphia, Decándria.* Calyx subcylindrical, 5-cleft. Keel remote from the vexillum. Stamens diadelphous. Legume many-seeded, rather membranous, compressed, and arched, never twisted. Herbs with 3-5-foliate leaves, and yellow flowers.

1 H. CIRCINNA'TUS (Savi, l. c.) stem prostrate; leaves pinnately 5-foliate; leaflets entire, ovate, the terminal one large and oblong; peduncles 2-4-flowered, subcorymbose; legume membranous, kidney-shaped, pilose, with the margins toothed but not winged; seeds kidney-shaped, compressed. ⊙. H. Native of the Mediterranean, on the sea-shore, and of Corsica. Medicàgo circinnàta, Lin. spec. 1096.

Circinnate-legumed Hymenocarpus. Fl. July, Aug. Clt. 1640. Pl. prostrate.

2 H. NUMMULA'RIUS (Savi, l. c.) stem prostrate, lower leaves entire, upper ones pinnately 5-7-foliate; leaflets ovate, entire, the terminal one largest and oblong; pedicels 3-flowered, rather shorter than the leaves; legume broad, compressed, somewhat membranous, of a reniform, orbicular figure, with the margins entire, and furnished with a narrow, nerved wing. ⊙. H. Native of the south of France and Egypt. Medicàgo nummulària, D.C. cat. hort. monsp. p. 124. but not of Steven. Medicàgo circinnàta, Gærtn. fruct. 2. p. 348. t. 155. f. 6. Medicàgo circinnàta β, Willd. spec. 3. p. 1404.

Money-wort-legumed Hymenocarpos. Fl. June, Aug. Clt. 1640. Pl. prostrate.

3 H. RADIA'TUS (Willd. enum. p. 801.) stem erect; leaves trifoliate; leaflets obovate, sharply toothed; stipulas toothed; pedicels 1-flowered, longer than the leaves; legume membranous, broad, compressed, reniform, having broadly winged, toothed, reticulately veined margins. ⊙. H. Native of Italy and the Levant. Medicàgo radiàta, Lin. spec. 1096. Gært. fruct. 2. p. 348. t. 155. f. 7. M. lunàta, J. Bauh. hist. 2. p. 386.—Moris. hist. sect. 2. t. 15. f. 3.

Var. β, *dasycárpus* (Ser. mss.) legume pilose. Native of the Levant.

Ray-legumed Hymenocarpos. Fl. June, Aug. Clt. 1629. Pl. ½ foot.

Cult. The seeds of these plants only require to be sown in the open border in spring.

LXVII. TRIGONE'LLA (from τρεις, *treis*, three, and γωνια, *gonia*, an angle; the vexillum of the flower is flat, and the keel is very small and narrow, which gives the flower a triangular appearance). Lin. gen. no. 1213. Gærtn. fruct. 2. p. 332. t. 152. f. 3. D.C. prod. 2. p. 181.

LIN. SYST. *Diadélphia, Decándria.* Calyx campanulate, 5-cleft. Carina small, the wings and vexillum rather spreading, forming apparently a 3-petalled corolla. Legume oblong, compressed or cylindrical, acuminated, erectish, many-seeded.—Sweet-scented herbs, with trifoliate leaves, the middle leaflet stalked.

SECT. I. GRAMMOCA'RPUS (from γραμμα, *gramma*, writing, and καρπος, *karpos*, a fruit; in reference to the nerved legumes). Ser. mss. in D. C. prod. 2. p. 181. Flowers capitate or umbellate. Legume ovate, longitudinally nerved, ending in a long beak.

1 T. cœru'lea (Ser. mss. in D. C. prod. 2. p. 181.) stem upright; leaflets ovate, lower ones ovate-roundish, denticulated; stipulas lanceolate, toothed at the base; heads pedunculate, dense-flowered; calycine teeth linear, longer than the tube; petals white, lined with blue; legume ovate, beaked, nerved lengthwise, 2-3-seeded; beak long, straight; seeds globose, olive-coloured, wrinkled from dots; radicle rather prominent. ⊙. H. Native of Bohemia and Switzerland. Sturm, deutsch. fl. 1. fasc. 15. Trifòlium melilòtus cœrùlea, Lin. spec. 1077. Melilòtus cœrùlea, Lam. dict. 4. p. 62. Sims, bot. mag. 2283. Flowers blue.

Blue-flowered Trigonella. Fl. July, Aug. Clt. 1562. Pl. 1 to 2 feet.

2 T. Besseria'na (Ser. mss. in D. C. prod. 2. p. 181.) stem decumbent; stipulas membranous, lanceolate; racemes oblong, pedunculate; legume 2-seeded, short, pilose, veined, tapering into a mucrone at the apex, 3-times longer than the calyx. ⊙. H. Native of the south of Podolia, and Bessarabia. Melilòtus procúmbens, Besser. enum. volh. 30. no. 946. Very like *T. cœrùlea*, but differs in the decumbent habit, the narrower leaflets, the smaller flowers, the larger legumes, and the brown seeds.

Besser's Trigonella. Fl. June, Aug. Clt. 1810. Pl. proc.

3 T. marítima (Delil. in Poir. dict. suppl. 5. p. 361.) stem diffuse, glabrous; leaflets obversely cordate, glabrous, denticulated; peduncles axillary, shorter than the leaves; flowers disposed in capitate umbels, reflexed; legume short, acute, turgid at the base, striated, straight. ⊙. H. Native near Alexandria, on the sea-shore. Flowers yellow.

Sea-side Trigonella. Pl. diffuse.

4 T. uncina'ta (Ser. mss. in D. C. prod. 2. p. 181.) stems ascending; leaflets oblong-ovate, denticulated; stipulas linear-setaceous; flowers disposed in dense spikes; calyx nerved, bilabiate, upper lip entire, short, lower lip 4-cleft; legume ovate, pilose, beaked, hardly nerved, 1-seeded; beak long, curved; seeds ovate, compressed, wrinkled from dots, black; radicle hardly prominent. ⊙. H. Native of Iberia and of France, about Libourne. Trifòlium Melilòtus hamòsum, Bieb. fl. taur. 2. p. 207. and suppl. 705. Melilòtus uncinàta, Besser. cat. hort. crem. 1816. no. 155. M. hamòsa, Link. enum. 2. p. 266. but not of Lamarck. M. uncinàta, Poir. suppl. 3. p. 648. Flowers yellow.

Hooked-podded Trigonella. Fl. Ju. Aug. Clt. 1798. Pl. 1 ft.

5 T. littora'lis (Guss. cat. 1821. p. 83.) stem branched, rather diffuse; leaflets cuneiform, denticulated at the apex; legumes pedicellate, umbellate, declinate, rather falcate, compressed, tapering to both ends, obliquely and reticulately veined; peduncles spinose. ⊙. H. Native of Sicily, among stones by the sea-side. Corolla yellow. This species is allied to *T. marítima*, but it differs in the leaflets being cuneiform, not obcordate, and in the legumes being acute at both ends, not turgid at the base, somewhat falcate, not straight, as well as in being pilose, not glabrous.

Shore Trigonella. Fl. June, Aug. Clt. 1816. Pl. diffuse.

6 T. callíceras (Fisch. in Bieb. fl. taur. suppl. p. 515.) stems ascending; leaflets obovate-cuneated, sharply toothed at the apex; stipulas linear-subulate; teeth of calyx acute, length of tube; legume falcate, somewhat spirally striated, having a long beak; seeds 5-6, ovate, wrinkled from dots. ⊙. H. Native of Iberia. D. C. mem. soc. gen. 2. p. 135. hort. gen. fasc. 2. with a figure. Lòtus medicaginoìdes, Retz. obs. 2. p. 38. no. 74. T. oxyrhýncha, Fisch. in litt. Flowers yellow.

Pretty-horned Trigonella. Fl. Ju. Jul. Clt. 1816. Pl. ascend.

Sect. II. Fœ'num-Græ'cum (from *fœ'num*, hay, and *Græcus*, Greek; Greek hay; the *T. Fœ'num-Græcum* was formerly made into hay in Greece). Ser. mss. in D. C. prod. 2. p. 182. Fœ'num-Græcum, Tourn. inst. 1. p. 408. t. 230. Flowers sessile, solitary, and twin. Legume elongated, compressed, ending in a long beak, and reticulated lengthwise.

7 T. prostra'ta (D. C. fl. fr. 5. p. 571.) stems diffusely procumbent; leaflets obovate-oblong, cuneiform, sharply serrated; calyx pilose; teeth of calyx subulate, length of tube; legume falcate, longer than the beak, 6-seeded; seeds small, ovate, and somewhat kidney-shaped, wrinkled from dots; radicle hardly prominent. ⊙. H. Native of Provence and about Montpelier. T. Fœ'num-Græ'cum β, D. C. fl. fr. 4. p. 551.—J. Bauh. hist. 2. p. 365. f. 2. Flowers white.

Prostrate Fenugreek. Fl. June, Aug. Clt. 1818. Pl. prost.

8 T. gladia'ta (Stev. cat. hort. gor. 1808. p. 112. Bieb. fl. taur. 2. p. 222. and suppl. p. 516.) plant covered with rufous pili; stems spreading; leaflets triangularly-obovate, toothed at the apex; teeth of calyx linear, length of tube; legume falcate, about equal in length to the beak, tomentose, striated with veins. ⊙. H. Native of Tauria, in fields. Perhaps only a variety of *F. prostràta*. Flowers white.

Sword-podded Fenugreek. Fl. April, May. Clt. 1825. Pl. spreading.

9 T. Fœ'num-Græ'cum (Lin. spec. 1402.) stem erect, simple; leaflets obovate, obsoletely toothed; stipulas lanceolate, falcate, entire; calyx pilose; the teeth subulate, length of tube; legume falcate, twice the length of the beak, reticulated lengthwise, many-seeded; seeds large, ovate, wrinkled from dots; radicle rather prominent. ⊙. H. Native of the south of France. Gærtn. fruct. t. 152. f. 3. Schkuhr. handb. 2. t. 211. Woodv. med. bot. t. 158. T. gladiàta, Hortul. This plant was formerly cultivated by the Romans, and is still occasionally employed in the agriculture of the south of Europe. The seeds have a strong disagreeable smell, and an unctuous, farinaceous taste, accompanied with a slight bitterness. An ounce renders a pint of water thick and slimy. To rectified spirit they give out the whole of their distinguishing smell and taste, and afterwards to water a strong flavourless mucilage. These seeds are never given internally, their principal use being in cataplasms and fomentations, for softening, maturating, and dispersing tumours, and in emollient glysters. They were also an ingredient in the oleum e mucilaginibus; but this has no longer a place in the pharmacopœia. They are used by grooms and farriers for horses. *Fenugreek* has not been cultivated in any quantity for use in England, because it is an uncertain crop, occasioned by the inconstancy of our weather.

Common *Fenugreek*. Fl. June, Aug. Clt. 1597. Pl. 1 to 2 ft.

Sect. III. Bu'ceras (from *βους*, *bous*, an ox, and *κερας*, *keras*, a horn; in reference to the form of the pods). Ser. mss. in D. C. prod. 2. p. 182.—Bucerràtis, spec. Mœnch. meth. p. 143. Flowers disposed in pedunculate or sessile racemose umbels. Legume cylindrically-compressed, a little arched, reticulated and mucronate.

§ 1. *Racemes pedunculate.*

10 T. spinòsa (Lin. spec. 1094.) stems spreading; leaflets obovate-cuneated, denticulated at the apex; stipulas dissected; flowers in fascicles, sessile; middle peduncle spinose, sterile; legume arched, compressed, declinate, very long, transversely veined, glabrous, many-seeded; seeds irregularly oblong, wrinkled from dots; radicle rather prominent. ⊙. H. Native of Crete. Bùceras spinòsa, Mœnch. meth. p. 143.—Breyn. cent. 79. t. 33. f. 1. Flowers pale-yellow.

Spinose Trigonella. Fl. July, Aug. Clt. 1739. Pl. pr.

11 T. stria'ta (Lin. fil. suppl. p. 340.) stems spreading; leaflets obovate, denticulated at the apex, striped; stipulas linear, dilated at the base, and toothed; umbels pedunculate; legume arched, compressed, very long, glabrous, having trans-

verse, arched veins, many-seeded, assurgent; seeds oblong, somewhat truncate, having wrinkled lines. ⊙. H. Native of Abyssinia. Willd. spec. 3. p. 1399. Flowers yellow.

Striped-leaved Trigonella. Fl. June, Aug. Clt. 1800. Pl. $\frac{1}{2}$ to 1 foot long.

12 T. HAMÒSA (Lin. spec. 1094.) stems decumbent; leaflets ovate-cuneiform, denticulated at the apex; legumes disposed in racemes, declinate, hooked, terete; common peduncle spinose, longer than the leaves. ⊙. H. Native of Egypt.—J. Bauh. hist. 2. p. 357.—Alp. egypt. t. 124. Flowers yellow. The seeds of this plant are said to be used by the Egyptians in fomentations for all kinds of pains.

Hooked-podded Trigonella. Fl. Jul. Aug. Clt. 1640. Pl. dec.

13 T. TÓRTA (Smith, in Rees' cycl. vol. 36.) stem firm; leaflets obcordate, toothed, obscurely nerved; flowers umbellate; peduncles short; legume cylindrical, twisted, reticulated lengthwise, stiff, glabrous. ⊙. H. Native of Egypt. Flowers yellow. Plant quite smooth.

Twisted-podded Trigonella. Pl. $\frac{1}{2}$ foot.

14 T. FLEXUÒSA (Delil. ex Poir. suppl. 5. p. 362. but not of Fischer) stem firm; leaflets obcordate, toothed, obscurely nerved; legumes disposed in umbels, which are nearly sessile, compressed, reticulated, twisted. ⊙. H. Native of Egypt. This plant comes near to *T. tórta*, but differs in the umbels being nearly sessile, and in the teeth of the calyx being longer, the legume also is very different, ex Smith, in Rees' cycl. vol. 36. Perhaps a variety of *T. anguìna*, of Delil.

Flexuous-podded Trigonella. Fl. June, July. Clt. 1820. Pl. $\frac{1}{2}$ to $\frac{3}{4}$ foot.

15 T. FISCHERIA'NA (Ser. mss. in D. C. prod. 2. p. 183.) stems spreading; leaflets obovate-cuneated, striated, serrulated; stipulas straight, lanceolate-subulate; flowers disposed in racemes, each containing about 6; common peduncle awnless; floriferous peduncle exceeding the leaf; calycine segments subulate, length of tube; legume a little arched, erectish, flexuously-torulose, many-seeded; seeds oblong, somewhat truncate, wrinkled. ⊙. H. Native of Tauria, about Tiflis. T. flexuòsa, Fisch. in hort. gor. ex Bieb. fl. taur. suppl. p. 515. but not of Delil. Flowers yellow.

Fischer's Trigonella. Fl. July, Aug. Clt. 1818. Pl. $\frac{1}{4}$ to $\frac{3}{4}$ ft.

16 T. ANGUI'NA (Delil. fl. ægypt. p. 110. t. 110. f. 2.) stems branched, prostrate; leaflets ovate-cuneated, crenated; stipulas toothed; heads of flowers nearly sessile; legume linear, compressed, pilose, plicately flexuous. ⊙. H. Native near Cairo. Flowers yellow.

Snake-podded Trigonella. Pl. prostrate.

17 T. TE'NUIS (Fisch. in hort. gor. and Bieb. fl. taur. suppl. p. 514.) stems spreading; leaflets obovate-obcordate, striated, serrulated; stipulas lanceolate, toothed at the base, straight; flowers usually in fours; floriferous peduncle awnless, about equal in length to the leaf; calycine segments subulate, length of tube; legumes usually twin, a little arched, erect, compressed, transversely and flexuously reticulated; seeds ovate, compressed, somewhat truncate, wrinkled from dots; radicle hardly prominent. ⊙. H. Native of Tauria, on mountains about Tiflis. This species is allied to *T. cancellàta*. Flowers yellow.

Slender Trigonella. Fl. June, July. Clt. 1824. Pl. proc.

18 T. HAMÍGERA (Spreng. neue entd. 3. p. 158.) legumes pedicellate, linear, hooked, declinate, pubescent; fructiferous peduncles unarmed; leaflets cuneated, toothed, silky. ⊙. H. Native of? Perhaps *T. ténuis*, ex Spreng. l. c.

Hook-bearing Trigonella. Pl. $\frac{1}{2}$ foot.

19 T. CANCELLA'TA (Desf. cat. hort. par. 218. Poir. dict. suppl. 5. p. 361.) stems spreading, much branched; leaflets cuneated, serrated; stipulas subulate, small; fructiferous peduncle awnless, about equal in length to the leaf; legume arched, glabrous, compressed, reticulated with veins; seeds oblong, somewhat truncate, wrinkled from dots. ⊙. H. Native of? Flowers yellow.

Latticed Trigonella. Fl. June, July. Clt. 1823. Pl. dec.

§ 2. *Racemes sessile.*

20 T. MONSPELI'ACA (Lin. spec. 1095.) pilose; stems prostrate; leaflets obovate-cuneated, serrulated; teeth numerous; stipulas linear-subulate; umbels sessile; segments of calyx subulate, length of tube; legumes usually 7, sessile, crowded, arched, divaricate, short, obliquely veined; seeds oblong, somewhat truncate, olive-coloured, wrinkled with dots. ⊙. H. Native of the south of Europe. Waldst. et Kit. hung. 2. t. 142.—Breyn. cent. 80. t. 33. f. 2. Bùceras ellíptica, Mœnch. meth. p. 143. Flowers yellow.

Montpelier Trigonella. Fl. June, July. Clt. 1710. Pl. pr.

21 T. ELA'TIOR (Sibth. et Smith, fl. græc. t. 762. ex prod. 2. p. 108.) stem erect; stipulas lanceolate, toothed; legumes disposed in racemes, pendulous, rather falcate; peduncle elongated. ⊙. H. Native of Asia Minor and the Island of Cyprus. Flowers yellow.

Taller Trigonella. Pl. 1 to 2 feet.

22 T. PARVIFLÒRA (Smith, in Rees' cycl. vol. 36.) stems ascending; peduncle length of the leaflets, which are acuminated; stipulas ovate, acute, toothed; legumes disposed in racemose heads, ascending, linear-lanceolate, compressed, curved, usually containing 2 seeds. ⊙. H. Native of Switzerland.

Small-flowered Trigonella. Fl. June, Aug. Clt. 1817. Pl. ascending.

23 T. PINNATI'FIDA (Cav. icon. 1. p. 26. t. 38.) stem prostrate, tetragonal; leaflets cuneated, truncate at the apex, pinnatifidly-toothed; stipulas pinnatifid; umbels sessile; legumes usually 4 together, sessile, linear, arched, reticulately veined; seeds oblong, truncate, wrinkled from dots; radicle rather prominent. ⊙. H. Native of Spain. T. mèdia, Delil. ill. 722. Flowers yellow.

Pinnatifid-stipuled Trigonella. Fl. June, Aug. Clt. 1801. Pl. prostrate.

24 T. POLYCERA'TA (Lin. spec. 1093.) stems diffuse; leaflets cuneiform, dentate at the apex; stipulas lanceolate, rather toothed at the base; umbels sessile; legumes almost sessile, usually 4 together, erect or erectish, long, linear, reticulately-veined; seeds oblong, somewhat truncate, yellow, wrinkled from dots; radicle rather prominent. ⊙. H. Native of the south of France. Flowers yellow.

Many-horned Trigonella. Fl. July, Sept. Clt. 1759. Pl. diffuse, $1\frac{1}{2}$ foot long.

25 T. ÆGYPTI'ACA (Poir. dict. 8. p. 95.) stem prostrate; branches short, erect; leaflets ovate-cuneiform, denticulated; stipulas entire; umbels sessile; legumes somewhat compressed, erectish, reticulated with veins. ⊙. H. Native of Egypt. Flowers yellow.

Egyptian Trigonella. Fl. June, July. Clt. 1818. Pl. prost.

26 T. POLYA'NTHA (Desv. journ. bot. 1814. 1. p. 77.) stem diffuse; leaflets obovate-cordate, quite smooth, rather fleshy, obscurely toothed; legumes sessile, crowded, rather falcate, glabrous; common peduncle sessile, mucronate. ⊙. H. Native of the Levant. Flowers yellow.

Many-flowered Trigonella. Pl. $\frac{1}{2}$ to 1 foot.

27 T. ORNITHORHY'NCHOS (Fisch. ex Horn. hort. hafn. suppl. p. 85.) leaflets roundish, rather serrated, fleshy; peduncles spiny; legumes on very short peduncles, umbellate, reflexed, and recurved, beaked. ⊙. H. Native of the Russian empire. Flowers yellow.

Bird's-beak-podded Trigonella. Fl. June, Aug. Clt. 1818. Pl. $\frac{1}{2}$ to $\frac{3}{4}$ foot.

Sect. IV. Falca'tula (from *falcatus*, falcate; in reference to the shape of the pods). Ser. mss. in D. C. prod. 2. p. 183., Brot. phyt. 160.—Buceràtis, spec. Mœnch. Flowers disposed in pedunculate umbels. Legume compressed, falcate, reticulated, mucronate.

28 T. Ruthe'nica (Lin. spec. 1093.) stems prostrate; leaflets lanceolate, very blunt, sharply serrated; stipulas nearly entire; flowers disposed in racemose heads; legume oblong, straight, or a little arched; seeds unequally cordate; radicle very long. ♃. H. Native of Siberia.--Gmel. fl. sib. 4. p. 24. no. 33. t. 8. Legume obtuse, and terminated by a recurved mucrone, and the leaflets are oblong-obovate, according to the specimens received from Siberia. Flowers yellow. This plant would be an excellent substitute for *lucern*, see *Medicàgo sativa*.

Russian Trigonella. Fl. June, July. Clt. 1759. Pl. ascending, 1½ foot long.

29 T. lacinia'ta (Lin. spec. 1095.) stems spreading; leaflets obovate-cuneated, half pinnate-cut; stipulas dissected; flowers disposed in racemose umbels; peduncles length of leaves; teeth of calyx shorter than the tube; legume short, elliptical. ⊙. H. Native of Egypt. Flowers yellow.

Jagged-stipuled Trigonella. Pl. spreading.

30 T. platyca'rpos (Lin. spec. 1093.) stems erect or diffuse; leaflets obovate-roundish; stipulas a little toothletted; flowers racemose; legume flat, pendulous; seeds unequally cordate, obtuse: radicle very long. ⊙. H. Native of Siberia.—Gmel. sib. 4. p. 25. t. 9. Flowers yellow. Legumes white.

Broad-podded Trigonella. Fl. June, Sept. Clt. 1741. Pl. ½ foot.

31 T. hy'brida (Pourr. act. toul. 3. p. 33.) stems ascending; leaflets obovate-cuneated, entire, glabrous; stipulas unequally lanceolate, denticulated; flowers few, racemose; legumes pedicellate, glabrous; falcate, reticulated with veins; seeds irregularly cordate. ♃. H. Native of France.—D. C. icon. pl. rar. 1. p. 29. t. 29. Flowers yellow.

Hybrid Trigonella. Fl. June, Sept. Clt. 1806. Pl. ascending, 1 to 2 feet.

32 T. ornithopodioìdes (D. C. fl. fr. 4. p. 550.) stems prostrate; leaflets obcordate, denticulated; stipulas lanceolate, entire, rather membranous, very acute; flowers usually 2-4, disposed in a kind of umbel; legume somewhat falcate, compressed, twice the length of the calyx. ⊙. H. Native of France and other parts of Europe; in Britain on several heaths about London, and elsewhere. Trifòlium ornithopodioides, Lin. spec. 1078. Smith, engl. bot. 1047. Falcátula falsotrifòlium, Brot. phyt. 160. t. 68. Flowers red.

Ornithopus-like Trigonella. Fl. June, July. Brit. Pl. prost.

33 T. cornicula'ta (Lin. spec. 1094.) stem erect; leaflets bovate, dentate at the apex; stipulas lanceolate, entire; flowers acemose; legumes compressed, declinate, somewhat falcate, ransversely veined; seeds unequally cordate, wrinkled from ots; radicle rather prominent. ⊙. H. Native of the south f France. Bùceras grandiflòra, Mœnch. meth. p. 143.—J. auh. hist. 2. p. 372. f. 2.? Flowers yellow, sweet-scented.

Horned Trigonella. Fl. June, July. Clt. 1597. Pl. 1 foot.

34 T. escule'nta (Willd. enum. 709.) racemes pedunculate; mmon peduncle longer than the leaf; legumes linear, somehat falcate, crowded, pedicellate. ⊙. H. Native of the East dies. Medicàgo esculénta, Rottl. ex Willd. l. c. The lemes of this plant are esculent.

Esculent Trigonella. Fl. June, Aug. Clt. 1815. Pl. 1 ft.

35 T. occu'lta (Delil. ill. fl. ægyp. 727.) stem herbaceous, ffuse, angular at the apex; leaflets on short petioles, cuneated, rrated, rather villous; stipulas semi-orbicular, acutely and arsely serrated, girding the head of flowers; petals shorter n the calyx; legume ovate, rather compressed, hairy, reticulately nerved, hooked from the style. ⊙.? H. Native of sandy islands in the Nile. Flowers axillary, crowded, small, yellow.

Hidden-flowered Trigonella. Pl. diffuse.

† *Species not sufficiently known.*

36 T. petiola'ris (Viv. fl. lyb. p. 49. t. 18. f. 5.) flowers disposed in heads, pendulous; pedicels somewhat falcate; petiole double the length of the peduncle: leaflets obcordate-cuneated; stipulas oblique, ovate, acute, profoundly toothed; legume? ⊙.? H. Native of Cyreniaca, in pastures.

Petiolar Trigonella. Pl. 1 foot.

37 T. crassifòlia (Horn. hort. hafn. 2. p. 723.) leaflets roundish, fleshy; peduncles rather spinose; legumes pedunculate, crowded, reflexed, rather falcate. ⊙. H. Native of Egypt. Flowers yellow.

Thick-leaved Trigonella. Pl. ½ foot.

38 T. villòsa (Thunb. prod. p. 137.) leaflets obovate, glabrous; legumes racemose, villous. Native of the Cape of Good Hope.

Villous Trigonella. Pl. 1 foot.

39 T. spica'ta (Sibth. et Smith, fl. græc. t. 763. ex prod. 2. p. 108.) stipulas subulate, quite entire; legumes disposed in spikes, pendulous, short, pilose; peduncles elongated, rather spiny. ⊙. H. Native of the island of Seriphos.

Spicate Trigonella. Pl. ½ to 1 foot.

40 T. arma'ta (Thunb. prod. 137.) branches spinescent; leaflets ovate, glabrous; legumes lateral, spiny. ♄.? G. Native of the Cape of Good Hope.

Armed Trigonella. Shrub.

41 T. gla'bra (Thunb. prod. p. 137.) leaflets ovate, toothed, glabrous; legumes umbellate, reflexed, glabrous. ♄. G. Native of the Cape of Good Hope.

Glabrous Trigonella. Shrub?

42 T. hirsu'ta (Thunb. prod. p. 137.) leaflets oblong, obtuse, villous; legumes racemose, reflexed. ♄. G. Native of the Cape of Good Hope.

Hairy Trigonella. Shrub.

43 T. tomentòsa (Thunb. prod. 137.) leaflets and branches tomentose; legumes pedunculate, ternate. ♄. G. Native of the Cape of Good Hope.

Tomentose Trigonella. Shrub.

44 T. cylindra'cea (Desv. journ. bot. 1814. vol. 1. p. 77.) leaflets oblong, obtuse, toothed, rather pubescent, terete, acute, striated, somewhat incurved; common peduncle elongated, mucronate. ⊙.? H. Native of the Levant.

Cylindrical-leafletted Trigonella. Pl.

Cult. None of the species of this genus are worth cultivating unless in botanical gardens. The seeds of the hardy annual kinds only require to be sown in the open border in spring. The hardy perennial kinds are easily increased by dividing the plants at the root or by seeds. Those natives of the Cape are perhaps shrubby; if this be the case, they may be propagated by young cuttings planted in sand under a hand-glass. All the species grow best in a light sandy soil.

LXVIII. POCO'CKIA (in honour of Richard Pocock, a traveller in the Levant). Ser. mss. in D. C. prod. 2. p. 185.—Trifòlium, spec. Lin.

Lin. syst. *Diadélphia, Decándria.* Calyx campanulate, 5-toothed. Carina simple, and wings shorter than the vexillum. Legume longer than the calyx, membranous, compressed, winged, emulating a samara.—Flowers racemose. Leaves trifoliate, terminal or middle leaflet stalked.

1 P. Cre'tica (Ser. mss. in D. C. prod. 2. p. 185.) stem ascending; leaflets obovate-cuneated, obsoletely-toothed; stipulas lanceolate, profoundly-toothed; teeth of calyx acute, shorter than the tube; legume wrinkled transversely, 2-seeded; seeds

ovate-oblong, compressed, wrinkled from dots; radicle rather prominent. ⊙. H. Native of Candia and Barbary. Trifòlium Melilòtus Crética, Lin. spec. 1078. Melilòtus Crética, Desf. fl. atl. 2. p. 192.—Moris. hist. sect. 2. t. 14. f. 3. Flowers yellow.

Cretan Pocockia. Fl. June, Aug. Clt. 1713. Pl. 1 foot.

Cult. The seeds of this plant only require to be sown in the open border about the beginning of April.

LXIX. MELILO'TUS (from *mel*, honey, and *lotus;* honey Lotus. The plants are similar to the *Lotus*, and are the favourite resort of bees). Tourn. inst. 406. t. 229. Juss. gen. 356. Lam. ill. t. 613. D. C. prod. 2. p. 186.—Trifòlium spec. Lin.

Lin. syst. *Diadélphia, Decándria.* Calyx tubular, 5-toothed. Carina simple; wings shorter than the vexillum. Legume longer than the calyx, coriaceous, one or many-seeded, hardly dehiscent, of various forms.—Herbs. Stipulas adnate to the petiole. Leaves trifoliate; leaflets usually toothed. Flowers disposed in loose racemes, yellow, rarely white.

Sect. I. Cœloru'tis (from κοιλος, *koilos*, channelled, depressed, and *ρυτις, rutis*, a wrinkle; in reference to the surface of the legumes). Ser. mss. in D. C. prod. 2. p. 186. Legume wrinkled from lacunæ.

1 M. Kochia'na (Willd. enum. 790.) stem ascending; leaflets linear-oblong, denticulated; stipulas toothed; teeth of calyx equalling the tube in length; vexillum longer than the carina; legume 1-2-seeded, wrinkled somewhat transversely from lacunæ, ovate, acute, compressed, length of style; seeds egg-shaped, bay-coloured, and somewhat compressed. ♂. H. Native of Germany and France. D. C. fl. fr. 5. p. 564. Trifòlium Kochiànum, Hayne in Schrad. neue journ. 2. p. 336. M. diffùsa, Koch. diss. ined. Flowers yellow.

Koch's Melilot. Fl. June, Sept. Clt. 1816. Pl. 2 to 3 feet.

2 M. denta'ta (Willd. enum. 790.) stems erect, firm; leaflets oblong, denticulated; stipulas laciniated; teeth of calyx equalling the tube in length; vexillum longer than the keel; legumes dense, black when mature, 1-2-seeded, obovate, obtuse, compressed, irregularly and finely wrinkled from lacunæ, with the seminiferous margin gibbous; style short; seeds irregularly cordate, of a bay colour; radicle very prominent. ♂. H. Native of Hungary. Trifòlium dentàtum, Waldst. et Kit. pl. hung. 1. p. 41. t. 42. Sturm, deutschl. fl. 1. fasc. 15. M. procúmbens, Hort. prag. ex W. Gerhard in litt. 1824. but not of Besser. The plant has the fruit of *M. officinàlis*, and the flowers of *M. parviflòra.*

Var. β, angustifòlia (Wallr. sched. crit. 1. p. 394.) leaflets linear.

Toothed-leafletted Melilot. Fl. Ju. Aug. Clt. 1802. Pl. 3 to 4 ft.

3 M. linea'ris (Cav. ex Pers. ench. 2. p. 348.) stem erect, angular; leaflets linear-oblong, nearly entire; stipulas linear, hardly toothed at the base; teeth of calyx unequal, about equal in length to the tube; vexillum length of carina; legume 2-seeded, wrinkled reticulately, ovate-orbicular; style short; seeds unequally cordate, bay-coloured. ⊙. H. Native of Spain. Flowers yellow. This species comes near to *M. dentàta*, but differs in the leaflets being obovate-linear, and in the flowers being larger.

Linear-leafletted Melilot. Fl. July, Aug. Clt. 1820. Pl. 2 ft.

4 M. Ruthe'nica (Bieb. fl. taur. suppl. p. 506. in a note,) stem erect, angular; leaflets cuneiform, remotely-serrated; stipulas setaceous; legumes ovate, compressed, wrinkled reticulately, 1-seeded; racemes elongated, loose; young legumes densely reticulated; seeds testaceous. ♂. H. Native of Russia, about the colony of Sarepta. M. Wólgica, Poir. suppl. 3. p. 640. ex herb. Desf. Flowers white. Legume like that of *M. macrorhìza.*

Russian Melilot. Fl. July, Aug. Clt. 1820. Pl. 2 to 4 feet.

5 M. melanospe'rma (Besser in litt. 1824.) stem firm, unequally furrowed; racemes numerous, twiggy, very long, ascending; leaflets oblong, denticulated; legumes ovate, lacunose, black; seeds ovate, not cordate or compressed, black, rugged from dots. ♂. H. Native of Tauria. Flowers yellow like those of *M. officinàlis.*

Black-seeded Melilot. Fl. July, Aug. Clt. 1819. Pl. 3 to 4 ft.

6 M. officina'lis (Willd. enum. p. 790.) stem erect, branched; branches spreading much; leaflets obovate-oblong, obtuse, remotely-serrated; stipulas setaceous; teeth of calyx unequal, length of tube; vexillum striated with brown; wings equal in length to the keel; legume 2-seeded, obovate, acute, and transversely wrinkled, rather pilose, at length blackish, and rather gibbous; style filiform, length of legume; seeds unequally cordate. ♂. H. Native of Europe. In Britain in thickets and hedges, and the borders of fields. Trifòlium Melilòtus officinàlis, *α*, Lin. spec. 1078. Oed. fl. dan. 934. Sturm, deutsch. fl. 1. fasc. 15. var. *α*. Trifòlium officinàle, Smith, fl. brit. 781. engl. bot. 1346. Flowers yellow. Fruit nearly like that of *M. dentàta*, but the flowers are much larger. The flowers and seeds of this plant are the chief ingredients in flavouring the Gruyère cheese. This cheese no doubt owes its excellence to the mixture of herbs in the mountain pasturage, which surrounds the valley of Gruyère in Switzerland, but more particularly to the flowers and seeds of this plant, which are bruised and mixed with the curd before it is pressed. The whole plant has a peculiar scent, which becomes more fragrant in a dry state, then having some resemblance to that of *Anthoxánthum.* The flowers are sweet-scented; a water distilled from them possesses little odour in itself, but improves the flavour of other substances. In medicine it was esteemed emollient and digestive, and was used in fomentations and cataplasms, particularly in blister plaisters, but it is now laid aside as being rather acrid than emollient. Notwithstanding the strong smell of the plant, and its bitter acrid taste, it does not appear to be disagreeable to any kind of cattle; and horses are said to be extremely fond of it; hence the plant is called by some Italian writers *Trifòlium caballìnum.* Ray affirms that it was formerly sown in England for the food of kine and horses; but at present it is not cultivated with us.

Var. β, unguiculàta (Ser. mss. in D. C. prod. 2. p. 187.) legumes elongated, sterile ones claw-formed, pedicellate. ♂. H. Native about Bern and Geneva.

Officinal or Common Melilot. Fl. July, Sept. Britain. Pl. 3 to 6 feet.

7 M. palu'stris (Kit. in litt. 1815.) stems branched, erect; leaflets oblong-linear, obsoletely-toothed; stipulas linear-setaceous; teeth of calyx unequal, length of tube; vexillum longer than the wings and keel: legume 1-seeded, ovate, a little winged, rugged from lacunæ, of a brownish-black colour; seeds irregularly cordate, bay-coloured. ♂. H. Native of Hungary, growing among *Arúndo phragmìtis.* Trifòlium Melilòtus palústre, Waldst. et Kit. pl. rar. hung. 3. p. 295. t. 266. Very nearly allied to *M. officinàlis*, and perhaps distinct. Flowers yellow.

Marsh Melilot. Fl. July, Aug. Clt. 1820. Pl. 2 to 4 feet.

8 M. arbòrea (Castagne in litt. D. C. prod. 2. p. 187.) stems arboreous; leaflets ovate-oblong, sharply-toothed; stipulas setaceous, entire; flowers disposed in long racemes; teeth of calyx acute, length of tube; keel and wings shorter than the vexillum. ♄. G. Cultivated about Constantinople, where it grows 15 feet high, and with a trunk about 3 inches in diameter. Flowers white.

Trée Melilot. Fl. July, Sept. Clt. 1826. Shrub 15 feet.

9 M. alti'ssima (Thuill. fl. par. ed. 2. p. 378 and 83.) stem

erect; leaflets ovate-oblong; racemes very long; wings equal to the keel; legumes naked, ovate, acute at both ends, 1-seeded. ♂. H. Native of France. Trifòlium altíssimum, Lois. fl. gall. 2. p. 4. M. álba, Lam. dict. 4. p. 63. Perhaps M. arvénsis or M. álba, Thuill. Flowers white.

Tallest Melilot. Fl. July, Aug. Clt. 1816. Pl. 6 to 8 feet.

10 M. LEUCA'NTHA (Koch. ex D. C. fl. fr. 5. p. 564.) stem erect, branched; leaflets ovate-oblong, truncate at the apex and mucronulate, remotely serrated; stipulas setaceous; teeth of calyx unequal, length of tube; vexillum longer than the keel and wings; legume 1-seeded, ovate, wrinkled from lacunæ, green; seeds exactly ovate. ♂. H. Native of Europe, in fields. Trifòlium officinàle β, Lin. spec. 1078. Sturn. deutsch. fl. 1. fasc. 15. f. K. M. vulgàris, Willd. enum. p. 790. M. álba, Thuill. fl. par. ed. 2. p. 378. but not of Lam. Flowers white.

Var. β, *unguiculàta* (Ser. mss. in D. C. prod. 2. p. 187.) legumes elongated, sterile ones claw-formed, pedicellate.

White-flowered Melilot. Fl. July, Sept. Clt. Pl. 3 to 5 feet.

11 M. MACRORHIZA (Pers. ench. 2. p. 348.) stems and branches erect; leaflets linear-oblong, sharply and remotely toothed; stipulas setaceous, toothless at the base; teeth of calyx equal, length of tube; wings equal in length with the vexillum, but exceeding the carina; legume ovate, compressed, acutish, wrinkled from lacunæ, black, a little winged, 1-seeded; seeds unequally sub-cordate, bay-coloured. ♃. H. Native of Hungary. Trifòlium macrorhìzum, Waldst. et Kit. pl. rar. hung. 1. p. 24. t. 26. Flowers yellow.

Long-rooted Melilot. Fl. July, Sept. Clt. 1801. Pl. 2 to 3 ft.

12 M. PARVIFLÒRA (Desf. atl. 2. p. 192.) stem ascending; branches spreading; lower leaflets obovate-roundish, entire, upper ones oblong, obsoletely-toothed; stipulas linear-setaceous; flowers very minute, in dense spikes; teeth of calyx nearly equal, broad; wings about equal in length to the vexillum and carina; legume ovate, rugged from lacunæ, yellowish-green, 1-seeded; seeds ovoid, adhering to the legume, bay-coloured, rugged from dots. ⊙. H. Native of Barbary, Italy, and France. Trifòlium Melilòtus I'ndicum δ, Lin. spec. 1077. Flowers yellow. This plant has the habit of *M. sulcàta*, but the legumes are very different, and the spikes are rarely mucronate at the apex.

Small-flowered Melilot. Fl. Ju. Aug. Clt. 1798. Pl. 1 to 2 ft.

13 M. SEGETA'LIS (Ser. mss. D. C. prod. 2. p. 187.) stem sometimes erect, sometimes procumbent; leaflets obovate, serrulated even to the base; stipulas ciliately-toothed; legume nearly globose, naked, 1-seeded, wrinkled archwise. ⊙. H. Native of Portugal, in Estramadura, among corn. Trifòlium Melilòtus segetàle, Brot. fl. lus. 2. p. 484. Flowers yellow. Perhaps only a variety of *M. I'ndica*.

Corn-field Melilot. Fl. July, Aug. Clt. 1820. Pl. 1 to 2 ft.

14 M. POLÓNICA (Pers. ench. 2. p. 348.) stem erect, terete; leaflets cuneate-ovate, denticulated, rather truncate at the apex, and mucronulate; stipulas subulate; flowers very minute; spikes mucronate; teeth of calyx equal, broad; legume ovate, wrinkled from lacunæ, bay-coloured, 2-seeded; seeds ovoid, black, wrinkled from dots. ⊙. H. Native of Poland. Trifòlium Melilòtus Polónicum, Lin. spec. 1078. Flowers yellow. Allied to *M. parviflòra*, but very distinct.

Polish Melilot. Fl. July, Aug. Clt. 1778. Pl. 1 to 2 feet.

15 M. TAU'RICA (Ser. mss. in D. C. prod. 2. p. 188.) stem erect; leaflets rhomboidal-cuneate, lined, dentately-serrated in front; stipulas subulate-setaceous; racemes elongated; legumes roundish, compressed, wrinkled transversely, 1-seeded. ♂. H. Native of Tauria. Trifòlium Melilòtus Taùricum, Bieb. fl. taur. suppl. p. 506. Plant quite smooth, of a glaucous green-colour. Flowers white.

Taurian Melilot. Fl. July, Sept. Clt. 1818. Pl. 3 to 4 feet.

16 M. ITA'LICA (Lam. dict. 4. p. 65.) stem erect; branches ascending, thick; leaflets obovate-roundish, obsoletely-denticulated; stipulas lanceolate, acute, somewhat jagged at the base; teeth of calyx unequal, hardly the length of the tube; wings equal to the carina, but shorter than the vexillum; legume globose, somewhat suberose, rugged from lacunæ, yellowish-green, 1-2-seeded; seeds orbicular, compressed, rugged from dots, bay-coloured. ⊙. H. Native of Italy. Trifòlium Melilòtus Itálicum, Lin. spec. 1078. Melilòtus rotundifòlia, Ten. cat. 1819. p. 57. Flowers yellow. There is a variety of this plant with entire leaves.

Italian Melilot. Fl. July, Aug. Clt. 1596. Pl. 1 to 2 feet.

17 M. GRA'CILIS (D. C. fl. fr. 5. p. 565.) stem and branches ascending, slender; leaflets obovate, narrow, denticulated at the apex; stipulas somewhat setaceous; teeth of calyx nearly equal, hardly shorter than the tube; wings equal in length to the carina and vexillum; legume globose, hardly suberose, rugged from lacunæ, yellowish-green, 2-seeded; seeds orbicular, compressed, rugged from dots, bay-coloured. ⊙. H. Native of the south of France. M. Neapolitàna, Tenore ex herb. Moricand. Flowers yellow.

Slender Melilot. Fl. July, Sept. Pl. 1 to 2 feet.

18 M. PA'LLIDA (Besser. in litt. 1824.) stem rather terete, lined, much branched; leaflets obovate-linear, serrulated; legume nearly globose, obsoletely reticulated, mucronate by the style, 1-seeded, of a yellowish bay-colour; seeds globose, bay-coloured, smooth. ♂. H. Native of Volhynia. Flowers pale-yellow, like those of *M. officinàlis*.

Pale-flowered Melilot. Fl. July, Aug. Clt. 1816. Pl. 3 to 4 ft.

19 M. SUAVE'OLENS (Ledeb. ind. hort. dorp. suppl. 1824. p. 5.) legume 2-seeded, reticulated, glabrous; wings equalling the keel in length, but shorter than the vexillum; leaflets lanceolate-oblong, remotely serrated; stipulas entire. ♃. H. Native of Dahuria, near Nertschinsk. Flowers yellow.

Sweet-scented Melilot. Fl. July, Aug. Clt. 1824. Pl. 3 to 4 ft.

SECT. II. PLAGIORU'TIS (from πλαγιος, *plagios*, transverse, and ρυτις, *rutis*, a wrinkle; in reference to the transverse wrinkles on the surface of the legume). Ser. mss. in D. C. prod. 2. p. 188.) legumes wrinkled transversely and arcuately.

20 M. ARVE'NSIS (Wallr. sched. crit. p. 391.) stem much branched from the base, ascending; leaflets obovate, irregularly toothed; stipulas subulate; racemes very long; teeth of calyx nearly equal, length of tube; wings equal in length to the vexillum, but exceeding the carina; legume ovate, acute, wrinkled transversely from lacunæ, usually 2-seeded, yellowish-green; seeds ovate-oblong, olive-coloured, smooth; radicle hardly prominent. ⊙. H. Native of Germany, among corn. Flowers yellow.

Var. β, *albiflòra* (Wallr. sched. 392.) M. Petitpierreàna, Hayne in Schrad. neue journ. 2. part 2. p. 337. Willd. enum. 790. ex Wallr. Flowers white.

Corn-field Melilot. Fl. July, Aug. Clt. 1800. Pl. 1 to 2 ft.

21 M. E'LEGANS (Salzmann, in litt. D. C. prod. 2. p. 188.) teeth of calyx about equal, lanceolate, length of tube; legume ovate, adhering to the seeds, wrinkled irregularly and transversely, and somewhat lacunose, and bay-coloured, 1-seeded; seeds subglobose, hardly retuse, rugged from dots, bay-coloured. ⊙. H. Native of Corsica.

Elegant Melilot. Pl. 1 to 2 feet.

22 M. BESSERIA'NA (Ser. mss. in D. C. prod. 2. p. 188.) stem angular, firm, branched; branches assurgent; leaflets ovate, serrulated; legume ovate, hardly compressed, very rugged, greenish; wrinkles elevated, transverse, tumid, and lacunose; seeds irregularly heart-shaped, bay-coloured, rather veiny. ♂. H. Native of Tauria. M. imbricàta, Besser in litt. (1824.) M. plicàta, Stev.? Flowers yellow, like those of *M. officinàlis*.

Besser's Melilot. Fl. July, Aug. Clt. 1816. Pl. 4 to 6 ft.

Sect. III. Campyloru'tis (from καμπυλος, *campylos*, a curve, and ρυτις, *rutis*, a wrinkle; in reference to the curved or arched wrinkles on the surface of the legumes). Ser. mss. in D.C. prod. 2. p. 189. Legumes ovate or obovate, densely and arcuately veined.

23 M. Messane'nsis (Desf. fl. atl. 2. p. 192.) stem erect; leaflets obovate-cuneated, denticulated; stipulas broad at the base, toothed, linear at the apex; racemes few-flowered; teeth of calyx nearly equal, hardly shorter than the tube; legume lanceolate, acute, very much nerved, 1-seeded; seeds ovate, compressed, large, black, rugged from dots. ⊙. H. Native of Barbary, Sicily, and Piedmont, and the Straits of Messina. Trifòlium Messanénse, Lin. mant. 175. Flowers yellow.

Messina Melilot. Fl. July, Aug. Clt. 1670. Pl. 1 to 2 feet.

24 M. sulca'ta (Desf. fl. atl. 2. p. 193.) stem procumbent; leaflets obovate, obsoletely-toothed; stipulas linear-subulate, dilated at the base, entire or toothed; teeth of calyx broadish, shorter than the tube; legume obovate, somewhat globose, densely nerved, 2-seeded; seeds somewhat orbicular, rugged from dots. ⊙. H. Native of Algiers and Alexandria, in cultivated fields. Trifòlium Melilòtus I'ndicum γ, Lin. spec. 1077. M. Mauritánica, Willd. enum. p. 789. M. longifòlia, Tenore, prod. suppl. 1. p. 66. Flowers yellow.

Var. β, *Libanótica* (Ser. mss. in D. C. prod. 2. p. 189.) fruit larger, 1-seeded; seeds ovate, wrinkled from dots; teeth of calyx narrower. ⊙. H. On mount Libanon. Perhaps a proper species.

Furrowed-stemmed Melilot. Fl. Ju. Aug. Clt. 1798. Pl. pr.

† *Species not sufficiently known.*

25 M. Baume'tti (Horn. hort. hafn. suppl. p. 84.) slender; stem erect; leaflets oblong-obovate, truncate, sharply-serrated at the apex; legume racemose, naked, wrinkled, 1-seeded. ⊙. H. Native of? Flowers yellow.

Baumetti's Melilot. Fl. July, Aug. Clt. 1818. Pl. 1 to 2 ft.

26 M. mi'nima (Roth. nov. spec. p. 361.) stem decumbent; leaflets cuneated, deeply toothed; stipulas palmately awned, rather membranous; legumes axillary, sessile, crowded, roundish, muricated, rugged, 1-seeded. ⊙. ? H. Native of the East Indies. Flowers small, white.

Smallest Melilot. Pl. decumbent.

27 M. Neapolita'na (Tenore, prod. suppl. 1. p. 66. cat. 1819. p. 57.) stem erect; leaflets deltoid-obovate, toothed at the apex; stipulas setaceous, entire; flowers spreading; legumes 1-seeded, obovate, obtuse, naked, arcuately wrinkled. ⊙. H. Native on exposed hills near Naples.

Neapolitan Melilot. Fl. Ju. Aug. Clt. 1820. Pl. 2 feet.

Cult. None of the species are worth cultivating except in botanical gardens. They are all easily increased by seeds, which only require to be sown in the open border in spring. A dry light soil suits them best.

LXX. TRIFO'LIUM (from *tres*, three, and *folium*, a leaf; all the species of the genus have trifoliate leaves, or each leaf is composed of 3 leaflets; the Greeks call it τριφυλλον; the French *trèfle*; and the English *trefoil* or *clover*). Tourn. inst. 404. t. 228. Juss. gen. 355. Lam. ill. 613. D. C. prod. 2. p. 189.—Trifòlium, spec. Lin.

Lin. syst. *Diadélphia, Decándria.* Calyx tubular (f. 32. *a.*), permanent, glandless, 5-cleft (f. 32. *a.*); segments subulate. Carina shorter than the wings and vexillum. Stamens diadelphous (f. 32. *b.*). Legume small, hardly dehiscent, usually ovate, 1-2-seeded, shorter than the calyx, and covered by it, rarely oblong, and containing 3-4 seeds, in which case it exceeds the calyx a little.—Herbs. Stipulas adnate to the petioles. Leaves usually trifoliate, rarely with 5 leaflets. Flowers disposed in dense heads or spikes, bracteate, purple, white, or cream-coloured. Petals in the greater part of the species joined together at the base. This genus includes the most valuable herbage plants adopted in European agriculture, the white, red, and yellow *clover*. Notwithstanding all that has been said of the superiority of *lucern* to *clover*, and of the excellence of *saintfoin* and various other leguminous plants, yet the red *clover* for mowing, and the white species for pasturage, are, and probably ever will be, found to excel all plants in these respects. The yellow *clover*, and the cow or meadow *clover* are also in cultivation but are inferior to the white and red *clover*.

Sect. I. Lagòpus (from λαγως, *lagos*, a hare, and πους, *pous*, a foot; in reference to the soft villous heads of flowers, which have been compared to the softness of a hare's foot). Ser. mss. in D. C. prod. 2. p. 189. Flowers spicate; spikes oblong, bractless at the base. Calyx very villous, not inflated after flowering.

1 T. angustifòlium (Lin. spec. 1083.) stem erect; leaflets linear-lanceolate, very acute, ciliated; stipulas very long, narrow, subulate at the apex; spike solitary, terminal, between conical and oblong in shape; calyx ribbed, glandular, and pilose; segments setaceous, spinescent at the apex, hardly exceeding the monopetalous corolla, lower segment longest; seeds egg-shaped, smooth, bay-coloured. ⊙. H. Native of the south of Europe and the extra-tropical parts of the south of Africa, ex Burch. cat. geogr. no. 286. Sturm, deutsch. fl. 1. fasc. 16. Savi, obs. p. 58.—Barrel. icon. 698. Flowers pale rose-coloured.

Narrow-leaved Trefoil. Fl. June, Aug. Clt. 1640 or 1739. Pl. 1½ foot.

2 T. interme'dium (Gussone, cat. 1821. p. 82. in a note, p. 14. but not of Lapeyr.) plant pilose; stem diffuse; leaflets lanceolate, oblong; spikes villous, between conical and oblong in shape; segments of the calyx setaceous, and nearly equal, but not spinescent at the apex; corolla hardly exceeding the calyx. ⊙. H. Native of Italy, on sandy hills. Corolla white. Calyx striated, the segments terminated by fascicles of hairs. The rest of the plant appears as if it were a hybrid between *T. angustifòlium* and *T. arvénse*.

Intermediate Hare's-foot Trefoil. Fl. June, July. Clt. 1820. Pl. ½ to 1 foot.

3 T. purpu'reum (Lois. fl. gall. 484. t. 14.) stem erect; leaflets linear-lanceolate, acute, quite entire, ciliated; stipulas narrow, somewhat setaceous at the apex; spikes ovate-oblong, terminal, solitary; calyx ribbed, glandular, and pilose; the segments setaceous, much shorter than the corolla, which is perhaps monopetalous, the lower segment longest. ⊙. H. Native about Montpelier, Florence, and of the Levant. Savi, obs. p. 60. Flowers purple.

Purple-flowered Hare's-foot Trefoil. Fl. June, July. Clt. 1816. Pl. 1 foot.

4 T. ru'bens (Lin. spec. 1081.) stem erect, straight; leaflets oblong, very blunt, and quite smooth, denticulated; stipulas very long and very broad, lanceolate at the apex; spikes terminal, usually twin; calyx very much striated, glandless, with the segments setaceous and very short, the lower segment longest, but hardly equal in length to the monopetalous corolla; seeds egg-shaped, smooth; radicle rather prominent. ♃. H. Native of Europe, on mountains, in meadows, and on the margins of woods. Sturm, deutsch. fl. 1. fasc. 15. Savi, obs. p. 55. Mart. fl. rust. t. 9. Jacq. aust. 4. p. 385. Flowers dark red. An elegant plant.

Var. β, *furcàtum* (Ser. mss. in D. C. prod. 2. p. 190.) stems forked at the top, bearing 2 spikes of flowers.

Var. γ, *ramosíssimum* (Ser. mss. in D. C. l. c.) stem much branched, bearing many spikes. On Mount Saleva.

Red Trefoil. Fl. June, Sept. Clt. 1633. Pl. 1 to 1½ foot.

5 T. CŒRULE´SCENS (Bieb. fl. taur. suppl. 509.) stem erect? leaflets roundish-rhomboidal, villous, as well as the half-ovate, subulate, dentate stipulas; teeth of calyx nearly equal in length to the wings. ⊙. H. Native of the desert Anketer, between the rivers Terek and Kuma. The plant is known from *T. incarnàtum* in the leaflets being lined, in the stipulas being membranous, and in the heads of flowers being shorter. Flowers bluish-purple.

Bluish-flowered Trefoil. Fl. July. Clt. 1827. Pl. 1 foot.

6 T. INCARNAˋTUM (Lin. spec. 1083.) stem erect; leaflets roundish, obcordate, crenated, villous; stipulas broad, very short, obtuse, and spacelate at the apex: spikes terminal, solitary, on long peduncles; calyx ribbed, very pilose; the segments lanceolate-setaceous, equal, somewhat stellately disposed, equal in length with the monopetalous corolla; seeds egg-shaped, radicle rather prominent. ⊙. H. Native of the south of Europe, in subhumid meadows. Sims, bot. mag. 328. Sturm, deutsch. fl. 1. heft. 16. Mill. fig. t. 267. f. 1. Flowers crimson, red, flesh-coloured, or even white. This is an elegant plant when in flower. Mr. Miller says it will make good food for cattle, but being an annual plant will not suit with the common practice of farmers.

Var. β, Molinèrii (D. C. fl. fr. 5. p. 556.) flowers pale flesh-coloured; stipulas hardly spacelate; leaflets more or less denticulated. ⊙. H. T. Molinèrii, Balb. ex Horn. hort. hafn. p. 715.

Flesh-coloured-flowered Trefoil. Clt. 1640. Pl. 1 foot.

7 T. LAGOˋPUS (Pour. ex Willd. spec. 3. p. 1365.) plant very hairy; stem much branched; leaflets obovate-cuneated, denticulated; stipulas lanceolate, very broad, short, nerved; spike terminal, oblong, solitary, sessile; calyx ribbed, very pilose; the segments setaceous and equal, but shorter than the corolla. ⊙. H. Native of Spain.– Poir. dict. 8. p. 10. Flowers red.

Hare's-foot Trefoil. Fl. July, Aug. Clt. 1827. Pl. pr.

8 T. SPICAˋTUM (Sibth. and Smith, fl. græc. t. 743. ex prod. 2. p. 93.) stem erect; legume 1-seeded, disposed in spikes, erect, naked, wrinkled, acute; stipulas subulate, quite entire. ⊙. H. Native of the Island of Cyprus. Flowers yellow.

Spike-flowered Trefoil. Pl. 1 foot.

9 T. ARVE´NSE (Lin. spec. 1083.) stem erect, branched, or simple; leaflets spatulate, linear, somewhat tridentate at the apex; stipulas narrow, membranous, nerved, bristle-pointed, pilose; spikes oblong, very villous, soft; calyx very pilose, the segments bristle-shaped, longer than the polypetalous corolla, and equal in length with each other; seeds egg-shaped, bay-coloured; radicle not prominent. ⊙. H. Native of Europe; common in fields; plentiful in Britain, in sandy barren fields. Smith, engl. bot. 944. Sturm, deutsch. fl. 1. heft. 16. Curt. fl. lond. 6. t. 50. Fl. dan. 724. Flowers pale-reddish.

Var. β, crassicaûle (Ser. mss. in D. C. prod. 2. p. 191.) heads ovate-globose, much smaller; stem very thick and very much branched; branches divaricate. ⊙. H. Native of Caucasus, in fields.

Var. γ, perpusíllum (Ser. l. c.) spikes somewhat globose; stems very short, procumbent. ⊙. H. Ray, syn. p. 330. no. 15. t. 14. f. 2. Lobel first found this plant near South-sea Castle; Dillenius near Brackelsham, in Sussex, and Mr. Woodward, on Yarmouth Danes, at Lowestoft, &c.

Var. δ, gràcile (D. C. fl. fr. 4. p. 530.) stem and leaves smoothish; segments of the calyx villous at the apex, and coloured. ⊙. H. Native of France. T. gràcile, Thuil. fl. par. ed. 2. p. 283 —Barrel. icon. 901.

Var. ε, capitàtum (Ser. l. c.) heads of flowers globose, sessile. T. arvénse β,.Savi, obs. trif. p. 19.—Barrel. icon. t. 902.

Field Hare's-foot Trefoil. Fl. July, Aug. Brit. Pl. ½ to 1 ft.

10 T. LIGU´STICUM (Balb. in act. acad. ital. 1. p. 192. f. 2. ex Savi, obs. trif. p. 38.) stem branched, diffuse; leaflets obovate or obcordate, broad, somewhat denticulated at the apex; stipulas broadish, lanceolate, nerved, small, ending in an acumen, which is equal in length to the limb; spikes oblong, twin, divaricate, pedunculate, pilose; teeth of calyx subulate, equal, twice the length of the tube, but exceeding the corolla; seeds egg-shaped, yellow; radicle rather prominent. ⊙. H. Native of Italy, about Pisa, also in Spain and Corsica. T. arrectisètum, Brot. phyt. p. 152. t. 63. f. 1. T. aristàtum, Horn. hort. hafn. p. 712. Link. enum. 2. p. 262. Flowers pale-red.

Var. β, párvulum (Ser. mss. in D. C. prod. 2. p. 191.) stem much branched, slender; spikes small, somewhat globose. ⊙. H. Native of the Stæchades Islands, and about Pisa.

Lovage Trefoil. Fl. June, July. Clt. 1816. Pl. ½ foot.

11 T. DIVARICAˋTUM (Horn. hort. hafn. 2. p. 715.) stem erect, divaricate, much branched; leaflets obovate, emarginate, pilose; stipulas lanceolate; spikes elongated, ovate-cylindrical; teeth of calyx subulate; corolla monopetalous. ⊙. H. Native of? Perhaps only a variety of *T. geméllum*, ex Horn. l. c. Flowers white and pale-red.

Divaricate Trefoil. Fl. June, July. Clt. 1816. Pl. spread.

12 T. GEME´LLUM (Pourr. in Willd. spec. 3. p. 1376.) stem straight, simple; leaflets obovate, narrow, retuse, hardly denticulated at the apex; stipulas narrow, with a long acumen, hardly nerved; spikes oblong, terminal, pedunculate and approximate, pilose; segments of the calyx dilated at the base, unequal, divaricate, length of tube, but longer than the corolla; seeds irregularly egg-shaped, small, yellowish-green; radicle rather prominent. ⊙. H. Native of Spain. Flowers pale-red or white.

Twin-spiked Trifolium. Fl. June, July. Clt. 1816. Pl. ½ ft.

13 T. PHLEOIˋDES (Pourr. in Willd. spec. 3. p. 1377.) stem branched a little, slender; leaflets oblong, obcordate, denticulated; stipulas rather membranous, nerved, very narrow, awl-shaped; spike pedunculate, solitary or twin, between conical and oblong, villous, bractless; flowers very dense; segments of calyx equal, diverging, subulate, dilated at the base, length of tube, but shorter than the corolla; seeds exactly egg-shaped, small, bay-coloured; radicle hardly prominent. ⊙. H. Native of Spain and Italy. Flowers pale-purple or white. Heads like those of a species of *Phlèum.*

Phleum-headed Trefoil. Fl. May, Jul. Clt. 1818. Pl. ½ ft.

14 T. LAPPAˋCEUM (Lin. spec. 1082.) stem branched, diffuse; leaflets obovate, or obcordate, denticulated; stipulas rather membranous, nerved, narrow, long, and subulate; spike subglobose, hispid, terminal, usually solitary; segments of the calyx equal, subulate, twice or thrice longer than the tube, but equal in length to the corolla; seed egg-shaped, brown; radicle hardly prominent. ⊙. H. Native of Europe. Flowers pale-red.

Burdock-like Trefoil. Fl. June, Aug. Clt. 1821. Pl. divaricate, ¼ to ½ foot.

15? T. ECHINAˋTUM (Bieb. fl. taur. 2. p. 216.) stem declinate, branched; leaflets obovate-oblong, quite entire; stipulas subulate, pilose; heads ovate, terminal, and axillary, pedunculate, leafless; segments of calyx subulate, unequal, pilose, shorter than the monopetalous corolla, when in fruit spreading much. ⊙. H. Native of Caucasus. Flowers pale. Vexillum lanceolate, elongated.

Echinated-headed Trefoil. Fl. Ju. Jul. Clt. 1821. Pl. dec.

16 T. ERINAˋCEUM (Bieb. fl. taur. suppl. 510.) stem erect, branched; leaflets cuneated, emarginate, almost entire, villous; stipulas lanceolate, cuspidate; segments of the calyx nearly equal, a little longer than the tube, but exceeding the corolla. ⊙. H. Native of Iberia. Allied to *T. divaricàtum.* Flowers pale-red.

Prickly-headed Trefoil. Fl. June, July. Clt. 1818. Pl. ½ ft.

17 T. MALACA´NTHUM (Link. enum. 2. p. 261.) stem flexucus,

hairy; leaflets obcordate, hairy: stipulas ovate, acuminated; heads terminal and lateral; calyx campanulate, lined; the segments subulate and spreading, hairy. ⊙. H. Native of? Corolla small and pale-purple.

Soft-flowered Trefoil. Fl. July, Aug. Clt. 1824. Pl. ½ ft.

18 T. SYLVA'TICUM (Gerard, in Lois. not. p. 111.) stem a little branched, erect, pubescent; leaflets ovate. obtuse: stipulas dilated, upper ones inclosing the spike of flowers; spike oblong, villous; calycine segments setaceous, ciliated, shorter than the corolla, one of which is longer than the rest and spreading. ⊙. ? H. Native of the south of France. Plant clothed with silky wool. Corolla purple. Spike about an inch long, constantly composed of about 40 flowers.

Wood Trefoil. Fl. June, July. Clt? Pl. ½ foot.

19 T. NI'GRO-PUNCTA'TUM (Wahl. in isis. 1828. vol. 21. p. 971.) spikes of flowers oblong, pedunculated; lower tooth of calyx shorter than the wings of the corolla, which is gamopetalous; stipulas linear, lined with black; leaflets lanceolate-elliptic; stem branched. ⊙. H. Native about Constantinople.

Black-dotted-stipuled Trefoil. Pl. 1 foot.

SECT. II. PHLEA'STRUM (from *phleum*, the cat-tail grass, and *astrum*, an affixed signification, like; the heads of most of the species resemble those of the cat's-tail grass). Ser. mss. in D. C. prod. 2. p. 192. Flowers disposed in ovate-conical heads. Calyx not inflated after flowering.

20 T. BOCCÒNI (Savi, obs. trif. p. 37. no. 14.) stem erect, branched; leaflets oblong-obovate, denticulated at the apex; stipulas very long and very narrow, subulate; heads ovate, dense-flowered, twin, sessile, terminal, bracteate at the base; segments of the calyx nearly equal, narrow, coarsely nerved in the middle, length of tube, and about equal in length to the corolla; seeds small, yellow, egg-shaped; radicle prominent. ⊙. H. Native of Italy, Corsica, Portugal, and Andegavany. T. collìnum, Bast. fl. main. et loir. and Poir. suppl. p. 5. T. semiglàbrum, Brot. phyt. p. 155. t. 63. f. 2. Flowers pale-red.

Bocconi's Trefoil. Fl. June, July. Clt. 1820. Pl. ½ foot.

21 T. STRIA'TUM (Lin. spec. 1085.) stem procumbent, branched; leaflets obovate-oblong, denticulated at the apex, downy; stipulas membranous, broad, nerved, apiculated; heads ovate-conical, dense, terminal and lateral, solitary, sessile, bracteate at the base; tube of calyx much nerved, ventricose, the teeth small and unequal, divaricated, bristle-shaped, shorter than the corolla; seeds turgid, bay-coloured, egg-shaped; radicle not prominent. ⊙. H. Native of Europe, in dry sandy places; plentiful in some parts of Britain, in dry barren sandy fields and pastures. Smith, engl. bot. 1843. Flowers pale-red.

Striated-calyxed Trefoil. Fl. June, July. Brit. Pl. proc.

22 T. TENUIFLÒRUM (Tenore, prod. p. 44. et cat. 1819. p. 58.) stems erect, branched, villous; leaflets obovate-cuneated, serrulated, villous; lower stipulas lanceolate, acute, upper ones ovate, mucronate, nerved; heads cylindrical, villous; flowers length of calyx; calyx clothed with rufous, silky pubescence; the teeth spinose. ⊙. H. Native about Naples. Flowers pale-red.

Fine-flowered Trefoil. Fl. June, July. Clt. 1823. Pl. 1 ft.

23 T. TENUIFÒLIUM (Ten. fl. nap. pr. p. 44.) stem and branches erect; lower leaflets obcordately-cuneated, superior ones linear, denticulated towards the apex, mucronate; calycine teeth unequal, setaceous, shorter than the corolla; heads of flowers oblong, solitary, or twin, sessile. ⊙. H. Native of Lucania, in sandy fields. Flowers straw-coloured. Stems numerous from the root. "Corolla gamopetalous. The plant has the habit of *T. Bocconi*?"

Fine-leaved Trefoil. Fl. May, July. Pl. 1 foot.

24 T. SCA'BRUM (Lin. amœn. 4. p. 287. spec. 1084.) stem procumbent; leaflets obovate, denticulated; stipulas ovate, small, nerved, somewhat membranous, pointed; heads of flowers ovate, sessile, terminal, and lateral; calycine segments linear-lanceolate, stiff, 3-nerved, unequal, hardly equal in length to the polypetalous corolla; finally recurved; seeds ovate, yellow; radicle not prominent. ⊙. H. Native of Europe, in sterile barren places; plentiful in some parts of Britain, in chalky and dry barren fields. Smith, engl. bot. 903. Flowers white.

Scabrous Trefoil. Fl. May, July. Britain. Pl. procumb.

25 T. DALMA'TICUM (Visiani ex bot. zeit. march. 1829. p. 21.) pubescent; stems prostrate, inflexed at the apex; stipulas ovate, membranous, nerved; leaflets stalked, nerved, obovate, finely denticulated, floral ones almost sessile, involucrated by dilated stipulas; heads of flowers ovate-conical, axillary, and terminal, sessile and leafy at the base; calyx pubescent, having linear, straight teeth, which are at length recurved, not half the length of the gamopetalous corolla. ⊙. H. Native of Dalmatia. Flowers white or red. Allied to *T. scàbrum*.

Dalmatian Trefoil. Pl. prostrate.

SECT. III. EUTRIPHY'LLUM (from *ευ*, *eu*, well or good, and *τριφυλλον*, *triphyllon*, trefoil; genuine species). Ser. mss. in D. C. prod. 2. p. 192. Flowers disposed in ovate, pedunculate, or sessile, usually bracteate heads. Calyx villous, not inflated.

26 T. MARI'TIMUM (Huds. angl. ed. 1. p. 284.) stem spreading, often recumbent; heads of flowers somewhat ovate-globose; leaflets oblong-obovate, obtuse, or emarginate, somewhat denticulated; stipulas narrow, pointed; spikes ovate-globose, nearly sessile; calycine segments shorter than the tube and polypetalous corolla, stiff, unequal, at length much dilated and spreading, 3-nerved; seeds ovoid, bay-coloured, hardly gibbous at the base. ⊙. H. Native of Europe, by the sea-side in salt marshes and meadows; plentiful in some parts of Britain, on the east and south coasts of England, from Norfolk to Somersetshire in various places. Smith, engl. bot. 220. Hook. fl. lond. t. 57. T. irregulàre, Pour. act. toul. 3. p. 331. T. rígidum, Savi, fl. pis. 2. p. 159. t. 1. f. 1. obs. trif. p. 42. Flowers pale-red. Plant hairy.

Var. β, *Bastardiànum* (Ser. mss. in D. C. prod. 2. p. 192.) spikes pedunculate; calycine segments larger and finely nerved.

Sea-side Trefoil. Fl. June, July. Brit. Pl. decumbent, or ½ foot high when growing in a tuft.

27 T. SUPÌNUM (Savi, obs. trif. p. 46. f. 2.) stems spreading, branched; leaflets obovate, broad, ciliated; stipulas narrow, nerved, small, subulate; heads somewhat obovate, pedunculate, egg-shaped after flowering; calycine segments unequal, linear, stiff, spreading, shorter than the corolla; seeds unequally subcordate, bay-coloured; radicle prominent. ⊙. H. Native of the south of Europe. Flowers pale-red.

Supine Trefoil. Fl. June, July. Clt. 1816, Pl. trailing.

28 T. CONSTANTINOPOLITA'NUM (Ser. mss. in D. C. prod. 2. p. 193.) stems spreading, branched; leaflets lanceolate-linear, somewhat denticulated; stipulas narrow, nerved, subulate; heads of flowers somewhat globose, terminal, and lateral, pedunculate when mature, of a conical shape; flowers crowded, at length rather loose, and apparently somewhat verticillate; calycine segments unequal, subulate, stiff, much shorter than the corolla. ⊙. H. Frequent about Constantinople. Flowers yellow.

Constantinople Trefoil. Fl. June, July. Clt. 1820. Pl. spread.

29 T. XATA'RDI (D. C. fl. fr. 5. p. 558.) stem erect, villous, branched; leaflets obovate-elongated, a little ciliated; stipulas narrow, nerved; heads of flowers ovate, pedunculate; calyx striated, glandular, and pilose; the segments hardly unequal and smaller than the corolla. ⊙. H. Native of the eastern Pyrenees. Flowers pale-purple?

Var. β, *Bœ'ticum* (Ser. mss. in D. C. prod. 2. p. 193.) plant smoothish; stipulas very long; calycine segments ciliated. Native of Spain. T. Bœ'ticum, Lag. ex Balb. in litt.

Xatard's Trefoil. Pl. 1 foot.

30 T. cínctum (D C. cat. hort. monsp. p. 152.) stems erect, pilose, a little branched; leaflets oval-oblong, villous; stipulas broad, nerved, the two upper ones somewhat palmate; heads ovate, pedunculate; calyx striated; the segments unequal, the lower one large, but shorter than the corolla. ⊙. H. Native about Montpelier. Flowers cream-coloured. Vexillum elongated, linear, rather acute. Allied to *T. maritimum* and *T. ochroleùcum.*

Girded Trefoil. Fl. June, July. Clt. 1820. Pl. ½ to 1 foot.

31 T. Alexandri'num (Lin. amœn. 4. p. 286.) plant smoothish; stems ascending, thick, flexuous; leaves numerous; leaflets ovate-elliptic, somewhat denticulated; stipulas narrow, nerved, about equal in length to the petiole; heads of flowers terminal, ovate; calyx hardly ribbed, pilose; the segments setaceous and nearly equal, the two superior ones joined at the base, much shorter than the monopetalous corolla; seeds ovate, compressed, yellow (ex Savi). ⊙. H. Native of Egypt, about Alexandria. —Forsk. fl. ægypt. descr. p. 139. Savi, obs. trif. p. 47. Flowers pale-yellow. Forskal says that this *trefoil* is universally cultivated in Egypt, being the best and indeed the principal fodder for cattle in that country. It is sown only in the recess of the Nile, and where the fields are too high to be inundated by that river they are watered by means of hydraulic engines; the seeds being committed to the earth while it is wet. The produce is three separate crops, the plants growing each time about half an ell in height. After the last crop the plants die. When this *trefoil* is wanted for seed, it is sown along with the wheat. Both are gathered at once by the hand, not reaped or mown, and are threshed out together, the *trefoil-seed* being afterwards separated by a sieve. This species of clover, being so important in its own country, might be worth the notice of British agriculturists.

Var. β, *ramòsum* (Ser. mss. in D. C. prod. 2. p. 193.) stem branched; lower segment of the calyx bi-trifurcate.

Alexandrian Trefoil. Fl. June, July. Clt. 1798. Pl. 1 ft.

32 T. ochroleu'cum (Lin. syst. nat. 3. p. 233.) pilose; stems ascending, slender; leaves distant; leaflets ovate-elliptic, obtuse, or retuse, finely hairy, upper ones narrowest; stipulas narrow, nerved, much shorter than the petioles, pointed; heads terminal, ovate-oblong, on long stalks; calyx ribbed, smoothish; the segments linear and setaceous, unequal, stiffish, half-spreading, much shorter than the corolla, lowest segment very long. ♃. H. Native of Europe, in dry fields. Curt. fl. lond. 6. t. 49. Mart. fl. rust. 35. Jacq. austr. t. 40. Sturm, deutsch. fl. 1. heft. 16. t. 40. Smith, engl. bot. 1224. T. ròseum, Presl. ex Gussone, in litt. Flowers cream-coloured. Mr. Curtis recommends this species of *trefoil* to the notice of the experimental agriculturist, and thinks it may be a good substitute for the *T. rèpens* or *T. praténse* in certain soils and situations, but we think it in no respect worthy of attention, as an object of culture.

Var. β, *dichótomum* (Ser. mss.) stem forked at the top; spikes twin, approximate.

Var. γ, *hùmile* (Ser. mss.) plant less villous; leaflets broad, lower ones emarginate. T. ochrolèucum β. D. C. fl. fr. 4. p. 528.

Var. δ, *ramòsum* (Ser. mss.) stem much branched.

Cream-coloured-flowered Trefoil. Fl. May, July. Britain. Pl. 1 foot.

33 T. trichoce'phalum (Bieb. fl. taur. 3. p. 212. and suppl. p. 508.) stem ascending, simple, few-leaved; leaflets entire, ovate, or oblong: stipulas broadish, long, much shorter than the petiole; heads hairy, elliptic, leafy at the base, sessile; calyx ribbed, glandular, pilose; the segments setaceous and unequal, much shorter than the corolla. ♃. H. Native of Caucasus, on the Alps. An intermediate plant between *T. ochroleùcum* and *T. Pannónicum.* Flowers cream-coloured.

Hair-headed Trefoil. Pl. ½ foot.

34 T. cane'scens (Willd. spec. 3. p. 1369.) stems ascending, covered with adpressed hairs; leaflets obovate, emarginate, villous; stipulas lanceolate-subulate; heads terminal, large, oblong, nearly sessile; calyx smooth; the segments lanceolate and pilose, dilated at the base, lowest one a little longer; corolla monopetalous, much longer than the segments. ♃. H. Native of Cappadocia. Sims, bot. mag. 1168. Perhaps a variety of *T. Pannónicum* only. Flowers cream-coloured.

Canescent Trefoil. Fl. May, June. Clt. 1803. Pl. ½ to 1 foot, ascending.

35 T. Panno'nicum (Lin. mant. p. 276.) plant very pilose; stem simple, straight; leaflets lanceolate, oblong, acutish, obtuse or retuse at the apex, nearly entire, ciliated; stipulas narrow, linear, and very long at the apex, length of petiole; heads terminal, pedunculate, ovate-oblong, thick; calyx ribbed, glandular, pilose, the segments setaceous and unequal, much shorter than the corolla. ♃. H. Native of the alps of Piedmont. Jacq. obs. 2. p. 21. t. 42. and of Lower Hungary. Flowers white, but when dry yellowish.

Var. β, *barbàtum* (Ser. mss. in D. C. prod. 2. p. 194.) stem forked; leaflets lanceolate, acute. T. barbàtum, D. C. cat. hort. monsp. 150. Native about Montpelier.

Pannonian Trefoil. Fl. June, July. Clt. 1752. Pl. 1 foot.

36 T. Oly'mpicum (Horn. mss. Hook. bot. mag. t. 2790.) stem erect, hairy; leaflets hairy, lanceolate-elliptic, entire; stipulas subulate, sheathing; spikes of flowers oblong, solitary; calyx hairy, with the lower tooth equal in length to the tube of the corolla; vexillum very long. ♃. H. Native of Mount Olympus. Flowers yellowish.

Olympic Trefoil. Fl. July. Clt. 1817. Pl. 1 foot.

37 T. Arme'nium (Willd. enum. p. 793.) stems simple, ascending; leaflets linear-lanceolate, emarginate; stipulas subulate; spike dense, oblong-elliptic, solitary; lower tooth of calyx about equal in length to the tube of the monopetalous corolla. ♃. H. Native of Armenia. Perhaps only a variety of *T. Pannónicum.* Flowers cream-coloured.

Armenian Trefoil. Fl. June, Jul. Clt. 1820. Pl. 1 ft. ascend.

38 T. squarròsum (Lin. spec. 1082.) stem branched; upper leaves opposite or alternate, rather pilose; leaflets lanceolate or oval, rather retuse; stipulas narrow, smoothish, nerved, rather membranous, ending in a long acumen each; heads ovate; calyx ribbed; the segments unequal, 3-nerved, and ciliated, the lowest segment length of corolla and deflexed; seeds oval, yellow. ⊙. H. Native of Spain, and of France about Paris. D. C. fl. fr. 4. p. 531. T. dipsàceum, Thuill. fl. par. ed. 2. p. 382.— Moris. hist. 2. sect. 2. t. 13. f. 1. Flowers white or cream-coloured.

Var. β, *flàvicans* (Ser. mss. in D. C. prod. 2. p. 194.) flowers pale-yellow. T. squarròsum, Savi, obs. p. 65. t. 3.

Squarrose-headed Trefoil. Fl. June, Jul. Clt. 1640. Pl. ½ ft.

39 T. a'lbidum (Rets. obs. fasc. 4. p. 30.) stem diffuse; leaflets ovate-lanceolate, ending each in a short awn, and with the margins and keel ciliated; heads nearly globose, but when in fruit ovate; calycine segments subulate, unequal, adpressed, lower one 3-nerved, and about equal in length to the corolla. ⊙. H. Native of? Flowers cream-coloured. Perhaps only a variety of *T. ochroleùcum.*

Whitish-flowered Trefoil. Fl. June, July. Clt. 1796. Pl. 1 foot.

40 T. cónicum (Pers. in Savi, obs. trif. p. 41. 1810.) leaflets obovate, denticulated at the apex, mucronulate; stipulas somewhat ventricose, short, obtuse, and triangular at the apex; heads

ovate-conical, pedunculate; calyxes very much nerved; segments half spreading, about equal in length to the corolla. ⊙. H. Native of Europe. Flowers cream-coloured.

Conical-headed Trefoil. Fl. Jul. Aug. Clt. 1816. Pl. ½ to 1 ft.

41 T. Kitaibelia'num (Ser. mss. in D. C. prod. 2. p. 194.) stems ascending, hairy; leaflets obovate-elliptic, quite entire, pilose; heads conical, terminal, sessile. ⊙. H. Native of Hungary. T. cónicum, Kit. in Horn. hort. hafn. 2. p. 717 (1813) but not of Pers. nor Lag. Flowers cream-coloured.

Kitaibel's Trefoil. Fl. June, Aug. Clt. 1818. Sh. ½ foot.

42 T. elonga'tum (Willd. spec. 3. p. 1368.) stem ascending, branched; leaflets lanceolate, emarginate, mucronate, villous; stipulas lanceolate; heads loose, elliptic, solitary; lower segment of the calyx length of wings; corolla monopetalous; vexillum very long. ♃. H. Native of Galatia. The whole plant is villous. It differs from *T. alpéstre* in the leaves being smaller, in the vexillum being longer, in the stem being branched and ascending, and in the villi. Flowers red.

Elongated-headed Trefoil. Pl. 1 foot.

43 T. alpe'stre (Lin. spec. 1082.) stem erect, simple; leaflets lanceolate, coriaceous, ciliately-serrulated; stipulas narrow, nerved, nearly sessile, long, and linear at the apex; heads globose; calyx striated; the segments unequal, beset with spinulous warts, the lower segment shorter than the monopetalous corolla, the rest very short and tooth-formed; seeds somewhat reniform, compressed, and yellowish. ♃. H. Native of Europe, on the Alps. Savi, obs. trif. p. 54. Jacq. obs. 3. p. 14. t. 64. fl. aust. 433. Sims, bot. mag. 2779. Root creeping. Flowers purple. The pl [illegible] the leaves of *T. rùbens* and the flowers of *T. pratér* [illegible]

Va[illegible] *ìyum* (Ser. mss. in D. C. prod. 2. p. 194.) heads of flowers twin, approximate. Sturm, deutschl. fl. 1. heft. 15.

Var. γ, lanígerum (Ser. mss. D. C. prod. 2. p. 194.) stems and petioles covered with numerous, white, soft, spreading pili. Native on Mount Pennino.

Var. δ, rubéllum (Besser, in litt.) flowers rose-coloured. Native of Lithuania.

Alp Trefoil. Fl. June, July. Clt. 1789. Pl. ½ to 1 foot.

44 T. me'dium (Lin. faun. suec. ed. 2. p. 558.) smoothish; stem erectish, flexuous, branched; leaflets oblong, coriaceous, ciliated, many-nerved, glaucous beneath; stipulas tapering, converging; heads subglobose, pedunculate, rather loose; calycine segments unequal, rather pilose, the uppermost ones rather the shortest, all shorter than the monopetalous corolla; seeds irregularly cordate; radicle very prominent. ♃. H. Native of Europe, in elevated pastures; plentiful in some parts of Britain. Sturm, deutschl. fl. 1. fasc. 15. Smith, engl. bot. 190. T. flexuòsum, Jacq. fl. austr. t. 386. Mart. fl. rust. 13. T. affìne, Lejeune, ex herb. D. C. T. alpéstre, Crantz. aust. 407. Fl. dan. 662. Root creeping. Flowers purple. It differs from *T. praténse* in the looser heads of flowers, flexuous stems, and creeping woody roots. This species goes under the names of *Cow-grass, Meadow-clover*, and *Marl-grass*. It is sometimes cultivated as an agricultural plant in England and some other parts of Europe. The best properties of the present kind of clover seem to be its power of resisting drought, and its thriving on cold tenacious soils. Yet Mr. Sinclair reports it to be preferable to *T. praténse* or *red clover* for permanent pasture on light soils. Its produce of nutritious matter, however, is said to be but half as much as that of *T. praténse*.

Meadow Trefoil. Fl. June, July. Britain. Pl. 1 foot.

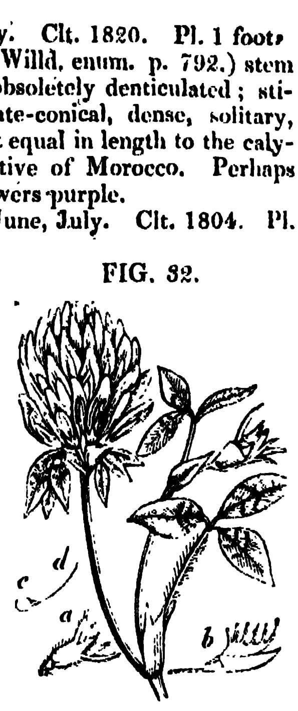
45 T. expa'nsum (Kit. in litt. D. C. prod. 2. p. 195.) pilose; stem erect; leaflets lanceolate; stipulas narrow, nerved, elongated, and ascending at the apex; heads ovate, obtuse, sessile; calycine segments pilose, flexible, unequal, tetragonal, shorter than the corolla. ♃. H. Native of? Perhaps it is a variety of *T. praténse*, but the stipulas are longer, and the leaflets are narrower. Flowers purple.

Expanded Trefoil. Fl. June, July. Clt. 1820. Pl. 1 foot.

46 T. bractea'tum (Schousb. in Willd. enum. p. 792.) stem branched; leaflets ovate, obtuse, obsoletely denticulated; stipulas awned; heads of flowers ovate-conical, dense, solitary, sessile; corolla monopetalous, about equal in length to the calycine segments. ♂.? ⊙.? H. Native of Morocco. Perhaps only a variety of *T. praténse*. Flowers purple.

Bracteate-flowered Trefoil. Fl. June, July. Clt. 1804. Pl. 1 to 1½ foot.

FIG. 32.



47 T. prate'nse (Lin. spec. 1082.) stems ascending; leaflets elliptic, more or less acute, entire; stipulas broad, nerved, glabrous, each ending in a short bristle point, inflexed; heads ovate, dense, obtuse, nearly sessile; calycine segments pilose, flexible, unequal, the lowest one longest, the rest equal; corolla gamopetalous; seeds reniform, compressed, yellowish. ♃. H. Native of Europe, frequent on the Alps and in meadows; plentiful in some parts of Britain. Sturm, deutschl. fl. 1. heft. 5. Savi, obs. trif. p. 48. Smith, engl. bot. 1770. Mart. fl. rust. t. 3. Leaflets dark-green, usually with a white subsagittate mark in the centre. Flowers purple, rarely white.

The red or broad *clover* is the kind most generally cultivated on land that carries white and green crops alternately, as it yields the largest crop of all the other sorts.

The soil best adapted for *clover* is deep sandy loam, which is favourable to its long tap roots, but it will grow in any soil, provided it be dry. Marl, lime, or chalk, is very congenial to *clover*.

The climate most congenial to *clover* is one neither very hot nor very dry and cold. *Clover* will be found to produce most seed in a dry soil and warm temperature, but as the production of seed is only in some situations an object of the farmer's attention, a season rather moist, provided it be warm, is always attended by the most bulky crop of *clover* herbage.

The culture which *clover* receives is ordinary farm culture, and that destined also for another crop.

The time of sowing clover-seed is generally in spring, during the corn seed time, or from February to May; but it may also be sown from August to October, and when it is sown by itself, unaccompanied by any other crop, this will be found the best season, as the young plants are less liable to be dried up, and impeded in their progress by the sun, than when sown alone in spring and remaining unshaded during the dry and hot weather of summer; but clover-seed is usually mixed with a certain portion of rye-grass seed, and sown along with or among other crops, especially with spring-sown wheat, barley, and the early varieties of oats. Unless, however, the soils on which these crops are sown are well pulverized, and have been some years under tillage, *clover* will not succeed in them; it being ascertained that newly broken-up pasture grounds cannot be sown down to *clover* and grasses till the soil is thoroughly pulverized, and the roots of the former grasses and herbage plants completely destroyed.

Some prepare clover-seed for sowing by steeping it in water or in oil, as in Switzerland, and then mixing it with powdered gypsum, as a preventive to the attacks of insects.

The manner of sowing clover is always broad-cast. When sown with spring corn, clover and grass seeds are usually put in after the land has been pulverized by harrowing in the corn-seeds, and are themselves covered by one course more of the harrows, or if the corn is drilled, the small seeds are sown immediately before or after hand-hoeing, and the land is then finished by a course of the harrow. When the land is under an autumn-sown crop of wheat or other grain, though the clovers and rye-grass are still sown in spring, the proper period must depend both upon the state of the land and the progress of the crops; and it may be often adviseable to break the crust formed on the surface of tenacious soils, by using the harrow before the clover-seed is sown, as well as afterwards to cover it. Sometimes the roller only is employed at this time, and there are instances of clover and rye-grass succeeding when sown without either harrow or rolling, if the weather is moist at the time of sowing. Half an inch may be considered a proper depth to cover clover-seed in clay soils, and an inch in dry light soil, but it will grow when barely covered.

The quantity of seed sown on an acre is exceedingly various; not only as more or less white and yellow clover is sown along with grass-seeds and red clover, or when pasturage is intended, but even when they are the only kinds sown, the quantity is varied by the quality of the soils, and the different purposes of hay, soiling, or one year's pasture, to which the crop is to be applied. When pasturage is the object more seed is necessary than when the crop is to be cut green for soiling; and for hay less is necessary than to either of the former. Timely pulverized soils do not require so much seed as clays, on which clovers and rye-glass are very frequently sown among autumn or winter-sown wheat, when there is more danger of a part of it perishing from being imperfectly covered. In general 8 or 10 pounds may be taken as a minimum quantity, and from that to 14 pounds as the maximum. Rye-grass, commonly at the rate of a bushel per acre, but in many cases only half or two-thirds of a bushel, is mixed with this weight of clover, and both are sown at the same time.

When it is intended to retain the land in pasture for several years the quantity of red clover is diminished, and several kinds of more permanent herbage are added, the most common of which are white and yellow clover, and rib-wort and rye-grass. No general rule can be laid down as to the proper quantity of each to be sown; the red clover and rye-grass, however, should predominate.

In the selection of clover and rye-grass seeds particular attention should be paid to their quality and cleanness; the purple colour of cloverseed denotes that it has been ripe and well saved, and the seeds of weeds may be detected in it by narrow inspection, if there be any; but various noxious weeds are frequently mixed up with seeds of rye-grass, which it is difficult either to discover or to separate from them. Red clover from Holland or France has been found to die out in the season it has been cut or pastured, while the English seed produces plants which stand over the second, and many of them the third year (General Report of Scotland, vol. 1. p. 537.); thus remaining, in the latter case, four years in the ground from the time of sowing.

The after culture of clover and rye-grass is chiefly keeping the ground clear of weeds and stones. After this the surface should be rolled once to smooth it for the scythe. This operation is best performed in the first dry weather of March. Some give a top dressing of soot, gypsum, common lime, peat or wood ashes at this time or earlier; but where the soil is in good heart, and contains calcareous matter, top-dressing cannot be considered as necessary.

The taking of the clover or clover and rye-grass crop is either for cutting green for soiling, or cutting green for feeding, or fattening live stock, by making it into hay, or by pasturing. It has been pretty uniformly found, after repeated trials upon soils of almost every description, that oats taken after clover that has been cut, either for soiling or hay, is superior to the crop taken after clover pasture by sheep. On all farms a part of this crop is cut green for the working horses, and for milch-cows, and in some instances both for growing and fattening cattle.

In feeding cattle with green clover attention must be paid to prevent swelling or hoving, which is very apt to take place when they are first put on this food, especially if it be wet with rain or dew, and the more luxuriant the clover the greater is the danger. After being accustomed to this rich food for a few days, during which it should be given rather sparingly, the danger is much diminished; but it is never safe to allow milch cows in particular to eat large quantities of wet clover.

The mode of making clover hay is to cut it close to the ground, and in as perfect and uniform a manner as it is possible to accomplish. The surface in the preceding spring having been freed from stones and well rolled, the stubble after the mower ought to be as short and smooth as possible, by which means the after growth will be more vigorous and weighty. It is turned with a fork or by hand every day until it is quite dry; it is then put up in field rick[illegible] [illegible]erwards stacked.

The after gr[illegible] [illegible] crop of clover is vigorous or weak according to the pro[illegible] [illegible] plants to rye-grass, to the time when the [illegible] [illegible] the moisture and warmth of the season [illegible] soil. Fl. June, July. [illegible] cuttings may be made into hay, and [illegible] the second, but in general both are consumed by soiling or pasturing, unless in some dry warm districts, as Norfolk, and parts of Suffolk and Kent, when the second growth is left to ripen its seed. In the northern counties, should it be cut for hay, which it seldom is, the best method of saving it is to mix it up with straw, which will absorb a part of its juices. It is often cut green as a part of the soiling system, or where a sheep stock is kept, pastured by the old ewes or other sorts, that are to be fattened the ensuing winter on turnips.

When clover is used as a pasturage crop the live stock are either pent in by hurdles, and the hurdles shifted as the clover is eaten, or they may be tethered in the field, and the tethers removed in order to have the clover eaten regularly, as in some parts of Scotland, or the stock is introduced into the field, but in this case always earlier than in tethering and hurdling, in order to avoid the loss that would be sustained by cattle or sheep treading on tall herbage; but red clover is not generally pastured till the third year; but when white or yellow clovers are sown the herbage is sometimes not mown at all, but only pastured for three or more years, but if a little red clover is sown with them a crop of hay may be taken the second year.

The produce of clover hay without any admixture of rye-grass, on the best soils is from 2 to 3 tons per acre, and in this state in the London market it generally sells 20 per cent higher than meadow hay or clover and rye-grass mixed. The weight of hay from clover and rye-grass mixed varies according to the soil and the season from one to three tons per English acre, as it is taken from the damp ricks; but after being stacked and kept till spring the weight is found to be diminished 25 or 30 per cent. The value of clover and rye-grass hay in comparison with the straw of beans or peas, may be in the proportion of 3 to 2, and with the finest straw or corn crops in the proportion of 2 to 1. One acre of red clover will go as far in feeding horses or black cattle as 3 or 4 of natural grass. And when it is cut occasionally, and given to them fresh, it will probably go still farther, as no part of it is lost by being trodden down. With the exception of lucern, *Medicago sativa*, and the herbage of rich marshes, there is no crop by which so much stock can be supported as by clover. It may be profitably employed in fattening sheep in spring, and with this food they will soon be ready for the butcher. Afterwards a crop of hay may be got, and in two or three weeks after the hay has been taken off, sheep intended to be fattened on turnips may be turned in, and kept there until the turnips are ready for them.

The nutritive products of red clover, according to Sir Humphrey Davy (the quantity analysed 1000 parts) are as follows: the whole quantity of soluble or nutritive matter 39; mucilage or starch 31; saccharine matter or sugar 3; gluten 2; extract, or matter rendered insoluble during evaporation, 3.

The saving of clover-seed is attended with considerable labour and difficulty. Clover will not ripen its seeds if saved for that purpose early in the year; therefore it is necessary to take off the first crop either by feeding or with the scythe, and to depend for the seed upon those heads that are produced in the autumn. Seed clover turns out to good account in those years when the crops are not injured by the blight, which is often fatal to them, or by the rains in the autumn, which sometimes prove their destruction; for the time of harvesting this seed falling out late, when rainy weather may be expected, renders it on that account very tedious. The produce in seed may generally be from 3 to 4 or 5 bushels per acre, when perfectly clean weighing from 2 to 3 cwt. But there is great uncertainty in the produce of clover-seed from the lateness of the season at which it becomes ripe; and the fertility of the soil is considerably impaired by such a crop. Yet the high value of the seed is a great inducement to the saving of it in favourable situations (Dickson's Practical Agriculture, vol. 2. p. 863). The growth of clover reserved for seed should be the second crop, and it should be suffered to remain until the husks become perfectly brown, when it should be cut and harvested in the usual manner, leaving it on the field till it is very dry and crisp, that the seeds may become more fully hardened; it may then be laid up dry, to be threshed out at the farmer's convenience. Much labour and expense are necessary in separating the seeds from the husk, especially when it is effected by thrashing, which seldom costs less than from 5 to 6 or 7 shillings per bushel. By the use of mills the work may be done much cheaper.

The diseases of clover are the blight or mildew, and suffocation or consumption from insects, slugs, and worms. It often happens that clover after being repeated at short intervals on the same soil either fails or does no good, whether this is owing to a disease, or a defect in some peculiar substance which enters into the food of the plant, does not appear to be clearly ascertained. A top dressing with ashes or lime is said to be unfavourable to slugs; but where vermin of this sort are very numerous the most certain remedy is a naked fallow well worked in the hottest months.

Var. α, *sativum* (Ser. mss. in D. C. prod. 2. p. 195.) tall; leaflets ovate or lanceolate; heads large, globose.

Var. β, *graciléscens* (Ser. l. c.) smoothish; stems filiform; heads small, few-flowered. T. praténse γ, Ser. trif. exsic. no. 19.

Var. γ, *pedunculàtum* (Ser. l. c.) heads on long peduncles. T. praténse sativum, Sturm, deutschl. fl. 1. fasc. 15.

Var. ε, *multifidum* (Ser. l. c.) calycine segments 6-7, hispid from pili. Native of Corsica.

Field Trefoil or Red Clover. Fl. May, Sept. Britain. Pl. 1 to 2 feet.

48 T. VAGINA'TUM (Schleich. cat. p. 51.) plant villous; stems prostrate; leaflets ovate, obtuse or retuse; stipulas broad, nerved; heads ovate, obtuse, nearly sessile; segments of calyx nearly equal; corolla gamopetalous; seed reniform. ♃. H. Native of Switzerland, on mount Grimsel, and of Vallais. Flowers yellowish.

Sheathed Trefoil. Fl. May, July. Clt. 1819. Pl. prostrate.

49 T. MICRÓPHYLLUM (Desv. journ. bot. 3. p. 316.) smoothish; stems ascending; leaflets ovate, obtuse or retuse, denticulated, superior ones mucronulate; stipulas broadish, ovate, furnished at the apex with a broad, short, inflexed point; heads ovate, obtuse, sessile; calycine segments pilose, flexile, unequal, shorter than the gamopetalous corolla. ♃. H. Native of Scandinavia, and about Paris, in dry groves. D. C. fl. fr. 5. p. 356. Flowers purple. Perhaps only a variety of *T. praténse*.

Small-leaved Trefoil. Fl. May, July. Clt. 1819. Pl. 1 foot, ascending.

50 T. NÓRICUM (Wulf. in Rœm. arch. 3. p. 387.) villous; stem declinate, simple; leaflets oval-oblong; stipulas smoothish, rather narrow, somewhat lanceolate; heads of flowers subglobose, pedunculate and sessile; calycine segments filiform, flexile, about equal in length, the lower one much shorter than the carina. ♃. H. Native of Carinthia. Savi, obs. trif. p. 61. Sturm, deutsch. fl. 1. fasc. 16. Allied to *T. praténse*, but the calyxes are twice the length, and thicker; and the flowers are cream-coloured.

Noric Trefoil or Clover. Fl. July, Aug. Clt. 1821. Pl. pr.

51 T. SUCCÍNCTUM (Visiani. ex bot. zeit. March, 1829. p. 21.) plant hairy; stems ascending; leaflets oval, obtuse, obsoletely-denticulated at the apex, upper leaves opposite; stipulas ovate, membranous, nerved; heads of flowers ovate, terminal, girded by a 10-toothed 1-leaved involucrum; calyx compressed, nerved at the base, having lanceolate acuminated pilose teeth, the lower tooth twice the length of the others. ⊙. H. Native of Dalmatia. Flowers white. This plant is distinguished from all others of the genus in the form of the involucrum.

Girt Trefoil. Fl. May, June. Pl. ascending.

52 T. PENNSYLVA'NICUM (Willd. enum. p. 793.) stem much branched, flexuous; leaflets ovate-elliptic, obtuse, quite entire; stipulas awned; heads ovate, cylindrical, solitary, dense; lower segment of calyx shorter than the monopetalous corolla. ♃. H. Native of North America. Very like *T. mèdium* or *T. praténse*. Flowers red.

Pennsylvanian Trefoil or Clover. Fl. May, Sept. Clt. 1811. Pl. 1 foot.

53 T. FIMBRIA'TUM (Lindl. bot. reg. 1070.) stems prostrate, glabrous; leaflets oval, smooth, toothed, the teeth setaceous; heads of flowers on long peduncles; involucrum shorter than the flowers, and are, as well as the stipulas, multifid; the segments awned; calyx turbinate, with the segments pungent, about the length of the tube of the corolla; seeds round, black. ♃. H. Native of North America, in the neighbourhood of the Colombia river. Flowers purple.

Fringed-stipuled Trefoil. Fl. Sept. Oct. Clt. 1825. Pl. prostrate.

54 T. WORMSKIÓLDI (Lehm. cat. sem. hort. hamb. 1825.) heads of flowers hemispherical, solitary, terminal, girded by an orbicular, jagged, awned involucrum; wings divaricate, a little shorter than the vexillum; leaflets obovate-oblong, pectinately-denticulated, mucronate; stipulas broad, fringed. ⊙. H. Native of Greenland.

Wormskiold's Trefoil. Pl. reclining.

55 T. TRIDENTA'TUM (Lindl. bot. reg. no. 1070.) stems ascending, nearly simple, glabrous; leaflets linear, acute, toothed the teeth setaceous; heads of flowers on long peduncles; involucrum fringed, awned, shorter than the flowers; upper stipulas pectinated; calyx tubular, the limb dilated and coloured with the segments tridentate and awned, shorter than the corolla ♃. H. Native of North America, in the neighbourhood of the Colombia river. Flowers purple.

Tridentate-sepalled Trefoil. Pl. ascending.

56 T. CYATHÍFERUM (Lindl. l. c.) stems prostrate, glabrous leaflets obovate, denticulated, obtuse; heads of flowers on lon

peduncles; involucre cup-shaped, truncate, veiny, and toothed, length of flowers; stipulas ovate, short; calyxes membranous, the segments setaceous, 3-5-parted, length of corolla. ♃. H. Native with the two preceding species. Flowers purplish.

Cup-bearing Trefoil. Pl. prostrate.

57 T. INVOLUCRA'TUM (Willd. spec. 3. p. 1372.) plant quite smooth; stems straight, erect; petioles long; upper leaflets oblong-linear, sharply-toothed; stipulas membranous, narrow, linear, very acute; heads pedunculate, hemispherical, girded by an orbicular, toothed involucrum; bracteas bifurcate, but multifid according to Kunth; segments of the calyx setaceous, longer than the tube, and much shorter than the corolla; ovary stipitate, 5-6-ovulate. ⊙. H. Native of Mexico, near Valladolid, at the height of 6000 feet. H. B. et Kunth, nov. gen. amer. 6. p. 302. Kunth, pl. legum. 186. t. 52. Flowers purplish. Stigma small, oblique, rather linear, obtusely papillose.

Involucrated Trefoil. Pl. 1 foot.

58 T. MUCRONA'TUM (Willd. herb. ex Spreng. syst. 3. p. 208.) stem ascending, 1-leaved; leaflets linear, mucronate, serrulated; stipulas broad, lanceolate, cuspidate; calyxes bracteate, the teeth awned and equal, shorter than the corolla; heads of flowers roundish. ♃. H. Native of New Spain.

Mucronate-leafletted Trefoil. Pl. ascending.

59 T. MICROCE'PHALUM (Pursh, fl. amer. sept. 2. p. 478.) stem ascending, pubescent; leaflets obovate, emarginate, denticulated; stipulas ovate, acuminated; heads of flowers small, few-flowered, on long peduncles; flowers sessile in the heads; leaflets of involucrum ovate, awned; calycine segments awned, length of corolla. ♃. H. Native of North America, on the banks of Clark's river, and of California. Flowers pale-purple.

Small-headed Trefoil. Pl. 1 foot.

60 T. PA'LLIDUM (Waldst. et Kit. pl. rar. 1. p. 35. t. 36.) stems diffuse; leaflets ovate-roundish, denticulated; stipulas pilose, broad, setaceous at the apex; heads of flowers globose, rather hispid, hardly pedunculate; calycine segments setaceous, pilose, unequal, shorter than the monopetalous corolla; seeds ovate, compressed, yellow, globose. ⊙. H. Native of Hungary, in meadows and corn-fields. This plant is nearly allied to *T. praténse*, but the heads are smaller, the flowers are white, and the vexillum is emarginate.

Pale-flowered Trefoil. Fl. Ju. Jul. Clt. 1803. Pl. diffuse.

61 T. DIFFU'SUM (Ehrh. beitr. 7. p. 165.) plant soft, villous, and glaucous; stems diffuse; leaflets ovate-lanceolate, obtuse or retuse; stipulas narrow, ending in a linear-lanceolate acumen; heads of flowers ovate, rather hispid; calycine segments setaceous, very villous, straight, equal, shorter than the monopetalous corölla; legume circumcised, 2-seeded; seeds bay-coloured, irregularly obcordate. ⊙. H. Native of Hungary, in sandy places, and about Paris. Waldst. et Kit. hung. 1. p. 40. t. 50. T. ciliòsum, Thuill. fl. par. ed. 2. p. 380. Flowers purple. Perhaps a variety of *T. hirtum*.

Diffuse Trefoil. Fl. July, Aug. Clt. 1801. Pl. ½ foot.

62 T. HETEROPHY'LLUM (Tratt. arch. 1. p. 26. with a figure,) stems procumbent, diffuse, very straight, lower leaflets obcordate, upper ones ovate or lanceolate; stipulas ovate, awned; heads of flowers globose, solitary, dense; calycine segments nearly equal, about equal in length to the tube of the monopetalous corolla. ♃. H. Native of the top of mount Ætscher. Flowers red.

Variable-leaved Trefoil. Pl. procumbent.

63 T. HI'RTUM (All. auct. p. 20.) stem erect; leaflets obovate, cuneated, nearly entire; lower stipulas narrow, each ending in a long acumen, upper ones short, and very broad; heads of flowers nearly globose, hispid; calycine segments very long, about equal in length to the corolla, hardly unequal; seeds large, regularly ovate, very blunt. ⊙. H. Native of the south of Europe. T. híspidum, Desf. atl. 2. p. 200. t. 209. f. 1. Flowers rose-coloured. Plant hairy.

Var. β, pictum (Ser. mss. in D. C. prod. 2. p. 196.) leaflets denticulated, spotted with red. T. píctum, Roth, cat. 2. p. 201. Savi, obs. trif. p. 27.

Var. γ, pygmæ'um (Ser. l. c.) stems almost simple; head solitary, terminal. Native of the Pyrenees, about Prades.

Hairy Trefoil. Fl. July, Aug. Clt. 1817. Pl. ½ to 1 foot.

64 T. POLYCE'PHALUM (Ser. mss. in D. C. prod. 2. p. 196.) plant hairy, prostrate; leaflets cuneate-obovate, entire; stipulas lanceolate, the cauline ones free; heads of flowers very numerous, ovate; calyx very hairy, the segments nearly equal and flexile, shorter than the corolla; vexillum length of corolla; legume villous, 2-seeded; seeds cordate-reniform. ♃. G. Native of the Cape of Good Hope. Perhaps T. lanàtum of Thunb. prod. 136.

Many-headed Trefoil. Pl. prostrate.

65 T. PAUCIFLÒRUM (d'Urv. enum. pl. arch. p. 94.) stems trailing, villous, much branched at the base; petioles very long; leaflets cuneated, very much dilated at the apex, usually emarginate, entire; stipulas scarious, ciliated, subulate at the apex; spikes solitary or twin, few-flowered, on short peduncles; calyxes villous, the segments setaceous, and shorter than the corolla. ♂. H. Native of Turkey, near Constantinople. Flowers purple.

Few-flowered Trefoil. Pl. trailing.

66 T. HUMBO'LDTII (Spreng. syst. 3. p. 213.) heads somewhat umbellate, 8-flowered; calyxes hairy, at length deflexed, the teeth lanceolate, shorter than the corolla; stipulas oblong-lanceolate, nerved; leaflets obovate-roundish, denticulated, nerved. ⊙. H. Native of Quito. T. pauciflòrum, Willd. herb.

Humboldt's Trefoil. Pl. prostrate.

67 T. CHERLE'RI (Lin. amœn. 4. p. 286.) stem procumbent; leaflets obcordate, nearly entire; stipulas broad, ending each in a linear incurved point; heads globose, hispid, sessile: stipulas roundish; calycine segments hispid, longer than the corolla; seeds ovoid, compressed. ⊙. H. Native of the south of Europe. Savi, obs. trif. p. 23.—Barrel. icon. 859. Desf. atl. 2. p. 197. Flowers white.

Cherler's Trefoil. Fl. May, June. Clt. 1750. Pl. procumbent.

68 T. SPHÆROCE'PHALON (Desf. fl. atl. 2. p. 201. t. 209. exclusive of the synonyme of Barrelier,) stems diffuse; leaflets obcordate or obovate; stipulas lanceolate, acute; heads of flowers globose, hispid, sessile, involucrated; calycine segments setaceous, longer than the corolla. ⊙. H. Native of the north of Africa, near Mascar. Flowers white. Plant villous.

Round-headed Trefoil. Fl. June, July. Clt. 1820. Pl. ½ foot.

69 T. ROTUNDIFÒLIUM (Smith, fl. græc. t. 747.) stems simple, diffuse; leaflets nearly orbicular, toothed, hairy; calyx very hairy, longer than its teeth, which are short, lanceolate, and upright: heads of flowers globose, terminal, with lanceolate bracteas. ⊙. H. Native of the Morea. Corolla twice the length of the calyx, elegantly variegated with pale purple and white; its petals distinct; germ hairy. The whole plant clothed with white hairs.

Round-leaved Trefoil. Fl. May, July. Pl. ½ foot.

70 T. GLOBÒSUM (Lin. spec. 1081.) plant very villous; stems diffuse, slender, branched; leaflets obovate-cuneiform, somewhat denticulated; stipulas lanceolate, nerved; heads of flowers globose, villous, stalked; the superior calyxes destitute of a corolla, the lower ones about equal in length to the corolla; seeds egg-shaped, compressed, large, black. ⊙. H. Native of Syria, Arabia, and Italy. Savi, obs. trif. p. 16. Flowers white.

Globose-headed Trefoil. Fl. June, Aug. Clt. 1713. Pl. diffuse, ½ foot.

71 T. RADIÒSUM (Wahl. in isis. 1828. vol. 21. p. 971.) stems ascending, and are, as well as the leaves, villous; leaflets obovate; the interior of the head of flower abortive; teeth of calyx curved, setaceous, plumose, shorter than the corolla. ⊙? H. Native of the Levant. Like *T. globòsum*, but double the size.

Ray-headed Trefoil. Pl. ascending.

72 T. OLIVERIA'NUM (Ser. mss. in D. C. prod. 2. p. 197.) villous; stems diffuse; leaflets obovate-cuneated, short, broad, entire; stipulas lanceolate, each ending in a long narrow acumen; heads subglobose, few-flowered; calycine segments bent, filiform, pilose, ascending, equal, much shorter than the corolla. ⊙. H. Native about Constantinople. Flowers red.

Oliver's Trefoil. Pl. diffuse.

73 T. CLYPEA'TUM (Lin. spec. 1084.) pubescent; stems diffuse; leaflets obovate, denticulated; stipulas broad, nerved, ciliated; heads of flowers subglobose; calycine segments leafy, lanceolate, nerved, unequal, spreading, much shorter than the corolla; legume 1-seeded; seeds sub-cordate? ⊙. H. Native of the Levant.—Savi, obs. trif. p. 61. Gærtn. fruct. t. 153.—Alp. exot. t. 306. Flowers pale-red. The plant is named *T. clypeàtum* in reference to the calyx when in fruit being spread like a buckler.

Clypeate-calyxed Trefoil. Fl. June, Aug. Clt. 1711. Pl. ½ ft.

74 T. STELLA'TUM (Lin. spec. 1083.) plant villous, diffuse; leaflets obcordate, somewhat triangular, with the upper margin denticulated; stipulas obovate, very broad, serrulated; heads of flowers ovate-globose; calycine segments foliaceous, linear-lanceolate, spreading, equal, length of the corolla; legume 1-seeded; seeds ovate, orbicular, bay-coloured. ⊙. H. Native of the south of Europe. Sturm, deutsch. fl. 1. fasc. 16. Savi, obs. trif. p. 30. Desf. atl. 2. p. 199. Smith, engl. bot. 1546.—Barrel. icon. p. 860. Flowers pale rose-coloured.

Stellate-calyxed Trefoil. Fl. Ju. July. Britain. Pl. ½ to 1 ft.

75 T. LEUCA'NTHUM (Bieb. fl. taur. 2. p. 214.) stems ascending, villous; leaflets obovate-oblong, somewhat serrated at the apex; stipulas lanceolate, subulate; heads of flowers subglobose, pedunculate, villous; calycine segments spreading, nearly equal, shorter than the corolla; legume 1-seeded; seeds ovoid; radicle hardly prominent. ⊙. H. Native of Tauria, on dry hills, and of Corsica. T. stellàtum, Pall. ined. taur. T. variábile, Gussone in litt. 1824. T. obscùrum, Guss. cat ex litt. 1824. This plant differs from *T. stellàtum* in the stipulas being lanceolate-subulate and entire, not ovate and denticulated, as well as in the leaflets being more oblong, and the flowers being smaller and almost white, not pale-red.

White-flowered Trefoil. Fl. June, July. Clt. 1820. Pl. ½ foot, declinate.

76 T. LONGIPEDUNCULA'TUM (Lois. fl. gall. ex bull. sc. Aug. 1828. p. 425.) stem ascending, smooth; leaflets oblong-elliptic, quite entire, rather pilose; stipulas narrow, linear-awl-shaped beyond the middle; heads of flowers ovate, terminal, on long peduncles; teeth of calyx unequal, rather pilose, the lower tooth largest, about equal in length to the monopetalous corolla. ⊙. H. Native of Corsica, near Bonifacio. Flowers white.

Long-peduncled Trefoil. Fl. May, June. Pl. ascending.

77 T. REFLE'XUM (Walst. et Kit. pl. hung. 3. p. 299. t. 269.) stems decumbent, diffuse, numerous, pilose; leaflets oblong, somewhat denticulated; stipulas subulate; heads of flowers subglobose, pedunculate; calycine segments spreading, unequal, shorter than the corolla; vexillum elongated; legume obovate, fleshy, glabrous, brown, 1-seeded; seed brown, roundish; radicle hardly prominent. ⊙. H. Native of Hungary, in grassy places. Perhaps distinct from *T. leucánthum*.

Reflexed Trefoil. Pl. decumbent.

78 T. OBLONGIFÒLIUM (Ser. mss. in D. C. prod. 2. p. 197.) villous; stems erect; leaflets oblong, ciliated; stipulas lanceolate, nerved, ending each in a long acumen; heads of flowers globose; calycine segments somewhat setaceous, equal, longer than the corolla. ⊙. H. Native of Spain and Barbary. T. squarròsum, Lam. in herb. Vahl. Flowers purple.

Oblong-leaved Trefoil. Pl. 1 foot.

79 T. OBSCU'RUM (Savi, obs. trif. p. 31. f. 1.) stems spreading; leaflets obovate or obcordate, entire; stipulas membranous, nerved, acute at the apex, ciliated; heads of flowers sub-globose; calycine segments lanceolate, acuminated, nerved, pungent, length of tube, and longer than the corolla; legume 1-seeded. ⊙. H. Native of Italy. Perhaps only a variety of *T. leucánthum*. Flowers white.

Obscure Trefoil. Fl. June, July. Clt. 1820. Pl. spreading.

80 T. SAXA'TILE (All. fl. ped. no. 1108. t. 59. f. 3.) stems rather erect; leaves villous; leaflets cuneated, small, and entire, but emarginate at the apex; stipulas ovate, mucronulate, nerved; heads of flowers globose, depressed, sessile, bracteate; calyxes tomentose; the segments small and ascending, equal, length of corolla; seeds small, black, irregularly subcordate. ⊙. ♂. H. Native of Switzerland, Piedmont, and Dauphiny, on the higher alps. Savi, obs. trif. p. 28. T. thymiflòrum, Vill. dauph. 3. p. 487. T. glaciàle, Reyn. mem. 1. p. 166. Flowers white.

Rock Trefoil. Fl. May, July. Clt. 1816. Pl. ½ foot.

SECT. IV. TRIFOLIA'STRUM (from *trifòlium*, and *astrum*, an affixed signification, like). Ser. mss. in D. C. prod. 2. p. 198. Flowers capitate; heads globose, sessile, or pedunculate; flowers usually deflexed at length. Calyx not inflated.

81 T. SUFFOCA'TUM (Lin. mant. 276.) glabrous; stems very short, procumbent; petioles long; leaflets obcordate-cuneiform, denticulated; stipulas scarious, a little nerved, each ending in a short acumen; heads of flowers axillary, sessile, nearly globose, glabrous, approximate; flowers dense, sessile; calyx membranous, smooth; the segments lanceolate, acute, flat, and nearly equal, recurved, much longer than the corolla; legume concealed, 2-seeded; seeds nearly globose, yellowish; radicle prominent. ⊙. H. Native of the south of Europe. In England on the sandy sea-coast at Yarmouth and Lowestoft, and at Landguard Fort. Jacq. hort. vind. t. 60. Savi, obs. trif. p. 96. Brot. phyt. p. 158. t. 64. Smith, engl. bot. 1040. Flowers pale pink.

Suffocated Trefoil. Fl. June, July. Brit. Pl. procumbent.

82 T. CONGE'STUM (Guss. cat. 1821. p. 80. pl. rar. p. 311.) stems branched, smooth, trailing; leaves on long petioles; leaflets obcordate, entire, pubescent; heads of flowers lateral and terminal, roundish, sessile, approximate; calyx pilose; the teeth erect, equal in length to the corolla; legume 1-seeded. ⊙. H. Native of Calabria in arid fields by the sea-side.

Crowded-flowered Trefoil. Fl. May. Clt. 1820. Pl. trailing.

83 T. GLOMERA'TUM (Lin. spec. 1084.) glabrous; stems spreading; leaflets obovate, sharply toothed; stipulas scarious, nerved, each ending in a long acumen; heads of flowers axillary, sessile, distant, globose; flowers dense, sessile; calycine segments heart-shaped, short, nerved, acuminated, reflexed, shorter than the polypetalous corolla; legume 1-seeded; seed irregularly cordate, bay-coloured. ⊙. H. Native of the south of Europe. In England, in gravelly fields and pastures about London, Isle of Shepey, on Kew-green and Hanwell-heath, Middlesex, on the Bath hills, near Bungay, Suffolk, at Yarmouth, &c. Smith, engl. bot. 1063. Curt. lond. 4. t. 51. Flowers rose-coloured.

Glomerated Trefoil. Fl. June, July. Britain. Pl. decumb.

84 T. PARVIFLÒRUM (Ehrh. beitr. 7. p. 165.) stems diffuse; leaflets obovate, nerved, sharply serrated; stipulas scarious, ending each in a sharp acumen; heads of flowers axillary, pedunculate, and sessile, globose; flowers dense, sessile; calycine

segments nerved, lanceolate, acute, unequal, the two superior ones longer than the corolla; legume 2-seeded; seeds somewhat cordate, bay-coloured. ⊙. H. Native of Hungary and Siberia. T. strictum, Sturm, deutsch. fl. 1. fasc. 15. but not of Lin.

Small-flowered Trefoil. Fl. June, July. Clt. 1820. Pl. pr.

85 T. STRI'CTUM (Lin. spec. 1079.) glabrous; stems branched at the base; lower leaflets obovate, superior ones oblong-elliptic, serrulated; stipulas somewhat scarious, very broad, and bluntish; heads of flowers axillary, on long peduncles, globose; bracteas membranous, almost lanceolate; flowers dense, sessile; calycine segments subulate, unequal, spreading a little, shorter than the corolla; legume a little exserted, 2-seeded; seeds ovate; radicle hardly prominent. ⊙. H. Native of the south of Europe, in Hungary, &c. Waldst. et Kit. pl. hung. 1. p. 37. t. 37. Mich. gen. 27. t. 25. f. 7. Flowers white.

Var. β, elàtum (Ser. mss. in D. C. prod. 2. p. 198.) stems and leaflets elongated. T. lævigàtum, Poir. itin. 2. p. 219. Desf. fl. atl. 2. p. 195. t. 208. Native of Barbary.

Straight Trefoil. Fl. June, July. Clt. 1805. Pl. ½ to 1 ft.

86 T. OBCORDA'TUM (Desv. journ. bot. 1814. 3. p. 76.) stems creeping; leaflets obcordate, quite entire; peduncles ascending, at length reflexed; calyxes and peduncles villous. ♃. F. Native about Buenos Ayres. This plant has the habit of *T. rèpens*. Flowers of a fine purple colour. Perhaps two species are confused under this name, one of which has the leaflets, peduncles, and calyxes glabrous, and the other having the leaflets, peduncles, and calyxes villous.

Obcordate-leafletted Trefoil. Pl. creeping.

87 T. GRANDIFLÒRUM (Hook, in Beech, bot. p. 16.) stems creeping; leaflets obcordate, striated, denticulated, and are as well as the petioles pilose; stipulas oval, ending in a long awn; peduncles hardly pilose, ascending, 3-times longer than the petioles; calyx campanulate, pilose; the segments unequal, lanceolate, exceeding the tube; corolla 5-6-times longer than the calyx, scarious, permanent. ♃. F. Native about Conception, Chili. Like *T. obcordàtum*, but probably belonging to section *Lupinâster*.

Great-flowered Trefoil. Pl. creeping.

88 T. RE'PENS (Lin. spec. 1080.) stems creeping, rooting, diffuse, branched at the base; leaflets obovate-roundish, rather retuse, denticulated: stipulas scarious, narrow, lanceolate, each ending in a long mucrone; heads of flowers globose, axillary, on very long peduncles; flowers pedicellate, deflexed after flowering; calycine segments unequal, tooth-formed, shorter than the corolla; legume 2-4-seeded; seeds irregularly ovoid, bay-coloured. ♃. H. Native of Europe, in meadows and pastures; plentiful in Britain, and now cultivated in Jamaica. Sturm, deutsch. fl. 1. fasc. 15. Savi, obs. trif. p. 16. Smith, engl. bot. 1769. Curt. lond. 3. t. 46. Oed. fl. dan. 990. Mart. fl. rust. 34. Corolla white, tinged with purple. *White clover* is common in pastures through the greater part of Europe, flowering from May to September. There are many varieties of it, depending upon the richness or poverty of the soil. In a fertile moist soil it has a more upright branching stem. On all our good lands it seems to rise spontaneously; but however this may be, the growth of it is much encouraged by spreading of ashes or other manure. It does not come early, neither is it of a tall growth, but it forms an excellent bottom in pastures, and affords a great abundance of succulent stalks and leaves, affording late feed in dry summers, when grasses are mostly burnt up. Mr. Curtis affirms that a single seedling covered more than a yard square of ground in one summer. It does not seem to be ascertained when this *white clover* or *trefoil* came first into cultivation in this country, but it seems to be of late date, for it is not mentioned by Gerarde, Parkinson, or Ray, as an agricultural plant in this country, nor by any of the agricultural writers of the 17th century. Gerarde, however, says that there is a *trefoil* of this kind which is sown in fields in the low countries of Italy, & that cometh up ranker and higher than that which groweth in meadows, and is an excellent food for cattle, both to fatten them and cause them to give great store of milk. Gerarde, herball. p. 1018. edit. 1579. *White clover* is generally sown in pastures to be fed on the land. The time and mode of sowing is the same as that for *red clover*; see *Trifolium praténse*. The nutritive products of *white clover*, according to Sir Humphrey Davy (the quantity analyzed 1000 parts) whole quantity of soluble or nutritive matter 32; mucilage or starch 29; saccharine matter or sugar 1; extract or matter rendered insoluble during evaporation 5; gluten or albumen 3. *White trefoil* is generally called shamrock, but *Oxàlis acetosélla* is supposed to be the true Irish shamrock.

Var. β, rubéscens (Ser. mss. in D. C. prod. 2. p. 199.) flowers purplish; stems numerous. About Geneva.

Var. γ, luxùrians (D. C. herb.) leaflets 4-6, very large.—J. Bauh. hist. 4. p. 380. f. 1.

Var. δ, phyllánthum (Ser. l. c.) segments of the calyx changed into leaflets; peduncles longish. About Bern and Geneva.

Var. ε, unguiculàtum (Ser. l. c.) peduncles elongated; legumes rather foliaceous, pedicellate, much longer than the calyx.

Var. ζ, pentaphýllum; leaflets 5.

Var. η, nigricans; leaflets 4-5, blackish.

Var. θ, foliàceum; head of flowers having a bunch of leaves rising from its apex.

White or Sheep's Clover, *Creeping* Trefoil. Fl. May, Oct. Britain. Pl. creeping, ½ foot.

89 VAILLA'NTII (Poir. dict. suppl. vol. 8. p. 4.) stems branched, decumbent, solid; leaflets elliptic-obovate, finely serrated; heads of flowers globose; flowers pedicellate. ♃. H. Native in pastures about Florence and Paris, in the meadows of Switzerland, and in the Morea.—Mich. gen. 27. t. 25. f. 6.—Vaill. par. t. 22. f. 1. Flowers white.

Vaillant's Trefoil. Fl. May, Aug. Clt.? Pl. decumbent.

90 T. AMA'BILE (H. B. et Kunth, nov. gen. amer. 6. p. 503. t. 593.) plant tufted, diffuse; leaflets roundish-ovate, denticulated, glabrous; petioles and peduncles pilose; umbels axillary, 8-10-flowered; peduncles hardly longer than the leaves; calycine segments ending each in a subulate acumen, shorter than the corolla; legume rather wrinkled, 1-2-seeded. ♃. G. Native of Mexico, near Tolucca, at the height of 4140 feet. Very like *T. rèpens*. Flowers reddish.

Lovely Trefoil. Pl. ½ foot, spreading.

91 T. ANÓMALUM (Schrank, pl. rar. t. 47.) stems creeping; leaves on long petioles; leaflets obovate or obcordate, black, sharply serrulated; lower stipulas lanceolate, entire, upper ones broad, crenated; heads of flowers axillary, on long peduncles; flowers pedicellate; calycine segments short, unequal, much smaller than the corolla; legume terete, 4-seeded. ♃. H. Native of? Perhaps only a dark-leaved variety of *T. rèpens*. Flowers white.

Anomalous Trefoil. Fl. May, Oct. Pl. creeping.

92 T. UMBELLA'TUM (Ser. mss. in D. C. prod. 2. p. 199.) stems prostrate, pubescent; leaves petiolate; leaflets obcordate, cuneated; stipulas lanceolate, cuspidate, foliaceous, nerved; peduncles filiform, very long; heads umbellate, few-flowered; pedicels pilose, arched; flowers ascending; calyxes pilose, striated; the segments lanceolate and 3-nerved, hardly the length of the corolla; vexillum denticulated. ⊙. H. Native of Carolina. Flowers white?

Umbellate-flowered Trefoil. Pl. prostrate.

93 T. CE'RNUUM (Brot. phyt. p. 150. t. 62.) stem procumbent; peduncles 3-times shorter than the leaves; leaflets obovate or oval-cuneated, mucronate at the apex; stipulas membranous,

ovate, acuminated, entire; heads of flowers umbellate, almost globose; flowers numerous, drooping a little, and reflexed after flowering; calyxes glabrous, having nearly equal segments, [illegible] th of corolla; legumes 2-3-seeded; seeds almost reniform, bay-coloured. ⊙. H. Native of Portugal. Flowers pale-purple.

Drooping-flowered Trefoil. Fl. Ju. Jul. Clt. 1820. Pl. pr.

94 T. PALLE'SCENS (Schreber in Sturm, deutschl. fl. 1. fasc. 15.) stems creeping; leaflets obovate-roundish, denticulated; stipulas scarious, lanceolate, nerved, ending each in a long acumen; heads axillary, on long peduncles; flowers pedicellate, the pedicels deflexed when in fruit; calycine segments unequal, longer than the tube but shorter than the corolla. ⊙. H. Native of Salzburg, on the alps. Flowers cream-coloured. Perhaps a yellowish-flowered variety of *T. rèpens.*

Pale-flowered Trefoil. Fl. Sept. Clt. 1804. Pl. creep. ½ ft.

95 T. NIGRE'SCENS (Viv. frag. fl. ital. p. 12. t. 13.) stems tufted, decumbent; leaflets roundish, cuneated, denticulated; stipulas membranous, broad, marked with black, ending in a narrow acumen; heads of flowers naked; peduncles longer than the leaves; calycine segments unequal, much shorter than the corolla; legume 3-4-seeded. ⊙. H. Native about Rome, on the banks of the Tiber. Flowers yellowish.

Blackish-leaved Trefoil. Fl. June, Aug. Pl. decumbent.

96 T. CÆSPITÒSUM (Reyne, mem. 1. p. 162.) plant quite smooth; stems tufted, very short; leaflets obovate, rather retuse, denticulated; stipulas scarious, narrow, lanceolate, very acute, 1-nerved; heads axillary, on long peduncles; flowers almost sessile, the pedicels spreading when in fruit; calycine segments nearly equal, lanceolate, spinose at the apex, shorter than the corolla; legume 3-4-seeded; seeds cordate, bay-coloured. ♃. H. Native of Dauphiny, Switzerland, and Piedmont, in alpine meadows. T. Thàlii, Vill. dauph. 3. p. 478. t. 41. The calyxes are longer than in *T. rèpens.* Flowers white?

Var. β, glareòsum (Ser. mss. in D. C. prod. 2. p. 200.) heads small, few-flowered; calyxes much shorter. T. glareòsum, Schleich. ex herb. Reyn.

Tufted Trefoil. Fl. June, Aug. Clt. 1815. Pl. tufted.

97 T. BURCHELLIA'NUM (Ser. mss. in D. C. prod. 2. p. 200.) plant smoothish; stems short; leaflets obcordate, sharply toothed; stipulas long, narrow, lanceolate, foliaceous, bluntish, having numerous flexuous nerves; heads of flowers axillary, on long peduncles; flowers almost sessile; calycine segments linear, 1-nerved, foliaceous, hardly awned at the apex, longer than the tube, but shorter than the corolla; vexillum longer than the wings. ♃. G. Native of the Cape of Good Hope.—Burchell, cat. no. 316.

Burchell's Trefoil. Pl. ¼ foot.

98 T. AFRICA'NUM (Ser. mss. in D.C. prod. 2. p. 200.) plant pilose; stems short; leaflets obovate or obcordate, somewhat serrulated; stipulas long and narrow, lanceolate, foliaceous, acute, having numerous, straight, parallel nerves; heads of flowers axillary, on long peduncles; flowers sessile; calycine segments tetragonal, about equal in length to the tube, but shorter than the corolla; vexillum length of wings. ♃.? G. Native of the Cape of Good-Hope. Burch. cat. pl. afr. extratrop. no. 2817.

African Trefoil. Pl. ¼ foot.

99 T. ROTUNDA'TUM (Ser. in D. C. prod. 2. p. 200.) plant pilose; stems short, tufted; leaflets roundish, somewhat obcordate, almost entire, much nerved; stipulas broad, each ending in a long mucrone, having numerous flexuous nerves; heads of flowers terminal, somewhat globose, villous, fulvous, pedunculate; flowers sessile; calycine segments tetragonal, nearly equal, length of tube, but much shorter than the corolla; vexillum longer than the wings. ♃. H. Native of?

Roundish-leaved [illegible] near *T. spumòsum* in the want of the uni-

100 T. POLYMÓRPHUM. [illegible] head of the flowers.

long, stems creeping; le[illegible] Fl. Ju. July. Clt. 1818. Pl. ½ ft.

[illegible] thickly beset with [illegible] Bieb. fl. taur. 2. p. 217.) stems

at the base, [illegible] nerved, [illegible] lets obovate, somewhat emargi-

crone; heads of flowers roundish [illegible]; peduncles longer than the

lary, straight, but at length reflexed [illegible], membranous, pubescent;

tetragonal, length of tube, but shorter [illegible] al, shorter than the tube.

longer than the wings. ♃. H. Nativ [illegible] s differs from *T. phy-*

gellan and about Buenos Ayres. [illegible] being more acute at

Polymorphous Trefoil. Pl. creeping. [illegible] smaller, peduncles

101 T. ANGULA'TUM (Waldst. et Kit. pl. hung [illegible] being smaller.

plant almost smooth; stems decumbent, angular [illegible] vate or obcordate, sharply serrated; stipulas scario[illegible] ending in a long acute acumen; heads of flowers ax[illegible] dunculate; flowers pedicellate, at length deflexed; [illegible] umbent, segments narrow, acute, ascending, shorter than the co[illegible] and legume exserted, 4-seeded, somewhat articulated; seeds [illegible] wice gular, dense, somewhat ovate, black. ⊙. H. Native of Hungary, in places impregnated with salt, and about Montpelier. Savi, obs. trif. p. 91. Flowers red.

Angular-stemmed Trefoil. Fl. Ju. Aug. Clt. 1803. Pl. dec.

102 T. SERRULA'TUM (Lagasc. nov. gen. p. 23.) leaflets oblong-obovate, serrulated; heads of flowers umbellate, globose; the pedicels reflexed when in fruit; calycine segments unequal, about equal in length to the corolla; legume 2-seeded. ♃. H. Native of sandy places about Madrid.

Serrulated-leaved Trefoil. Pl. prostrate.

103 T. SUAVE'OLENS (Willd. enum. suppl. p. 52. hort. berl. t. 108.) stems weak, striated; leaflets obovate, somewhat acuminated, sharply serrated; stipulas very narrow, ending each in a long acumen; heads of flowers somewhat hemispherical, axillary, on long peduncles; flowers sessile; calycine segments unequal, 1-nerved; seeds oblong-reniform. ⊙. H. Native of Persia and of Italy. T. formòsum, Curt. ex herb. Coult. 1822. Flowers purplish. Very like *T. resupinàtum*, but the calyxes are not bladdery.

Sweet-scented Trefoil. Fl. June, Sept. Clt. 1820. Pl. ½ ft.

104 T. HY'BRIDUM (Savi, fl. pis. 2. p. 90. obs. trif. 90.) glabrous; stems ascending, solid; leaflets obcordate, cuneiform, denticulated; stipulas broad, rather membranous, very narrow, acute; heads somewhat umbellate, axillary, few-flowered; flowers pedicellate, the pedicels deflexed when in fruit; calycine segments unequal, broadish, shorter than the tube, and much shorter than the corolla; legume exserted, 4-seeded; seeds irregularly cordate, bay-coloured. ♃. H. Native of the south of Europe.—Mich. gen. t. 25. f. 6. T. hybridum, Lin. spec. 1076. in Desf. atl. 2. p. 195. Sturm, deutschl. fl. 1, fasc. 15. T. polyánthemum, Tenore, ex herb. Balb. Flowers white, tinged with red. Desfontaine's plant has pale-red flowers. Linnæus thinks his plant is a hybrid between *T. pratẽnse* and *T. rèpens.*

Hybrid Trefoil. Fl. June, Aug. Clt. 1777. Pl. ½ to 1 ft.

105 T. MICHELIA'NUM (Savi, fl. pis. 2. p. 139. obs. trif. 93.) stem ascending, fistular; leaflets obovate and obcordate, serrulated; stipulas foliaceous, lanceolate, acute; heads of flowers somewhat umbellate, axillary; flowers on long pedicels, the pedicels deflexed when in fruit; calycine segments setaceous, rather spreading, nearly equal, twice or thrice longer than the tube but shorter than the corolla; legume exserted, 2-seeded; seeds ovate, compressed, black. ⊙. H. Native of the south of Europe. T. Vaillántii, Lois. journ. bot. 2. p. 365.—Mich. gen. t. 25. f. 25. Flowers of a greenish-white colour.

Micheli's Trefoil. Fl. June, Aug. Clt. 1815. Pl. pr.

106 T. E'LEGANS (Savi, fl. pis. 2. p. 161. t. 1. f. 2. obs. trif. 92.) stem ascending, solid; leaflets obovate, denticulated; sti-

pulas leafy, ending each in a long, narrow acumen; heads of flowers subglobose, axillary; flowers on short pedicels, the pedicels deflexed when in fruit; calycine segments about equal, triquetrous, longer than the tube, ascending, shorter than the corolla; legume 2-seeded: seeds minute, ovate, compressed, black. ♃. H. Native of Europe. T. Vaillántii, Poir. dict. 8. p. 4. exclusive of the synonyme of Micheli.—Vaill. bot. par. t. 22. f. 1. Flowers pale red or white. Plant creeping.

Elegant Trefoil. Fl. Ju. Sept. Clt. 1823. Pl. ½ to ¾ ft. spr.

107 T. ISTHMOCA′RPON (Brot. phyt. p. 148. t. 61.) stems prostrate and ascending; petioles much shorter than the peduncles; leaflets obovate, obtuse, serrulated, villous; stipulas broad, nerved, subulate; heads of flowers ovate; flowers sessile; calycine segments equal, erect, small, shorter than the corolla, which is somewhat falcate; legume 2-3-seeded; seeds somewhat reniform, of a yellowish-grey colour. ⊙. ♂. ? H. Native of Po[illegible] Legume membranous, coarctate in the middle from [illegible]gy substance. Flowers pale-purple.

[illegible]-*fruited* Trefoil. Pl. ascending, ½ foot.

108 T. REFLE′XUM (Lin. spec. 1079.) plant pilose; stems ascending; leaflets obovate, serrulated; stipulas foliaceous, obliquely-cordate, acuminated; heads of flowers globose, axillary; flowers on long pedicels, at length deflexed; calycine segments nearly equal, very narrow, 1-nerved, nearly twice the length of the tube, but shorter than the corolla. ♃. ? H. Native of Virginia. Flowers purple. Heads of flowers nearly twice the size of those of *T. élegans*. Legumes usually 3-seeded.

Reflexed-flowered Trefoil. Fl. Ju. Aug. Clt. 1794. Pl. pr.

109 T. CAROLINIA′NUM (Mich. fl. bor. amer. 2. p. 58.) plant small; leaflets roundish, obcordate, ciliated; heads pedunculate, reflexed, few-flowered; calycine segments straight, linear, shorter than the tube; corolla white, hardly exserted beyond the calyx; legume usually 3-seeded. ♃. ? H. Native of Carolina.

Carolinian Trefoil. Pl. ¼ foot.

110 T. MONTA′NUM (Lin. spec. 1087.) plant pubescent; stem erect, nearly simple; leaflets lanceolate-oblong, obtuse, denticulated, thickly beset with nerves; stipulas lanceolate, very acute; heads of flowers nearly globose, axillary, pedunculate, but at length oblong; flowers almost sessile, crowded, spreading, at length reflexed; calycine segments unequal, narrow, length of tube, but shorter than the carina; legume 1-seeded; seed ovate-roundish. ♃. H. Native of Europe, in mountain meadows. Savi, obs. trif. 100. Sturm, deutschl. fl. 1. fasc. 15. Fl. dan. 1172. Flowers white.

Var. β, pedunculòsum (Ser. mss. in D. C. prod. 2. p. 201.) heads of flowers globose, solitary, on long peduncles, thicker; calyxes larger.

Var. γ, incànum (Ser. l. c.) stem, peduncles, and lower surface of leaves clothed with hoary pili. Native of Bessarabia.

Mountain Trefoil. Fl. June, Aug. Clt. 1786. Pl. ½ to 1 ft.

111 T. BALBISIA′NUM (Ser. mss. in D. C. prod. 2. p. 201.) plant villous; stems tufted, simple; leaflets elliptic, obtuse, denticulated, much nerved; stipulas lanceolate, acute; heads of flowers hemispherical, terminal, solitary; peduncles much longer than the stamens; flowers ascending, purple; calycine segments equal, spreading, narrow, much longer than the cylindrical tube, and shorter than the carina. ♃. H. Native of Provence, on Mount Lachen.

Balbis's Trefoil. Pl. ½ to 1 foot.

112 T. RUPE′STRE (Tenore, ex Gussone, in herb. Dunant. D. C. prod. 2. p. 201.) stems erect, simple; leaves nearly all radical; leaflets oval, denticulated, much nerved; stipulas membranous, acuminated; peduncle striated, pilose, terminal, length of stem; flowers capitate, depressed, at length deflexed; calyx rather coriaceous, having smooth, blackish-green angles; the teeth or segments narrow, parallel, equal, longer than the tube. ♃. H. Native of Calabria, on Mount Corno. Flowers white. Allied to *T. montànum*.

Rock Trefoil. Fl. June, July. Clt. 1820. Pl. 1 foot.

113 T. PRÆTUTIA′NUM (Guss. pl. rar. 308.) clothed with soft and dense pili; stems tufted and ascending; leaflets oval, entire, or denticulated, finely veined towards the margins; stipulas narrow, ending in a long, bristle-like acumen; heads of flowers globose, solitary, bracteated by a stipule; tube of calyx lined with pili; the segments awl-shaped and parallel, unequal, having the throat filled with white pili. ♃. H. Native of the higher mountains of Aprutia, on Mounts Corno and Cortone. Stems 3 inches high. Flowers reddish.

Prutean Trefoil. Pl. ½ foot.

114 T. LATÌNUM (Seb. pl. rom. fasc. 1. pt. 7. t. 1. f. 2.) stem erectish, dichotomous; leaflets lanceolate, acuminated, nearly entire; stipulas narrow, nerved, pilose, linear, acute; heads of flowers on long peduncles, oval; calycine segments between triangular and subulate, ciliated, lowest one very long, but shorter than the tube of the corolla; legume membranous; seeds somewhat turbinate. ♃. H. Native near Rome. The whole plant is very soft and beset with small short pili. Flowers red or white.

Latin Trefoil. Fl. June, July. Clt. 1825. Pl. ½ foot.

Sect. V. Vesica′strum (from *vesica*, a bladder, and *astrum*, an affixed signification, like; in reference to the calyxes in all the species of this section being inflated after flowering). Ser. mss. in D. C. prod. 2. p. 202. Flowers disposed in dense heads; under lip of calyx remaining unchanged, but the upper one, after flowering, becomes increased and inflated, and covers the legume in a kind of arched manner. Nerves in the leaves numerous.

115 T. SUBTERRA′NEUM (Lin. spec. 1080.) villous; stems procumbent; leaflets obcordate, entire; stipulas lanceolate, broad, acute; heads few-flowered, usually 3-4, piercing the ground when in a seeding state; the lower flowers fertile having the calyx inflated; upper flowers sterile, empty, elongated, deflexed; legume 1-seeded; seed ovate, black. ⊙. H. Native of Europe; plentiful in Britain, in dry gravelly pastures, and on barren heaths and exposed places, as on Black-heath, Greenwich-park, Hyde-park, &c. Savi, obs. trif. 12. Smith, engl. bot. 1048. Curt. lond. 1. t. 54. Flowers white or very pale red. Involucrum central, reflexed, stiff, starry, embracing the fruit.

Subterraneous Trefoil. Fl. May, Aug. Brit. Pl. pr.

116 T. VESICULÒSUM (Savi, fl. pis. 2. p. 165. obs. trif. 84.) stems erect, firm, striated; leaflets lanceolate, acute, sharply serrulated; stipulas narrow, rather membranous, ending each in a long acumen; heads of flowers ovate, thick, on long peduncles; calyxes scarious, inflated; the segments subulate and very acute, equal, much shorter than the corolla; legumes 2-seeded; seeds ovate, compressed, yellow. ⊙. H. Native of the south of Europe. T. recúrvum, Walds. et Kit. pl. rar. hung. 2. p. 179. t. 165. and T. túrgidum, Bieb. l. c. and suppl. Flowers reddish.

Bladdery-calyxed Trefoil. Fl. Ju. Jul. Clt. 1805. Pl. ¾ ft.

117 T. AMBÍGUUM (Bieb. fl. taur. 2. p. 208.) stems creeping; leaflets ovate, bluntish, serrulated; heads dense, double the size of those of *T. rèpens*; calyx striated; the teeth nearly equal, subulate, and divaricate; vexillum lanceolate; legume 1-2-seeded. ♃. H. Native of Tauria and Caucasus in meadows, and on the lower Volga. The barren stems creeping and tufted, the floriferous ones erect. Flowers pale-red.

Var. β, cœrulèscens (Bieb. fl. taur. suppl. 507.) corollas bluish. Native of the south of Tauria.

Ambiguous Trefoil. Fl. June, July. Clt. 1815. Pl. ½ foot.

118 T. SPUMÒSUM (Lin. spec. 1085.) stem spreading, branched; leaflets obovate or obcordate, nearly entire; stipulas broad, very acute; heads of flowers ovate, thick, nearly sessile; calyxes scarious, inflated, striated, transversely veined; the segments setaceous and diverging, about equal in length to the corolla; bracteas lanceolate, shorter than the calyx; legume 4-seeded; seeds ovate-globose. ⊙. H. Native of the south of Europe. Gærtn. fruct. t. 153. Savi, obs. trif. 82.—Cup. panph. t. 69. f. 1. Flowers pale-red.

Frothy Trefoil. Fl. June, July. Clt. 1771. Pl. prostrate.

119 T. RESUPINA'TUM (Lin. spec. 1086.) stems prostrate; leaflets obovate, sharply serrulated, spotted at the base; stipulas short, linear-lanceolate, acute; heads hemispherical, at length glóbose; peduncles longer than the petioles; flowers nearly sessile; calyxes scarious, inflated after flowering, longitudinally and transversely veined; the segments lanceolate, reticulated, and very acute, shorter than the corolla; legumes usually 2-seeded; seeds irregularly subcordate, bay-coloured. ⊙. H. Native of the south of Europe. Sturm, deutschl. fl. 1. fasc. 16. with a figure. Savi, obs. trif. 79. T. bicórne, Forsk. fl. ægypt. 139.—Clus. hist. 2. p. 247.—Barrel. icon. 872. Nearly allied to *T. suavèolens*, but differs in the peduncles being shorter and in the calyxes being inflated. The corolla of this species is turned upside down, hence the specific name. Flowers pale-red.

Resupinate-flowered Trefoil. Fl. Ju. Jul. Clt. 1713. Pl. pr.

120 T. FRAGI'FERUM (Lin. spec. 1086.) stem prostrate, creeping; leaflets obcordate, denticulated; stipulas ovate, elongated at the apex; heads of flowers ovate-globose, on long peduncles; flowers sessile; calyxes inflated after flowering, membranous, reticulated, pilose; the segments unequal, shorter than the corolla and reticulated; bracteas small, lanceolate; legume 2-seeded. ♃. H. Native of Europe, in meadows. In England in moist meadows and pastures in black boggy soil. Savi, obs. trif. 76. Sturm, deutschl. fl. 1. fasc. 16. icon. Smith, engl. bot. 1050. Fl. dan. 1042. Curt. fl. lond. 2. t. 55. Stems prostrate, rooting, extending a considerable length. Flowers rose-coloured. The heads when in seed resemble strawberries; hence the specific name.

Var. β, proliferum (Bernard in litt.) flowers 6-8 in a whorl, beneath the head of flowers.

Strawberry-bearing Trefoil. Fl. June, Aug. England. Pl. prostrate.

121 T. TOMENTÒSUM (Lin. spec. 1086.) stems prostrate; leaflets obcordate, cuneiform, sharply-serrulated; stipulas lanceolate, acute, scarious; heads of flowers globose, on very short peduncles; bracteas small, lanceolate; flowers sessile; calyxes inflated after flowering, membranous, reticulated, tomentose, the segments shorter than the corolla; legume 1-seeded; seeds irregularly cordate, green, shining. ♃.? ⊙.? Native of the south of Europe. Savi, obs. 73.—Barrel. icon. 864.—Magn. monsp. 265. t. 264. Flowers purplish.

Tomentose Trefoil. Fl. June, July. Clt. 1640. Pl. prostrate.

122 T. PHYSÒDES (Stev. in Bieb. fl. taur. 2. p. 217.) stems procumbent, slender; leaflets ovate, obtuse, serrulated, mucronate; stipulas narrow, acuminated; heads of flowers roundish, on long peduncles, about equal in length to the leaves; calyx inflated when in fruit, membranous, pubescent; the segments setaceous, and about equal the length of the tube. ♃. H. Native of Iberia. Flowers reddish.

Bladdery-calyxed Trefoil. Fl. June, Aug. Clt. 1818. Pl. procumbent.

123 T. TU'RGIDUM (Bieb. fl. taur. 2. p. 210.) stems erectish; leaflets obovate, obcordate, almost entire; stipulas acute; heads of flowers ovate, chaffy; calyx glóbose, smooth, the teeth setaceous and recurved; petals mucronate. ⊙. H. Native of Caucasus between the rivers Kuba and Jegorlik. Flowers white. This plant comes very near *T. spumòsum* in the want of the universal involucrum to the head of the flowers.

Turgid-calyxed Trefoil. Fl. Ju. July. Clt. 1818. Pl. $\frac{1}{2}$ ft.

124 T. TU'MENS (Stev. in Bieb. fl. taur. 2. p. 217.) stems procumbent, quite smooth; leaflets obovate, somewhat emarginate; heads of flowers roundish; peduncles longer than the leaves; calyx when in fruit inflated, membranous, pubescent; the segments setaceous, and nearly equal, shorter than the tube. ⊙.? H. Native of Iberia. This species differs from *T. physòdes* in being more slender, in the leaflets being more acute at the base, in the flowers being fewer, heads smaller, peduncles longer, and especially in the teeth of the calyx being smaller. Flowers reddish.

Swelling-calyxed Trefoil. Pl. procumbent.

125 T. ALA'TUM (Biv. stirp. rar. 4. p. 14.) stems decumbent, glabrous, striated; leaflets obovate, obtuse or emarginate and serrulated; heads of flowers globose, terminal; peduncles twice the length of the superior leaves; stipulas very long, subulate at the apex; calyx much inflated after flowering, reticulated, rather pilose, the segments setaceous, and nearly equal, shorter than the corolla. ♃. H. Native of Sicily, about Palermo. T. Cupàni, Tineo, pl. rar. sic. pug. 1. p. 16.—Cup. panph. t. 97. f. 1. Schrank, in fl. 1819. p. 387. Flowers reddish.

Winged Trefoil. Fl. June, Aug. Clt. 1820. Pl. decumbent.

126 T. BONA'NNI (Presl. ex Spreng. syst. 3. p. 218.) stems creeping; leaflets obovate, retuse; calyx tomentose, the lower teeth setaceous, straight, and conniving; heads of flowers roundish. ♃. H. Native of Sicily.

Bonanni's Trefoil. Pl. creeping.

127 T. DEPAUPERA'TUM (Desv. journ. bot. 1814. vol. 4. p. 69.) plant many-stemmed, decumbent; stems simple; leaflets linear, somewhat cuneiform, glabrous, toothed at the apex; heads pedunculate, terminal, few-flowered; involucre 1-leaved, entire, truncate; calyx glabrous; vexillum when in fruit inflated. ⊙.? F. Native of Peru (Dombey). This species has the habit almost of *T. filifórme* of Poir. dict. suppl. 5. p. 385.

Depauperated Trefoil. Pl. decumbent.

SECT. VI. LUPINA'STER (from *lupinus*, a lupine, and *aster*, an affixed signification, like. Some of the species contained in this section have the habit of *Lupines*). Ser. mss. in D. C. prod. 2. p. 203. Lupinàster, Mœnch. meth. suppl. p. 30. Flowers large; the petals coriaceous and permanent, red, white or yellow. Calycine segments subulate, erect. Leaves having 3 coriaceous leaflets, rarely 5-7, reticulated with numerous nerves.

128 T. CHILE'NSE (Hook. in Beech. voy. p. 18.) stem diffuse, glabrous; leaflets narrow, oblong-obovate, sharply-denticulated, quite smooth, equal in length to the petiole; stipulas oval, membranous, nerved, pectinately-fringed; heads of flowers on long peduncles; involucrum shorter than the flowers, multifid, awned; calyx campanulate, the segments tridentate and awned, the middle tooth longer than the rest, about equal in length to the corolla. ♃. H. Native of Chili, about Conception. Nearly allied to T. fimbràtum of Lindl. in bot. reg. 1070.

Chili Trefoil. Pl. diffuse.

129 T. UNIFLÒRUM (Lin. amœn. 4. p. 285. spec. 1085.) plant tufted, creeping; stems very short; leaflets 3, ovate, acuminated, toothed, nerved; stipulas sheathing, ending each in a long acumen; flowers axillary, solitary, on short peduncles; calyx cylindrical, striated; the segments short, subulate, and nearly equal; corolla very long, much longer than the calyx; legume 2-seeded; seeds ovoid, apiculated. ♃. H. Native of Syria, Provence, and Italy.—Buxb. cent. 3. p. 17. t. 31. f. 1. T. Buxbaùmi, Sternb. in flora. 1820. p. 600. Flowers having the vexillum blue, and the keel and wings purple.

Var. β, Sternbergiànum (Ser. mss. in D. C. prod. 2. p. 203.)

leaflets obovate-roundish; flowers white. T. uniflòrum, Sternb. in flora. 1820. p. 599.—Buxb. cent. 3. p. 18. t. 31. f. 2.

One-flowered Trefoil. Fl. May, Sept. Clt. 1800. Pl. creeping.

130 T. exi'mium (Steph. ex Fisch. and Stev. in litt. D. C. prod. 2. p. 203.) plant glabrous; stems ascending, firm; leaflets obovate, nerved, somewhat denticulated; petioles very short; stipulas leafy, veiny, obtuse; heads few-flowered; peduncles and pedicels short, tomentose; calyxes campanulate; the segments lanceolate and very acute, equal, longer than the tube, but shorter than the corolla; legume 4-5-seeded. ♃. H. Native of Dahuria. T. grandiflòrum, Fisch. Led. Vexillum large. Style elongated. Corolla purple.

Var. β, albiflòrum (Fisch. in litt.) flowers white. ♃. H. Native of the Altaian mountains.

Choice Trefoil. Fl. June, July. Clt. 1820. Pl. ¼ to ½ foot.

131 T. alpi'num (Lin. spec. 1080.) plant quite smooth; stems short, thick, under ground; petioles very long; leaflets 3, lanceolate-linear, bluntish, denticulated; stipulas very long, and very narrow, linear, and acute; heads of flowers umbellate, on long peduncles; pedicels small, disposed in something like a whorl; calyx campanulate, the segments equal, very long, and setaceous, but much shorter than the corolla; legume 2-seeded. ♃. H. Native of Europe, on the higher Alps and mountains. Sturm, deutschl. fl. 1. fasc. 15. with a good figure. Savi, obs. trif. 99.—Park. theatr. 1104. f. 4. Flowers large, purple, the vexillum flesh-coloured and streaked with purple. The roots have the taste of liquorice.

Alpine Trefoil. Fl. June, Aug. Clt. 1775. Pl. ¼ to ½ foot.

132 T. lupina'ster (Lin. spec. 1079.) plant quite smooth; stems straight, branched; petioles wanting; leaflets 5, linear-lanceolate, sharply-toothed, mucronate; stipulas broad, membranous, acuminated; heads of flowers pedunculate, bractless; flowers umbellate; calyx campanulate, hardly nerved; the segments acute, longer than the tube, but shorter than the corolla; legume 6-seeded. ♃. H. Native of Siberia. Lupináster pentaphýllus, Mœnch. meth. suppl. p. 50. Pentaphýllon lupináster, Pers. ench. 2. p. 352. Pentaphýllum Ammàni, Ledeb. hort. dorp. suppl. 1822. p. 5. Mart. fl. rust. t. 16. Curt. bot. mag. 876.—Gmel. sib. 4. p. 19. t. 6. f. 1. Flowers large, purple; the wings and keel paler than the vexillum.

Var. β, albiflòrum (Ser. mss. in D. C. prod. 2. p. 204.) flowers white; leaflets very narrow. T. àlbens, Fisch.

Lupine-like Trefoil or Bastard Lupine. Fl. June, Aug. Clt. 1741. Pl. 1 to 1½ foot.

133 T. purpura'scens (Fisch. in litt.) the character of this species agrees with the last in almost every particular, except in the leaflets being very broad and bluntish. ♃. H. Native of Siberia, about Barnaoul. T. lupináster var. γ, oblongifòlium, Ser. mss. in D. C. prod. 2. p. 204. Flowers purplish, large.

Purplish-flowered Trefoil or Bastard Lupine. Fl. June, Aug. Clt. 1816. Pl. 1 to 1½ foot.

134 T. megace'phalum (Nutt. gen. amer. 2. p. 105.) stems simple, angular; leaflets 7, cuneate-lanceolate; petioles very long; stipulas cuneated, deeply 3-toothed; segments of the calyx setaceous and feathery; legume 2-4-seeded. ♃. H. Native of North America, at the head waters of the river Missouri. Lupináster macrocéphalus, Pursh. fl. amer. sept. 2. p. 479. t. 23. Flowers yellowish-white with a pale-purple carina.

Large-headed Trefoil or Bastard Lupine. Fl. July, Aug. Clt. 1826? Pl. 1 foot.

135 T. Gussòni (Tineo, pl. rar. sic. pug. 1. p. 17.) plant smoothish; stem branched; leaflets 3, oblong, obcordate, sharply-denticulated, terminal one on a long petiole, lateral ones sessile; stipulas lanceolate, bluntish, toothed, ciliated; heads of flowers rather egg-shaped; peduncles pilose; flowers on short pedicels; calycine segments unequal, narrow, the two lower ones longest, the uppermost ones very short; vexillum obovate, dilated, serrulated. ♃. H. Native of Sicily, on the Nebrodes. Schrank, in flora. 1819. p. 387. Flowers bluish-red, but they fade to a reddish-yellow colour. Bonan. t. 248.

Gussone's Trefoil. Fl. June, Aug. Clt. 18[illegible]. Pl. 1 foot.

136 T. plumòsum (Douglas, mss.) stem simple, erect, villous, forked at the apex; petioles about the length of the leaflets; leaflets 3, lanceolate, acuminated, ciliated, clothed with silky villi on the under surface as well as the stipulas, but pubescent above; heads of flowers ovate-oblong, villous; calycine segments subulate, unequal, lowest one longer than the corolla. ♃. H. Native of North America. Flowers apparently purple.

Plumose-headed Trefoil. Pl. 1½ foot.

137 T. altíssimum (Doug. mss.) stem erect, forked at the apex, glabrous; leaflets 3, lanceolate, glabrous, ciliated; petioles length of the combined part of the stipulas; heads of flowers globose, glabrous; calycine segments subulate, much shorter than the monopetalous corolla. ♃. H. Native of North America. Flowers purple

Tallest Trefoil. Pl. 2 feet.

Sect. VII. Chronose'mium (from χρονος, *chronos*, time, and σημα, *sema*, a standard; in reference to the permanent nature of the standard or vexillum.) Ser. mss. in D. C. prod. 2. p. 204. Flowers disposed in an ovate pedunculate head. Petals scarious, yellow, fading to a bay-colour; vexillum deflexed, and permanent.

138 T. ba'dium (Schreb. in Sturm, deutschl. fl. 1. fasc. 16. with a good figure,) stems ascending; leaves petiolate; leaflets sessile, obcordate, denticulated; stipulas lanceolate, acute, rather membranous; heads of flowers globose, pedunculate, rather loose; vexillum obovate; calyx very short, campanulate, the segments unequal, the uppermost one very small; legume subglobose, 1-seeded; seeds ovoid; radicle hardly prominent. ♃. H. Native of Europe, in mountain meadows. Savi, obs. trif. 113. T. spadíceum, Vill. dauph. 3. p. 491. but not of Lin. Flowers yellow.

Bay-coloured-flowered Trefoil. Fl. June, Aug. Pl. ascending.

139 T. Bru'tium (Ten. prod. fl. nep. 1826. ex Schlecht. Linnæa. 3. p. 103.) stems ascending, branched; leaves stalked; leaflets obcordate, cuneated, denticulated, the terminal one hardly petiolate; heads of flowers axillary, spherical; peduncles longer than the leaves; segments of calyx unequal, the 2 upper ones short, the rest piliferous at the apex; vexillum large, golden, furrowed; keel copper-coloured; seeds elliptical, yellow. ⊙. H. Native of Naples. Allied to *T. procúmbens* and *T. agràrium.*

Brutium Trefoil. Fl. May, Aug. Pl. ascending.

140 T. agra'rium (Lin. spec. 1087.) stem ascending, branched, firm; leaves almost sessile; leaflets oblong-ovate, sessile, denticulated; stipulas leafy, lanceolate, acute, longer than the petiole; heads of flowers on long peduncles, egg-shaped; vexillum obcordate; calyx campanulate, short, the segments unequal, glabrous, and elongated, the superior one smallest; legume 1-seeded, ovoid, compressed; seeds bay-coloured, irregularly cordate; radicle prominent. ⊙. H. Native of Europe, in dry pastures and woods. Sturm, deutschl. fl. 1. fasc. 16, with a good figure. Fl. dan. 554. T. strèpens, Crantz. austr. 411. no. 8. Flowers yellow.

Field Trefoil. Fl. June, Aug. Clt. 1815. Pl. prostrate.

141 T. spadi'ceum (Lin. spec. 1087.) stem erect, almost simple, slender; leaves stalked; leaflets oblong, ovate, sessile, denticulated; stipulas leafy, narrow, acuminated; heads of flowers ovoid, on peduncles; vexillum obcordate; calycine segments unequal; the lower ones long and pilose, the two upper ones small and glabrous; legume ovoid, compressed, 1-seeded; seeds irregularly egg-shaped, bay-coloured; radicle prominent. ♃. H. Native of Europe, in mountain meadows. Sturm, deutschl. fl.

1. fasc. 16. with a good figure. Savi, obs. trif. p. 112. Sims, bot. mag. 557. Flowers yellow; the vexillum tending to a ferruginous colour.

Var. β, ramosissimum (Ser. mss. in D. C. prod. 2. p. 205.) stem much branched; heads of flowers numerous.

Chesnut-brown-coloured-flowered Trefoil. Fl. June, Aug. Clt. 1778. Pl. ½ foot.

142 T. CILIA'TUM (Clark. itin. 3. ex Spreng. neue entd. 3. p. 159.) leaflets obcordate, denticulated; stipulas ciliated, rather large; heads ovate-hemispherical, few-flowered; teeth of calyx subulate, ciliated, unequal; corolla scarious, rather large; petals denticulated. ⊙. H. Native of Abercromby Island, formerly called Lagusa. Flowers yellow.

Ciliated-calyxed Trefoil. Pl. procumbent.

143 T. DECI'PIENS (Horn. hort. hafn. 2. p. 719.) stem erect; leaflets oval, sessile, mucronate; heads of flowers oval; vexillum somewhat deflexed, permanent; calyx 3-toothed; teeth awl-shaped, pilose. ⊙. H. Native of? Very like T. spadíceum, Horn. Flowers bay-coloured.

Deceiving Trefoil. Fl. Ju. Aug. Clt. 1820. Pl. ½ foot.

144 T. SPECIÒSUM (Willd. spec. 3. p. 1382.) plant rather villous; stems prostrate; leaves hardly stalked; leaflets obovate, denticulated, on very short stalks; stipulas lanceolate, ciliated, large; heads of flowers oblong-cylindrical, bay-coloured, on long peduncles; vexillum obovate, very broad, somewhat denticulated; calyxes glabrous, the segments unequal, the 2 superior ones smallest; legume somewhat globose, on a long stipe, 1-seeded; seed oblong, shining; radicle hardly prominent. ⊙. H. Native of the islands of Candia, Cyprus, and Zant. Flowers bay-coloured. In Zant this is the only plant made into hay. It might perhaps be tried in the south of England in dry open parts.

Shewy Trefoil. Fl. June, July. Clt. 1752. Pl. procumbent.

145 T. BILLARDIE'RII (Spreng. syst. 3. p. 211.) stem erect, pilose; heads of flowers oblong; leaflets obovate-oblong, ciliated; stipulas denticulated; upper calyxes sterile; the teeth subulate, ciliated, and unequal; vexillum orbicular, nerved, permanent, deflexed. ⊙. H. Native of Syria. T. comòsum, Labill. syr. dec. 5. p. 15. t. 10. Flowers yellow.

La Billardier's Trefoil. Pl. 1 foot.

146 T. PROCU'MBENS (Lin. spec. 1088.) stems procumbent; leaves on short stalks; leaflets obovate or obcordate, denticulated, terminal one on a short stalk; stipulas half ovate, ciliated, shorter than the petiole; heads of flowers axillary, oval, dense; peduncles longer than the leaves, or equal with them; calycine segments unequal, two superior ones very short; vexillum finally deflexed; legume 1-seeded; seed kidney-shaped, yellow; radicle hardly prominent. ⊙. H. Native of Europe, in gravelly fields and pastures; plentiful in Britain. Smith, eng. bot. 945. T. campéstre, Schreb. in Sturm, deutschl. 1. fasc. 15. T. pseudo-procúmbens, Gmel. fl. bad. 3. p. 240. T. agràrium, Huds. ang. 328. Curt. lond. 3. t. 45. Mart. fl. rust. 121. Mill. dict. no. 3. Flowers yellow. This plant is called *Yellow* or *Hop Trefoil;* the latter name is bestowed on it with much propriety, the heads being larger, and more resembling the hop than any of the rest of the species. It is common on borders of fields in dry gravelly soils. In some meadows it forms a considerable part of the crop, and makes excellent fodder; and it is now very generally used for pasture with or without the *white clover.* The manner of sowing the seeds and after culture of *yellow clover* are the same as that for *red clover.* See *Trifòlium praténse.*

Procumbent Trefoil, Yellow Clover, or Hop Trefoil. Fl. June, Aug. Britain. Pl. procumbent.

147 T. PARISIE'NSE (D. C. fl. fr. 5. p. 562.) stems procumbent; leaflets obovate or obcordate, denticulated, the terminal usually petiolulate; peduncles filiform, very long; heads of [illegible]ers somewhat umbellate, few-flowered; calycine segments unequal, the two superior ones very short, longer than the tube; legume pedicellate, 1-seeded; seeds elliptic; radicle prominent. ⊙. H. Native of Europe, in fields, particularly in France. T. pàtens, Schreb. in Sturm, deutschl. fl. 1. fasc. 16. Flowers yellow.

Var. β, pygmæ'um (Ser. mss.) stems branched, short.

Paris Trefoil. Fl. June, Aug. Pl. procumbent.

148 T. SEBASTIA'NI (Savi, in diar. med. Flajani, 1815.) stems diffuse; leaflets obovate, sessile, denticulated; stipulas narrow, longer than the petiole; peduncles short, firm; flowers somewhat umbellate, pedicellate; tube of calyx very short; the segments long, setaceous, and equal; legume stipitate, 1-seeded; seed ovoid-elliptic. ⊙. H. Native of Italy, about Rome. Sebast. pl. rom. fasc. 2. p. 14. t. 4. Flowers pale-yellow.

Sebastiani's Trefoil. Fl. June, Aug. Clt. 1800. Pl. diffuse.

149 T. FLAVE'SCENS (Tineo, pug. 1. p. 15.) stems rather erect, branched, dichotomous, glabrous; the two superior leaves opposite, approximating the head of the flowers; leaflets obovate, denticulated; stipulas membranous, nerved, pilose, subulate; heads of flowers roundish; calyx nerved, pilose; the segments ciliated and unequal, longer than the tube. ⊙.? H. Native of Sicily, on the Nebrodes. Schrank, in flora. 1819. p. 386. Flowers yellow.

Yellowish-flowered Trefoil. Pl. ½ foot.

150 T. FILIFÓRME (Lin. spec. 1088.) stems prostrate; leaflets obovate or obcordate, somewhat denticulated, nearly sessile; stipulas small, ovate, length of petiole, a little fringed; peduncles filiform, long; flowers somewhat racemose, leaning all one way, on short pedicels; calycine segments unequal, 2 superior ones shorter than the tube; vexillum even; legume 1-2-seeded, on a short stipe; seeds oblong-ovate, bay-coloured. ⊙. H. Native of Europe, in dry or moist grassy meadows, pastures, borders of fields, and on dry gravelly soils common; plentiful in Britain. Flowers yellow. Sturm, deutschl. fl. 1. fasc. 16. Smith, engl. bot. 1257. Cattle and sheep are so fond of this trefoil that a specimen of it can scarcely be had in any pasture to which they have access.

Filiform Hop Trefoil. Fl. Ju. Aug. Britain. Pl. procumbent.

151 T. MI'NUS (Relh. 290. Smith, engl. bot. 1256.) stems procumbent; leaflets obcordate, toothed, lateral ones almost sessile, middle one stalked; stipulas half ovate, acute; peduncles straight, rigid; heads of flowers hemispherical; vexillum nearly even; calycine teeth unequal, hairy towards the points; legume 1, rarely 2-seeded. ⊙. H. Native of Europe, in gravelly fields and pastures; plentiful in Britain. T. filifórme, Ehrh. beit. 49. T. procúmbens, Huds. ang. 328. Curt. lond. fasc. 5. t. 53. T. dùbium, Sibth. 231. Flowers yellow.

Var. β, microphýllum (Ser. mss. in D. C. prod. 2. p. 206.) plant small; leaves very minute; heads few-flowered. T. contravérsum, Jan. pl. exsic. ital. sup. cent. 10. Heads generally 3-flowered.

Lesser Yellow Trefoil. Fl. June, Aug. Britain. Pl. proc.

152 T. MICRA'NTHUM (Viv. fl. libyc. p. 45. t. 19. f. 3.) stems diffuse; racemes few-flowered, disposed in loose pedunculate heads; legume 1-seeded, shining, spherical; leaflets cuneate-obovate; stipulas ovate, ciliated. ⊙. H. Native of Cyrenaica, on mountains. Plant very like *T. minus β, microphýllum.* Flowers yellow.

Small-flowered Trefoil. Fl. June, Aug. Clt. 1816. Pl. proc.

153 T. VOLU'BILE (Lour. coch. p. 445.) stem elongated, slender, twining; leaflets roundish, quite entire, tomentose; heads many-flowered, axillary; legume 2-seeded, glabrous. ⊙.? H. Native on the eastern coast of Africa. Flowers yellow.

Twining Trefoil. Pl. procumbent.

† *Species not so sufficiently known as to be placed in either of the above sections.*

154 T. MI'NIMUM (Bart. fl. phil. 2. p. 74.) stems somewhat

procumbent, smooth; leaflets cuneated, emarginate, denticulated, glabrous; stipulas ovate, acuminated; peduncles filiform; capsule roundish; vexillum deflexed. ⊙. H. Native of New Jersey. Flowers yellow?

Least Trefoil. Pl. procumbent.

155 T. COMÒSUM (Lin. spec. 1080.) heads of flowers umbellate, globose, imbricated; vexillum deflexed, permanent. ♃. H. Native of North America. Flowers white.

Tufted Trefoil. Fl. Ju. July. Clt. 1798. Pl. ½ foot.

156 T. STIPULA'CEUM (Thunb. prod. p. 136.) stems herbaceous, decumbent at the base; leaflets cut, villous.—Native of the Cape of Good Hope.

Stipulaceous Trefoil. Pl. decumbent.

157 T. HIRSU'TUM (Thunb. prod. p. 136.) stems herbaceous, diffuse; leaflets oblong, hairy.—Native of the Cape of Good Hope.

Hairy Trefoil. Pl. diffuse.

158 T. LANA'TUM (Thunb. prod. p. 136.) stems herbaceous, decumbent; leaflets obovate, obtuse, pilose; heads of flowers globose, woolly, bractless.—Native of the Cape of Good Hope.

Woolly Trefoil. Pl. decumbent.

159 T. CAPE'NSE (Willd. spec. 3. p. 1364.) stem herbaceous, decumbent; leaflets obovate, obtuse, pilose; heads of flowers globose, woolly, involucrated.—Native of the Cape of Good Hope. T. diffùsum, Thunb. prod. 136. but not of Ehrh.

Cape Trefoil. Pl. decumbent.

160 T. RUPE'STRE (Tenore, prod. p. 43. cat. 1819. p. 58.) stems almost simple, suffruticose at the base; leaflets rhomboidal-ovate, scabrous; spiny-serrated, veiny; spike terminal, globose, villous, pedunculate; calycine segments setaceous, spreading, equal in length to the corolla.—Native of Naples, on the rocks of Magella.

Rock Trefoil. Pl. ½ foot.

161 T. CLANDESTI'NUM (Lag. nov. gen. p. 23.) stems prostrate; leaflets obovate-cuneated, pubescent, almost entire; heads of flowers ovate, terminal, and axillary, pedunculate; calycine segments stiff, unequal; corolla hidden. ⊙. H. Native of Spain, among rubbish about Madrid.

Clandestine-flowered Trefoil. Fl. June, Aug. Clt. 1816. Pl. prostrate.

162 T. CUSPIDA'TUM (Lour. coch. p. 445.) stem suffruticose, 4 feet high; leaflets linear, quite entire, cuspidate; flowers capitate, numerous; calyx pilose; vexillum of corolla ovate, distinct, with a purple spot; legume naked, 1-seeded. ♄. G. Native of Cochin-china. Flowers white.

Cuspidate-leafletted Trefoil. Shrub 4 feet.

163 T. ASCE'NDENS (Horn. hort. hafn. 2. p. 716.) stems ascending; leaflets oval, pubescent; heads roundish, terminal, pedicellate, exstipulate; calyx compressed; the segments nearly equal, 3 times shorter than the monopetalous corolla. ♃. H. Native of Georgia.

Ascending-stemmed Trefoil. Pl. ascending.

164 T. FORMÒSUM (D'Urv. enum. pl. archip. p. 94. no. 691.) stem erect, villous, branched above; leaflets ovate-oblong, mucronate; stipulas large, straight, ending each in a long subulate point; heads ovate, dense, many-flowered; calyx clothed with hoary villi; the segments nearly equal, and very long, at length spreading, a little longer than the corolla. ⊙. H. Native of the island of Melos. Leaves an inch and more long, and 4 lines broad. Flowers pale flesh-coloured.

Beautiful Trefoil. Pl. ½ to 1 foot.

165 T. LASIOCE'PHALUM (Link, enum. 2. p. 262.) stem erect, hairy; leaflets linear; stipulas ventricose; heads of flowers ovate; calyxes hairy; the segments lanceolate-subulate, spreading much. ⊙. H. Native of the Cape of Good Hope.

Woolly-headed Trefoil. Pl. ½ foot.

166 T. ORNA'TUM (Clark, itin. 3. ex Spreng. neue entd. 2. p. 165.) leaflets obovate, sharply-serrulated, mucronate, glabrous; heads of flowers terminal, roundish, truncate at the base, sterile at the apex; teeth of calyx subulate, equal. ⊙. H. Native of?

Ornamented Trefoil. Pl.

N. B. *Trifòlium Magellánicum* is *O'xalis eriocárpa*, D. C. in annal. sc. nat. 4. p. 23.

Cult. Many of the species of *Trefoil* are very shewy, and very fit for ornamenting flower borders. All the species will grow in any common garden soil. The perennial kinds are easily increased by dividing the plants at the root in spring, or by seeds, which always ripen in abundance. The seeds of the annual kinds only require to be sown in the open border. Those species marked frame and greenhouse only require to be protected in winter.

LXXI. ACROPO'DIUM (ακρος, *akros*, the summit, and πους ποδος, *pous podos*, a foot; in allusion to the legumes being stalked within the calyx). Desv. obs. legum. ex Schlecht. Linnæa. 2. p. 510.

LIN. SYST. *Diadélphia, Decándria.* Calyx deeply 5-cleft. Vexillum short, hispid. Wings opposite, bidentate. Stamens diadelphous. Ovary stalked. Legume oval-oblong, smooth, usually 2-seeded, standing on a capillary footstalk.—A subshrub, with fascicled leaves and 3-flowered axillary racemes, which are rather longer than the leaves.

1 A. SUFFRUTICÒSUM (Desv. l. c.). ♄. G. Native of the Cape of Good Hope. Lòtus suffruticòsus, Burm. cat.

Suffruticose Acropodium. Shrub.

Cult. This plant will grow in any light soil, and young cuttings will root in sand, under a hand-glass.

LXXII. DORY'CNIUM (from δορυ, *dory*, a spear; the ancient plant was used to poison spears. The present genus has, however, nothing to do with the plant of the ancients). Tourn. inst 391. t. 211. f. 3. D. C. prod. 2. p. 208.—Lòtus, species of Lin. and others.

LIN. SYST. *Diadélphia, Decándria.* Calyx somewhat campanulate, bilabiate, somewhat gibbous at the base. Wings shorter than the vexillum. Keel nearly awnless. Style straight, crowned by a capitate stigma.—Herbs or subshrubs, with trifoliate leaves, and with the stipulas the form of the leaflets. Flowers usually numerous, capitate, white or pale-red.

1 D. RE'CTUM (Ser. mss. in D. C. prod. 2. p. 208.) villous; stems erect, suffruticose; leaves petiolate; leaflets obovate, mucronate; stipulas ovate, cordate; peduncles bractless, many-flowered, hardly twice the length of the leaves; pedicels woolly, as well as the calyxes; segments of the calyx about the same length, very narrow, longer than the tube, but shorter than the corolla; legume terete, smooth, twice the length of the calyx, black; seeds reniform. ♄. H. Native of the south of Europe. Lòtus réctus, Lin. spec. 1092.—Barrel. icon. t. 544. Flowers small, rose-coloured. Pedicels length of the calyx.

Straight Dorycnium. Fl. Ju. Aug. Clt. 1640. Pl. 2 feet.

2 D. LATIFÒLIUM (Willd. spec. 3. p. 1397.) plant pilose; stems erect, suffruticose; leaves sessile; leaflets and stipulas obovate and mucronulate; peduncles many-flowered, bracteate towards the apex, 3 times longer than the leaves; bracteas solitary or tern; pedicels woolly, shorter than the calyx; the segments lanceolate, and longer than the tube, but shorter than the corolla; legume oblong, terete, black, twice the length of the calyx; seeds somewhat reniform. ♄. H. Native of Iberia, on dry hills. D. Ibéricum, Willd. enum. suppl. 52. Onònis quinàta, Forsk. descr. 130. but not of Vahl. Flowers white.

Broad-leaved Dorycnium. Fl. June, Aug. Clt. 1818. Pl. 1 to 2 feet.

3 D. GRÆ'CUM (Ser. mss. in D. C. prod. 2. p. 208.) stems

erect, spreading; leaves sessile; leaflets and stipulas oblong, glaucous, and silky; heads of flowers roundish; pedicels short; legume oblong, 2-seeded, rusty; seeds globose, black, with a white hilum, separated from each other by spongy substance. ♃. H. Native of the Levant. Lòtus Græ'cus, Lin. mant. 104. L. Belgrádica, Forsk. descr. fl. ægypt. p. 215. Flowers white, larger than those of *D. hirsùtum*, but smaller than those of *D. réctum.*

Grecian Dorycnium. Pl. 1 to 2 feet.

4 D. HIRSU'TUM (Ser. mss. in D. C. prod. 2. p. 208.) plant clothed with hoary tomentum; stem erect, suffruticose; leaves sessile; leaflets ovate, lanceolate or obovate; stipulas lanceolate; peduncles when bearing the fruit twice the length of the leaves; bracteas lanceolate, equal in length to the calyx; heads many-flowered: pedicels much shorter than the calyx; the segments subulate, and much longer than the tube, but shorter than the corolla; legume turgid, oblong, hardly longer than the calyx; seeds somewhat reniform. ♄. H. Native of the south of Europe. Lòtus hirsùtus, Lin. spec. 1091.—J. Bauh. hist. 2. p. 360. Flowers large, pale-red.

Hairy Dorycnium. Fl. Ju. Aug. Clt. 1683. Pl. 1 to 2 feet.

5 D. TOMENTÒSUM (G. Don, in Loud. hort. brit. p. 300.) plant shrubby, clothed with silky hoary down; heads of flowers more dense, and on shorter peduncles than in the *D. hirsùtum.* ♄. H. Native of Italy, in exposed places. Lòtus tomentòsus, Rhode in Schrad. neue journ. 1809. p. 42. in a note. L. hirsùtus incànus, Lois. not. p. 116. L. sericeus, D. C. cat. hort. monsp. p. 122. and fl. fr. 5. p. 573. L. affinis, Bess. cat. hort. crem. p. 81. D. hirsùtum var. *β*, incànum, Ser. mss. in D. C. prod. 2. p. 208. Flowers large, pale rose-coloured.

Tomentose Dorycnium. Fl. Ju. Aug. Clt. 1817. Sh. 2 to 3 ft.

6 D. ARGE'NTEUM (Delil. fl. ægypt. 113. t. 40.) plant silky; stems suffruticose, prostrate; leaflets, stipulas, and bracteas linear-lanceolate; heads 4-6-flowered; peduncles longer than the leaves; calycine segments lanceolate, hardly equalling the corolla in length; legumes thick, ovate, hardly longer than the calyx; seeds globose, few. ♄. H. Native of Egypt. D. argénteum Alexandrìnum, Lippi, mss. in herb. Juss. Flowers yellow, painted with bay-coloured lines.

Silvery Dorycnium. Pl. prostrate.

7 D. PARVIFLÒRUM (Ser. mss. in D. C. prod. 2. p. 208.) plant clothed with soft hairs; stems rather prostrate; leaflets obovate; stipulas ovate; heads 4-5-flowered; bracteas simple, lanceolate; peduncles longer than the leaves; calycine segments very long, about equal in length to the corolla, which is small; legume oblong, green, rather pellucid, veined transversely, hardly longer than the calyx; seeds roundish, yellowish-green. ⊙. H. Native of Corsica and the Stæchades Islands. Lòtus parviflòrus, Desf. atl. 2. p. 206. t. 211. D. C. icon. rar. 1. p. 9. t. 30. Lòtus híspidus, D. C. fl. fr. no. 3937. exclusive of the synonymes. Flowers yellowish-green. Carina narrow, and very long.

Small-flowered Dorycnium. Fl. July, Aug. Clt. 1810. Pl. ascending ½ foot.

8 D. MICROCA'RPUS (Ser. mss. in D. C. prod. 2. p. 209.) plant clothed with pili; stems ascending; leaflets obovate; stipulas ovate or somewhat cordate; flowers capitate, on short peduncles; calyx deeply 5-parted, hardly equal in length to the corolla; legumes 3-4 in a head, rather turgid, glabrous, hardly longer than the calyx, drooping; seeds 9-11? roundish, reniform. ⊙. H. Native of Spain. Lòtus microcárpus, Brot. fl. lus. 2. p. 119. Flowers yellow.

Small-fruited Dorycnium. Pl. ascending.

9 D. SUBIFLÒRUM (Ser. mss. in D. C. prod. 2. p. 209.) plant hairy; stem branched, diffuse; peduncles 2-3-flowered; legumes erect, terete, and are, as well as the corollas, longer than the calyx. ⊙. H. Native of Spain. Lòtus subiflòrus, Lag. in Pers. ench. 2. p. 354. gen. et spec. p. 23. Perhaps distinct from *D. microcárpus.* Flowers yellow.

Two-flowered Dorycnium. Pl. diffuse.

10 D. DISPE'RMUM (Ser. mss. in D. C. prod. 2. p. 209.) leaflets and stipulas oblong, acute, tomentose, very white; flowers capitate; legumes 2-seeded, inclosed in the calyx. ⊙.? H. Native of the south of Europe. Lòtus dispérmus, Desv. journ. bot. 1814. vol. 1. p. 77.

Two-seeded Dorycnium. Pl.

11 D. HERBA'CEUM (Vill. dauph. 3. p. 417. t. 41.) stems herbaceous, erect; leaflets and stipulas obovate, obtuse; calyx pilose; teeth of calyx much shorter than the tube; heads of flowers on long peduncles; bracteas simple, distinct from the head of flowers; legume ovate, 3 or 4 times longer than the calyx, many-seeded. ♃. H? Native of the south of Europe. Lòtus Dorýcnium, Crantz, fl. austr. 402. Flowers white.

Herbaceous Dorycnium. Fl. Ju. Sept. Clt. 1802. Pl. 1½ ft.

12 D. SUFFRUTICÒSUM (Vill. dauph. 3. p. 416.) stems suffruticose; leaflets and stipulas oblong-lanceolate, acute; calyx pilose, the teeth much shorter than the tube; heads of flowers on long peduncles; bracteas simple or 3-leaved; legume globose, 1-seeded, twice the length of the calyx; seeds globose, shining, variegated. ♄. H. Native of the south of Europe. Lòtus Dorýcnium, Lin. spec. 1093. D. monspeliénse, Willd.—Lob. icon. 2. p. 51. f. 1 and 2. Flowers white, but with the keel reddish. Plant hoary.

Suffruticose Dorycnium. Fl. June, May. Clt. 1640. Shrub 2 to 3 feet.

Cult. Elegant plants of easy culture, growing best in dry soil. They are all easily increased by seeds.

LXXIII. LO'TUS (from λωτος of Theophrastus, and Dioscorides, but the true λωτος is *Zizyphus Lòtos.* Lotos was a nymph turned into a tree to avoid the pursuit of Priapus. Ovid. metam. 97, &c. But the name is perhaps of Egyptian origin). Ser. mss. in D. C. prod. 2. p. 209.—Lòtus, species of Lin.

LIN. SYST. *Diadélphia, Decándria.* Calyx tubular, 5-cleft. Wings equal in length to the vexillum. Carina beaked. Legume cylindrical or compressed, wingless. Style straight, crowned by a subulate stigma.—Herbs, with trifoliate leaves, and leafy stipulas. Peduncles axillary, 1-6-flowered, furnished with a floral simple or trifoliate leaf at the apex. Flowers yellow, rarely white or rose-coloured.

SECT. I. KROKE'RIA (in honour of A. J. Kroker, author of Flora Silesiaca). Ser. mss. in D. C. prod. 2. p. 209.—Krokèria, Mœnch. meth. 143. Legume turgid, curved. Flowers 1-2.

1 L. EDU'LIS (Lin. spec. 1090.) plant pilose; stems erect; leaflets ovate, ciliated; flowers 1-3; bracteas ovate, about equal in length to the calyx; legume turgid, arched, glabrous; seeds globose, compressed, wrinkled from dots. ⊙. H. Native of the south of Europe. Cav. icon. t. 157. Krokèria oligoceràtos, Mœnch. meth. 143.—Moris. hist. 2. p. 176. sect. 2. t. 18. f. 5. Flowers yellow. The pods of this plant are eaten in Candia when young by the poorer inhabitants, as we do French beans.

Edible-podded Lotus. Fl. July, Aug. Clt. 1759. Pl. trailing.

SECT. II. LO'TEA (see genus for derivation). D. C. fl. fr. 4. p. 554. prod. 2. p. 209.—Lòtea, Medic. phil. bot. fasc. 1. p. 204. Mœnch. meth. 151. Legume compressed, long. Flowers umbellate.

2 L. ORNITHOPODIOÌDES (Lin. spec. 1091.) plant rather villous stems diffuse; leaflets obovate-rhomboid, entire; stipulas ovate flowers 3-5 in an umbel; bracteas much longer than the calyx legume compressed, somewhat lomentaceous, glabrous, a little curved and deflexed, of a bay-colour; seeds globose, compressed, olive-coloured, smooth. ⊙. H. Native of the south of

Europe. Cav. icon. 2. p. 48. t. 163. Lòtea ornithopodioìdes, Mœnch. meth. p. 151. Flowers yellow. Seeds about the size of those of *L. siliquòsus*.

Bird's-foot-like-podded Lotus. Fl. July, Aug. Clt. 1683. Pl. 2 feet long, diffuse.

3 L. PEREGRI'NUS (Lin. spec. 1090.) plant pubescent; stems diffuse; leaflets obovate, entire; stipulas ovate; flowers 2-3 in an umbel; bracteas longer than the calyx; lateral leaflets smallest and sessile, terminal one larger and stalked; legume compressed, somewhat lomentaceous, glabrous, straight, horizontal; seeds globose, compressed, dark, smooth. ⊙. H. Native of the south of Europe. L. oligoceràtos, Lam. dict. 3. p. 605.

Foreign Bird's-foot Lotus. Fl. July, Aug. Clt. 1713. Pl. diffuse, 2 feet long.

4 L. I'NDICUS (Lam. dict. 3. p. 606.) plant pubescent; stems diffuse; leaflets obovate-linear, entire; stipulas lanceolate; flowers usually twin, opposite the leaves, on very short peduncles, bractless; legume compressed, pilose, erect, hardly arched. ⊙. H. Native of the East Indies. Trigonélla I'ndica, Lin. spec. 1095. Burm. fl. ind. 173.—Pluk. phyt. t. 200. f. 7. Flowers yellow. Perhaps a species of *Hosáckia*.

Indian Bird's-foot Lotus. Fl. July, Aug. Clt. 1793. Pl. diffuse.

5 L. TETRAPHY'LLUS (Lin. fil. suppl. p. 340.) plant rather hispid; stems prostrate; leaves with one stipula only; leaflets obcordate, cuneated, entire; flowers axillary, on long peduncles; bracteas obovate, much shorter than the calyx. ⊙. H. Native of the Balearic Islands and of Cyrenaica, on the mountains. Lam. dict. 3. p. 605. Flowers yellow, but with the vexillum dark-purple on the outside. Leaves having two leaflets on one side, and one on the other, as well as a terminal one.

Four-leaved Bird's-foot Lotus. Pl. prostrate.

6 L. SUBPINNA'TUS (Hook. in Beech. voy. p. 17. t. 8.) plant pilose; stems erect; leaves pinnate, exstipulate; leaflets 5-6, 2 or 3 of these terminal, and other 2 on one side of the petiole, all elliptic; peduncles very short, axillary, solitary, 1-flowered; legume straight, compressed, margins hairy. ⊙. H. Native of Chili, at Conception. Flowers yellow. Stigma obtuse, not subulate, as in the rest of the genus. It comes nearest to *L. tetraphýllus*, that species being furnished with one additional leaflet at the side of the petiole, and this is furnished with 2 unilateral leaflets. Stamens diadelphous. Lòtus utriculàtus, Dombey. et Lag. herb. Anthýllis Chilénsis, D. C. prod. 2. p. 171.

Somewhat-pinnate-leaved Bird's-foot Lotus. Pl. $\frac{1}{2}$ foot.

7 L. FLEXUO'SUS (Lam. dict. 3. p. 606.) plant pilose; stems prostrate, branched, flexuous; leaflets and stipulas lanceolate, ciliated, small; flowers solitary; peduncle longer than the leaf; bracteas shorter than the calyx; calycine segments acute, length of tube, but shorter than the corolla. ⊙. ? H. Native of Europe. Flowers yellow.

Flexuous-stemmed Bird's-foot Lotus. Fl. June, Aug. Clt. 1816. Pl. prostrate.

SECT. III. EULO'TUS (from ευ, eu, well or good, and λωτος, *lotos*, the lotus; in reference to its containing the genuine species). Ser. mss. in D. C. prod. 2. p. 210. Legume cylindrical, long. Flowers disposed in corymbose umbels.

§ 1. *Style furnished with one tooth.*

8 L. GLAU'CUS (Ait. hort. kew. ed. 1. vol. 3. p. 92. ed. 2. vol. 4. p. 392.) plant glaucous, and pilose; stems prostrate; leaflets and stipulas thickish, obovate, small; flowers 3-4 in a corymb; bracteas form of the leaflets, shorter than the calyx; pedicels very short; legume somewhat lomentaceous, smoothish, shining; seeds rather globose, black, smooth. ♃. F. Native of Madeira. Flowers yellow.

Glaucous Bird's-foot Lotus. Fl. June, Aug. Clt. 1777. Pl. prostrate.

9 L. SESSILIFO'LIUS (D. C. cat. hort. monsp. p. 122.) plant glaucescent; stem suffruticose; leaflets rather fleshy, linear, sessile, canescent; stipulas linear; peduncles very long, axillary; flowers corymbose, on short pedicels; legumes cylindrical, glabrous, divaricate; seeds almost globose, small, dark, smooth. ♃. G. Native of Teneriffe. L. dorycnoìdes, Poir. suppl. 3. p. 507. Flowers yellow.

Sessile-leaved Bird's-foot Lotus. Fl. June, Aug. Clt. 1820. Pl. $\frac{1}{2}$ to 1 foot.

10 L. ANTHYLLOÌDES (Vent. malm. p. 92. t. 92.) shrubby; leaflets and stipulas spatulate and pilose; bracteas shorter than the calyx; peduncles long; flowers on very short pedicels, disposed in a corymb. ♄. G. Native of the Cape of Good Hope. Perhaps only a variety of *L. Jacobæ'us*, with yellow flowers.

Anthyllis-like Bird's-foot Lotus. Fl. June, Aug. Clt. 1812. Shrub 1 to 2 feet.

11 L. ATROPURPU'REUS (D. C. cat. hort. monsp. p. 121.) plant glaucescent; stem shrubby; leaflets and stipulas obovate, smoothish; bracteas either of 1 or 3 leaflets, obovate; peduncles longer than the leaves; flowers corymbose, on very short pedicels; legumes terete, glabrous; seeds nearly globose, of a greenish-black colour. ♄. G. Native of? Perhaps a variety of *L. Jacobæ'us*. Perhaps a hybrid between *L. anthylloìdes* and *L. Jacobæ'us*. Flowers very dark purple.

Dark-purple-flowered Bird's-foot Trefoil. Fl. April, Dec. Shrub 1 to 3 feet.

12 L. JACOBÆ'US (Lin. spec. 1091.) plant rather glaucous; stems shrubby; leaflets and stipulas linear or linear-spatulate, rather pilose and canescent, mucronate; bracteas of 1 or 3 linear leaflets; peduncles longer than the leaves; flowers corymbose, on very short pedicels; legume terete, glabrous. ♄. G. Native of the Island of St. James. We have also seen this plant in the Island of Teneriffe, and in several of the Cape de Verd islands, particularly in St. Jago. Curt. bot. mag. 79. Mill. fig. 168. Comm. hort. 2. p. 165. t. 83. Mœnch. meth. suppl. p. 52. Corolla dark-purple, almost black, with the vexillum yellowish.

Var. β, lùteus; flowers yellow. Reared in the gardens.

St. Jago Island Bird's-foot Trefoil. Fl. all the year. Clt. 1714. Shrub 1 to 3 feet.

13 L. ARENA'RIUS (Brot. fl. lus. 2. p. 120.) stems procumbent, branched, pubescent; branches and peduncles erectish; leaflets rather acute, cuneated; stipulas ovate; heads 5-10-flowered; bracteas nearly lanceolate, smaller than the calyx; calyx somewhat bilabiate, the two superior teeth longest; legume terete, glabrous. ⊙. H. Native of Portugal, in the sea-sand at Costa da Trafaria, beyond the Tagus. Flowers yellow.

Sand Bird's-foot Trefoil. Fl. June, July. Pl. procumbent.

§ 2. *Styles without a tooth.*

14 L. BROUSSONE'TII (Choisy, fl. teneriff. mss. D. C. prod. 2. p. 211.) stems shrubby; leaflets broad, obovate, smoothish; petioles and branches tomentose; stipulas ovate, obtuse, solitary, or twin, about the size of the leaflets; corymbs of flowers terminal, bractless, on short peduncles; pedicels and calyxes tomentose; the segments length of the tube. ♄. G. Native of Teneriffe or Mogodor. Flowers yellow?

Broussonet's Bird's-foot Trefoil. Shrub 1 to 2 feet.

15 L. SPECTA'BILIS (Choisy, fl. teneriff. mss. D. C. prod. 2. p. 211.) plant quite glabrous; stem suffruticose; leaflets obovate, rather retuse; stipulas ovate-roundish, much smaller than the leaflets; corymbs many-flowered, axillary, bractless; peduncles longer than the leaves; pedicels about the length of the calyxes; calycine segments shorter than the tube; legume

long, many-seeded. ♄. G. Native of Teneriffe or Mogodor. Flowers yellow. The habit of this plant is very like that of *Coronilla E'merus.*

Shewy Bird's-foot Trefoil. Shrub 1 to 3 feet.

16 L. pusíllus (Viv. fl. libyc. p. 47. t. 17. f. 3.) plant diffuse and hairy; stems diverging, filiform, rather stiffish; leaflets, stipulas, and bracteas ovate-elliptic; peduncles 1-flowered, 3-times longer than the leaves; legume unknown. ⊙. H. Native of Cyrenaica, on the mountains. Like *L. cytisoìdes* and *L. secundiflòrus.* Flowers yellow.

Least Bird's-foot Trefoil. Fl. June, Aug. Clt. 1816. Pl. diff.

17 L. Michauxia'nus (Ser. mss. in D. C. prod. 2. p. 211.) plant clothed with hoary tomentum; stems prostrate; leaflets obovate, somewhat truncate; stipulas ovate-roundish; leaflets smaller than the stipulas; peduncles axillary, twice the length of the leaves; heads few-flowered; bracteas obovate, hardly longer than the calyx; calycine segments length of tube, but much shorter than the corolla. ♃. H. Native of Persia. Flowers yellow.

Michaux's Bird's-foot Trefoil. Pl. prostrate.

18 L. Cre'ticus (Lin. spec. 1091.) plant silky; stems suffruticose, ascending; leaflets obovate; stipulas ovate, 3-times shorter than the fructiferous peduncles; bracteas lanceolate, linear, smaller than the calyx; heads usually containing 4 flowers; calycine segments lanceolate, length of tube, but much shorter than corolla; style exserted; legume terete, smoothish, erect, somewhat torulose. ♄. F. Native of Syria, Candia, and Spain. Cav. icon. 2. p. 44. t. 156.—Pluk. phyt. t. 43. f. 1. Flowers yellow. A slender shrub, requiring support.

Var. β, vàrians (D. C. prod. 2. p. 211.) taller; stem suffruticose. L. vàrians, Desv. journ. bot. 1814. p. 77.

Cretan Bird's-foot Trefoil. Fl. June, Sept. Clt. 1680. Sh. 1½ foot.

19 L. cytisoìdes (Lin. spec. 1092.) stems prostrate at the base, a little branched; pedicels and calyxes hoary; leaflets obovate, rather fleshy, covered with adpressed pili; calycine segments shorter than the tube; legume somewhat torulose, glabrous; seeds ovoid, bay-coloured, shining. ⊙. H. Native of Europe, in sterile places by the sea-side. All. pedem. no. 1136. t. 20. f. 1. D. C. fl. fr. 4. p. 555. L. diffùsus, Schrank, pl. rar. t. 40.? but not of Solander.—Barrel. icon. t. 1031. Flowers yellow.

Cytisus-like Bird's-foot Trefoil. Fl. Jul. Aug. Clt. 1752. Pl. pr.

20 L. prostra'tus (Desf. atl. 2. p. 206.) stems procumbent, much branched; leaves glabrous; peduncles many-flowered; legume compressed, torulose, spreading. ♃. H. Native of the north of Africa. L. Alliòni, Desv. journ. bot. and perhaps of Poir. L. cytisoìdes β, prostràtus, Ser. mss. in D. C. prod. 2. p. 211. Flowers yellow. Like *L. corniculàta.*

Var. β, uniflòrus (Ser. mss. in D. C. l. c.) flowers solitary; leaflets smaller. ⊙. H. Native of the Island of Melos, in the sand by the sea-side.

Prostrate Bird's-foot Trefoil. Fl. June, Aug. Pl. prostrate.

21 L. secundiflòrus (Viv. fl. libyc. 46. t. 21. f. 3.) plant suffruticose, silky and silvery; stem furrowed; leaflets obovate-cuneated; stipulas ovate, oblique; peduncles bearing a head of secund reflexed flowers; leaflets of the bracteas obovate; calyx somewhat bilabiate, shorter than the corolla; legume glabrous, but unknown in a mature state. ⊙.? H. Native of Cyrenaica, on dry hills. Allied to *L. cytisoìdes.* Flowers yellow.

Secund-flowered Bird's-foot Trefoil. Pl. ½ foot.

22 L. polyphy'llus (Clark, itin. vol. 3. ex Spreng. neue entd. 2. p. 164.) stem suffruticose; leaflets linear-parabolic, silky; flowers usually tern; legume turgid, glabrous. ♄. F. Native on Mount Gargaro.

Many-leaved Bird's-foot Trefoil. Shrub 1 foot.

23 L. obtusa'tus (Ser. mss. in D. C. prod. 2. p. 212.) plant canescent; stems decumbent; leaflets and bracteas obovate, clothed with hoary tomentum, mucronulate, rather thickish; stipulas ovate, much shorter than the peduncles; heads few-flowered; calycine segments obtuse, much shorter than the tube and corolla; style inclosed in the calyx; legume rather terete, bay-coloured, but ending in a yellow mucrone. ♃. H. Native of Egypt. Flowers yellow.

Obtuse-calyxed Bird's-foot Trefoil. Pl. decumbent.

24 L. Garcìni (D. C. prod. 2. p. 212.) stems pubescent, branched; leaflets nearly sessile, and are as well as the stipulas obovate-oblong and pubescent; flowers axillary, usually solitary, almost sessile; segments of the calyx oblong, villous; legume glabrous, straight, a little longer than the calyx. ⊙.? H. Native of Persia. Aspálathus Pérsicus, Burm. fl. ind. 155. exclusive of the synonymes. Legumes black when dry. Corolla hardly longer than the calyx. Stamens diadelphous.

Garcin's Bird's-foot Trefoil. Pl. prostrate.

25 L. Dioscòridis (All. pedem. no. 1131. t. 59. f. 1.) stems erect, branched; leaflets obovate, thickish, emarginate, glaucous; stipulas ovate, shorter than the petiole; peduncles axillary, much longer than the leaves, usually 2-flowered; calycine segments lanceolate, longer than the tube, but shorter than the corolla; legumes usually twin, long, torulose. ⊙. H. Native of Piedmont, and about Nice. Flowers small, yellow.

Dioscorides's Bird's-foot Trefoil. Fl. June, July. Clt. 1658. Pl. 1 foot.

26 L. Gebe'lia (Vent. hort. cels. t. 57.) plant glabrous; stems decumbent, rather woody; leaflets and stipulas ovate, rather glaucescent; bracteas about equal in length to the calyx; heads of long peduncles usually 3-flowered; calycine segments length of tube, but much shorter than the corolla; legume cylindrical, torulose, thick; seeds globose, bay-coloured. ♃. H. Native about Aleppo, on Mount Gebel-cher. Flowers large, at first red, but at length becoming pale rose-coloured. The pods or legumes are eaten by the inhabitants of its native country, as French beans are with us.

Gebel-cher Bird's-foot Trefoil. Fl. June, July. Clt. 1816. Pl. decumbent.

27 L. Ara'bicus (Lin. mant. 104.) stems prostrate; leaflets and stipulas obovate-cuneated, equal, hoary beneath; heads few-flowered; bracteas longer than the calyx; peduncles length of bracteas; calycine segments very narrow, longer than the tube; legume terete, very smooth, somewhat torulose; seeds somewhat kidney-shaped, variegated. ♃. F. Native of Arabia. Jacq. hort. vind. t. 155. Flowers red.

Arabian Bird's-foot Trefoil. Fl. Jul. Sep. Clt. 1773. Pl. 1½ ft.

28 L. decu'mbens (Poir. suppl. 3. p. 508.) plant pilose; stems slender, decumbent, branched; leaflets and stipulas lanceolate; heads on long peduncles, containing about 4 flowers each; bracteas lanceolate, about equal in length to the calyx; calycine segments acute, hardly longer than the tube; legume rather terete, glabrous, bay-coloured. ⊙. H. Native of the south of France. Flowers yellow, greenish at the apex.

Decumbent Bird's-foot Trefoil. Fl. June, Aug. Clt. 1816. Pl. decumbent.

29 L. pilosíssimus (Poir. suppl. 3. p. 504.) plant very pilose; stems branched, rather prostrate; leaflets ovate-lanceolate; stipulas ovate, acutish; heads on long peduncles, few-flowered; bracteas narrow-lanceolate; calycine segments narrow, acute, longer than the tube; legume nearly terete, glabrous, brown. ⊙. H. Native of the south of France. L. híspidus, Pers. ench. 2. p. 354. but not of D. C. Corolla yellow, but becoming green when dried. Perhaps only a variety of *L. híspidus.*

Var. β, filifórmis (Poir. l. c.) stem and branches filiform and very long; leaflets smaller.

Very pilose Bird's-foot Trefoil. Fl. June, July. Clt. 1818. Pl. decumbent.

30 L. HÍSPIDUS (Desf. cat. hort. par. 190.) stems numerous, prostrate; leaflets hispid, oblong-lanceolate; stipulas ovate; heads few-flowered, much longer than the leaves; bracteas lanceolate, length of calyx; calycine segments longer than the tube, but shorter than the corolla; legume compressed, dotted; seeds orbicularly reniform, black. ⊙. H. Native of France, about Bayonne, and of Corsica. Lois. fl. gall. 490. t. 16. D. C. fl. fr. 5. p. 572. Flowers yellow.

Hispid Bird's-foot Trefoil. Fl. June, Jul. Clt. 1817. Pl. pr.

31 L. UNIBRACTEA'TUS (Viv. fl. libyc. p. 48. t. 18. f. 4.) plant diffuse, clothed with rufescent hairs; leaflets and stipulas obovate; flowers axillary, solitary; calycine segments lanceolate-linear, setaceous at the apex, much shorter than the corolla; wings length of carina, which terminates in a long beak; bracteas solitary; legume unknown. ⊙. H. Native of Cyrenaica, on the mountains. Corolla with the vexillum and carina deep-purple, as well as the tops of the wings, the rest yellow.

One-bracted Bird's-foot Trefoil. Pl. diffuse.

32 L. SUAVE'OLENS (Pers. ench. 2. p. 354.) stem diffuse, pilose, tomentose; leaflets ovate, rather oblique; bracteas usually solitary; flowers generally 3 on the top of each peduncle; calyx hairy; legumes terete. ♃. H. Native of the south of France. Flowers 3-5 in an umbel, at first pale-yellow, but at length becoming bay-coloured, smelling like those of *Lupinus lùteus*. The plant is like *L. híspidus*, but larger.

Sweet-scented-flowered Bird's-foot Trefoil. Fl. June, Aug. Clt. 1816. Pl. ascending.

33 L. ANGUSTI'SSIMUS (Lin. spec. 1090.) stems branched, prostrate, tubular, and are as well as the leaves hispid; leaflets and stipulas ovate or oblong-linear, rather pilose, and glaucous; heads 1-3-flowered; peduncles hardly twice the length of the leaves; bracteas unequal or solitary; calyx loosely hairy; calycine segments fringed, longer than the tube but shorter than the corolla; legume compressed, 2-edged, very slender, and usually solitary; seeds globose, pale-green. ⊙. H. Native of the south of Europe. In Britain in meadows towards the sea, on the south and western coasts of England; on the rocky beach at Hastings, Sussex; in Devonshire; in a meadow near St. Vincent's Rocks, Bristol. L. angustifòlius, Gouan. hort. 394. —J. Bauh. hist. 2. p. 356. f. 2.—Moris. hist. vol. 2. p. 175. sect. 2. t. 18. f. 1. Lòtus diffùsus, Sol. in Smith, fl. brit. 2. p. 794. engl. bot. t. 925. Flowers yellow.

Very-narrow-leaved Bird's-foot Trefoil. Fl. May, June, Britain. Pl. procumbent.

34 L. CILIA'TUS (Ten. prod. p. 44. cat. 1819. p. 58.) stems prostrate; leaflets glabrous, with the margins and calyxes ciliated; legumes solitary, cylindrical, glabrous, sessile. ⊙. H. Native of Sicily, in humid fields. Flowers yellow. Perhaps only a variety of *L. diffùsus*.

Ciliated Bird's-foot Trefoil. Fl. June, July. Clt. 1812. Pl. pr.

35 L. GRA'CILIS (Waldst. et Kit. hung. p. 254. t. 229.) stems erect, and are as well as the leaves pilose; leaflets and stipulas lanceolate; peduncles twice the length of the leaves, usually bearing about 2 flowers; bracteas equal in length to the calyx; calycine segments narrow, pilose, longer than the tube, but shorter than the corolla; legumes linear; very slender, almost terete, glabrous, 6-times longer than the calyx; seeds nearly globose. ⊙. H. Native of Hungary. Flowers yellow. Perhaps only a variety of *L. angustíssimus*.

Slender Bird's-foot Trefoil. Fl. Ju. Aug. Clt. 1812. Pl. ½ ft.

36 L. LANUGINÒSUS (Vent. malm. p. 22. in a note) stems prostrate, branched, and are as well as the leaves woolly; leaflets obcordate; stipulas ovate-roundish; peduncles axillary, elongated, drooping, 1-flowered. ⊙. H. Native of the Levant. Flowers rose-coloured. Bracteas ovate, hardly equal in length to the calyx; calycine segments lanceolate, hardly longer than the tube, but much shorter than the corolla.

Woolly Bird's-foot Trefoil. Pl. prostrate.

37 L. COIMBRICE'NSIS (Brot. fl. lus. 2. p. 118. phyt. p. 127. t. 53.) plant rather glabrous; leaves glaucescent; intermediate leaflet obovate, lateral ones lanceolate; stipulas ovate; peduncles very short, 1-flowered; calycine segments narrow, length of tube, but shorter than the corolla; the tops of the leaflets and stipulas ciliated and awned; legume cylindrical, very long, arched, glabrous; seeds very numerous, ovate, green. ⊙. H. Native of the south of Europe, particularly in Portugal, about Coimbra. L. aristàtus, D. C. hort. monsp. p. 122. Flowers small, white, with the keel purple.

Coimbra Bird's-foot Trefoil. Fl. May, June. Clt. 1800. Pl. 2 to 3 inches.

38 L. GLABE'RRIMUS (D. C. cat. hort. monsp. p. 122.) plant quite smooth, diffuse; leaflets obovate; stipulas ovate; flowers axillary, solitary, on very short pedicels; legumes linear, rather compressed, a little arched. ⊙. H. Native of? Flowers small, white, but with the carina purple.

Quite smooth Bird's-foot Trefoil. Fl. May, June. Clt. 1816. Pl. 2 to 3 inches.

39 L. TRICHOCA'RPUS (Lag. nov. gen. 23.) stems decumbent; leaflets cuneated, pilose; stipulas cordate, twice the length of the common petiole; bracteas length of calyx; legumes very long, nearly terete, falcate, tomentose. ⊙. H. Native country unknown. Flowers white, but the keel is dark purple at the apex. Perhaps a hairy-fruited variety of *L. Coimbricénsis*.

Hairy-fruited Bird's-foot Trefoil. Fl. May, July. Clt.? Pl. 2 to 3 inches.

40 L. ODORA'TUS (Sims, bot. mag. 1233.) plant hairy; stems diffuse; leaflets lanceolate; stipulas ovate; bracteas usually 1-leaved, lanceolate; peduncles long, usually bearing about 5 flowers at the apex; legumes straight, somewhat torulose. ⊙. H. Native of Barbary. Flowers yellow. Perhaps only a variety of *L. corniculàtus*.

Sweet-scented Bird's-foot Trefoil. Fl. June, Aug. Clt. 1804. Pl. diffuse.

41 L. CORNICULA'TUS (Lin. spec. 1092.) stems recumbent, pithy; leaflets obovate, acute, entire, glabrous, or a little hairy; stipulas ovate; leaflets of bractea lanceolate or linear; peduncles very long, each bearing 3-4-5 or 10 flowers at the apex, in a kind of flat umbel; calyx campanulate; the segments length of tube but much shorter than the corolla; legumes spreading, nearly cylindrical; seeds reniform, blackish-green; filaments all dilated; claw of the vexillum obovate. ♃. H. Native of Europe, in open grassy pastures, heaths, and commons; plentiful in Britain. Smith, engl. bot. 2090. Curt. fl. lond. 2. t. 56. Mart. rust. t. 53. Fl. dan. t. 991. Stems like the leaves glaucous; underside of the leaves clothed with close-pressed hairs; but sometimes they are quite smooth; when this is the case it is *L. arvénsis* of Schkuhr. handb. 2. t. 211. Flowers bright yellow, fading to an orange-colour, but becoming dark-green in drying. The vexillum is striped with red at the base in front. This plant has been recommended for cultivation under the erroneous names of *Milk-vetch* and *Astrágalus glycyphýllus* by the late Dr. Anderson, in his Agricultural Essays, as very excellent for fodder as well as for hay; it has been tried as a substitute for *clover* on moist lands, and seems to succeed very well, but to have no particular advantage over the *clover*.

Var. β, alpìnus (Schleich. cent. exsicc. no. 75.) stems and leaves small; flowers usually reddish on the outside. ♃. H. Native of the alps of Switzerland.

Horned or Common Bird's-foot Trefoil. Fl. June, Sept. Brit. Pl. recumbent.

42 L. MA'JOR (Scop. carn. 2. p. 86.) stem erect, tubular, more or less pilose, rarely smooth; leaflets obovate, fringed, or hairy; peduncles long, bearing from 6-12 flowers in an umbel; calycine teeth stellate; claw of vexillum linear; shorter filaments not dilated; legumes drooping, terete. ♃. H. Native of Europe, in wet bushy places, osierholts, and in hedges and ditches. Smith, engl. bot. 2091. Lòtus corniculàtus γ, Smith, fl. brit. 794. L. corniculàtus β, Hook. scot. 220. L. corniculàtus β, màjor, Ser. mss. in D. C. prod. 2. p. 514. L. uliginòsus, Schkuhr. handb. 2. t. 211. Flowers larger and of a duller orange-colour than those of *L. corniculàtus*. Whether there may be any difference in the agricultural qualities of these two plants, and whether the present might be capable of cultivation in wet meadows, no one has hitherto inquired.

Var. β, villòsus; stems and leaves villous; erect. L. villòsus, Thuill. fl. par. ed. 2. p. 387.

Greater Bird's-foot Trefoil. Fl. Jul. Aug. Brit. Pl. 1 to 3 ft.

43 L. CRASSIFÒLIUS (Pers. ench. 2. p. 354.) plant glaucous and pilose; stems recumbent; leaflets ovate, fleshy; root thick, fibrous. ♃. H. Native of the south of Europe, in sterile places by the sea-side. Flowers yellow. L. corniculàta δ, crassifòlius, Pers. l. c.

Thick-leaved Bird's-foot Trefoil. Fl. July, Sept. Clt. 1812. Pl. recumbent.

44 L. TE'NUIS (Kit. in Willd. enum. 797.) plant glabrous; stems decumbent, branched; leaflets and stipulas linear-lanceolate, glabrous; legumes usually 4 in an umbel, terete, awned. ♃. H. Native of Europe, in waste places, particularly in Hungary and France. L. depréssus and L. humifùsus, Willd. enum. suppl. p. 52. ex Link. enum. 2. p. 265. L. tenuifòlius, Poll. pal. 2. p. 711. L. corniculàtus ζ, tenuifòlius, D. C. prod. 2. p. 214. Flowers yellow.

Slender Bird's-foot Trefoil. Fl. Jul. Aug. Clt. 1816. Pl. pr.

45 L. FORSTE'RI (Sweet, hort. brit. p. 206.) stems recumbent, nearly solid, angular, smooth, and glaucous; leaves glaucous, smooth above, but occasionally clothed beneath with short, close-pressed, bristly hairs; leaflets and stipulas similar, lanceolate, pointed, oblique, except the terminal one, which is obovate-lanceolate; peduncles 4 or 5-times the length of the leaves, each bearing an umbel of 3-6-flowers, accompanied by a terminal leaf; calyx having its teeth shorter than the tube; legumes spreading, cylindrical, 2-edged. ♃. H. Native of Britain in fields and meadows; at Hastings, Sussex; near Bulverhithe; also in meadows near Tonbridge; in Scotland, in moors near Forfar, particularly in the Forest-moor, and at Balincho on the road to Kerrymuir. The plant is said also to be a native of Switzerland and the Levant, as well as on the sandy shores of Sicily. L. decúmbens, Forst. tonb. 86. Smith, eng. fl. 3. p. 314. but not of Poir. Flowers bright-yellow. This plant approaches nearest to *L. pedunculàtus* of Cav. icon. t. 164. but its stem is said to be erect; about 3 feet high, and every part of the plant is perfectly smooth.

Forster's Bird's-foot Trefoil. Fl. July. Brit. Pl. recumb.

46 L. PEDUNCULA'TUS (Cav. icon. 2. p. 52. t. 164.) plant smooth; stems erect; leaflets lanceolate, acute, terminal one stalked; stipulas ovate, somewhat cordate; peduncles very long, bearing each a capitate umbel of flowers; bracteas lanceolate, acute, longer than the calyx, which is rather campanulate; calycine segments nearly equal, acute, length of tube, but much shorter than the corolla. ♃.? H. Native of Spain. Flowers yellow.

Long-peduncled Bird's-foot Trefoil. Fl. July, Aug. Clt. 1814. Pl. 1 to 3 feet.

47 L. PALU'STRIS (Willd. spec. 3. p. 1394.) stems branched, erect, and are as well as the leaves hairy; leaflets obovate, acute; stipulas ovate, rather cordate, size of the leaflets; heads usually 4-flowered; legume terete, glabrous. ♃. H. Native of Candia. Flowers yellow. Habit of *L. corniculàtus.*

Marsh Bird's-foot Trefoil. Fl. July. Clt. 1821. Pl. 1 ft.

48 L. AMBI'GUUS (Besser. ex Spreng. syst. 3. p. 282.) plant herbaceous, decumbent; leaflets obovate-oblong, acute, and are pilose as well as the ovate stipulas; umbels of flowers on long peduncles, somewhat bracteate; legumes torulose, obtuse, awned, spreading. ⊙. H. Native of Volhynia. Flowers yellow.

Ambiguous Bird's-foot Trefoil. Pl. decumbent.

† *Species not sufficiently known.*

49 L. INTERME'DIUS (Pers. ench. 2. p. 354.) stems erect, villous, herbaceous; leaflets obovate-lanceolate, acuminated; heads roundish, containing 6-8-flowers, axillary, on long peduncles. ⊙. H. Native of? Flowers purplish.

Intermediate Bird's-foot Trefoil. Fl. June, July. Pl. ½ foot.

50 L. TRIFOLIA'STRUM (Desrous. in Lam. dict. 3. p. 612.) plant hairy; stems prostrate; leaflets ovate, obtuse; stipulas ovate, acute, small; flowers capitate; calyx bilabiate; upper lip 2-lobed; lobes acute; lower lip tridentate; bracteas setaceous; corolla length of calyx; legume turgid, villous. ♃. H. Native of the Levant. Perhaps a species of *Dorýcnium.*

Trefoil-like Bird's-foot Trefoil. Pl. prostrate.

51 L. CA'NDIDUS (Mill. dict. no. 7.) stems erect, branched, hairy; leaflets tomentose; heads of flowers nearly globose, hairy. ♃. H. Perhaps *Dorýcnium tomentòsum.* Flowers pale-red or white.

White Bird's-foot Trefoil. Fl. June, Aug. Pl. 2 to 3 feet.

Cult. The hardy species of *Lòtus* are well adapted for ornamenting rock-work or dry banks. The seeds of the annual kinds only require to be sown in the open border or on rock-work in spring. The greenhouse and frame kinds grow well in any light soil, and young cuttings of them will root if planted in a pot of sand, with a hand-glass placed over them; however, all the species are most easily increased by seeds.

LXXIV. TETRAGONO'LOBUS (from τετρας, *tetras*, four, γωνια, *gonia*, an angle, and λοβος, a pod; in reference to the legumes, which are furnished with 4 wings or angles). Scop. carn. 2 p. 87. Mœnch. meth. p. 164. D. C. prod. 2. p. 215. —Scandalìda, Neck. elem. no. 1306.

LIN. SYST. *Diadélphia, Decándria.* Calyx tubular, 5-cleft. Wings shorter than the vexillum. Carina beaked. Style flexuous. Stigma funnel-shaped, at length obliquely beaked. Legume cylindrical, furnished with 4 foliaceous wings, so as to give it a tetragonal appearance.—Herbs, with broad leafy stipulas, trifoliate leaves, winged petioles, alternate leaflets, axillary, 1-2-flowered peduncles, each furnished with a bractea or floral leaf at the apex.

1 T. PURPU'REUS (Mœnch. meth. p. 164.) plant pilose; stems rather decumbent; leaflets obovate, entire; stipulas ovate: flowers solitary or twin; bracteas longer than the calyx; legume glabrous, with broad wings; seeds globose. ⊙. H. Native of the south of Europe. Lòtus tetragonólobus, Lin. spec. 1089. D. C. fl. fr. 4. p. 553. Curt. bot. mag. 151.—J. Bauh. hist. 2. p. 258. f. 2. Flowers dark-purple.

Var. β, minor (Moricand, herb.) stem, leaves, and legumes much smaller.

Purple Winged-pea. Fl. June, Aug. Clt. 1769. Pl. 1 foot.

2 T. BIFLÒRUS (Ser. in D. C. prod. 2. p. 215.) plant pilose, rather decumbent; leaflets obovate, somewhat mucronulate, entire; stipulas orbicularly-oblong, acuminated; flowers twin or tern; bracteas ovate, shorter than the calyx; legumes pilose, with narrow wings; seeds almost globose. ⊙. H. Native of Barbary, and in fields about Palermo. Lòtus biflòrus, Desrous.

in Lam. dict. p. 604. Desf. fl. atl. p. 202. t. 210. L. conjugàtus, Poir. voy. barb. 220. but not of Lin. Flowers yellow. Seeds smaller than those of the preceding species.

Two-flowered Winged-pea. Fl. Ju. Aug. Clt. 1818. Pl. dec.

3 T. siliquòsus (Roth. fl. germ. 1. p. 323.) plant pilose; stems rather decumbent; leaflets obovate, entire; stipulas ovate, bluntish; flowers solitary, on long peduncles; bracteas obovate-linear, shorter than the calyx; legume smooth, with very narrow wings. ♃. H. Native of Europe, in humid meadows. Lòtus siliquòsus, Lin. spec. 1089. Lam. ill. t. 611. f. 2. Jacq. fl. aust. 4. t. 361. Flowers yellow.

Siliquose-podded Winged-pea. Fl. May, Aug. Clt. 1683. Pl. decumbent.

4 T. mari'timus (Roth. fl. germ. 1. p. 323.) plant glaucous, smoothish; stems decumbent; leaflets obovate, fleshy, sessile, the edge towards the top having a few scattered hairs, as well as the stem; stipulas ovate, acute, the same size as the leaflets; peduncles long, 1, seldom 2-flowered; bractea trifoliate, the middle leaflet longest, shorter than the calyx, which is hairy at the edge; legume smooth, with narrow wings. ♃. H. Native of Europe, by the sea-side, as Sweden, Denmark, the south of France, &c. Lòtus marítimus, Lin. spec. 1089. Oed. fl. dan. t. 800. Flowers yellow.

Sea-side Winged-pea. Fl. May, Oct. Clt. 1683. Pl. dec.

5 T. conjuga'tus (Ser. mss. D. C. prod. 2. p. 215.) plant pilose; stems rather decumbent; leaflets obovate, entire; stipulas ovate, small, acuminated; flowers in pairs; bracteas obovate, longer than the calyx; legume glabrous, nearly terete, with very narrow wings, which are hardly curled; seeds ovate, compressed, black. ⊙. H. Native about Montpelier. Lòtus conjugàtus, Lin. spec. 1089. Flowers purple.

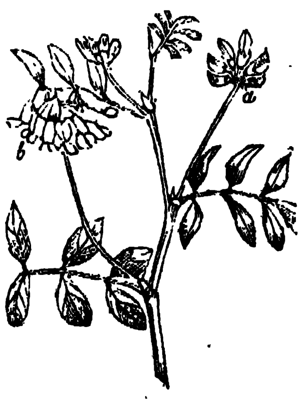
Twin-flowered Winged-pea. Fl. Jul. Aug. Clt. 1759. Pl. dec.

Cult. The perennial species of *Tetragonòbolus* are well adapted for ornamenting rock-work, and the annual kinds for flower-borders. The best way of propagating them is by seeds.

LXXV. HOSA'CKIA (in honour of David Hosack, M. D. F. R. S. Professor of Botany, in the university of New York, a gentleman to whom the scientific men of North America owe the same gratitude as those of England do to Sir Joseph Banks). Douglas, mss. Bentham, in bot. reg. 1257.

Lin. syst. *Diadélphia, Decándria.* Calyx campanulate, 5-cleft. Wings about equal in length to the vexillum. Keel beaked. Style filiform, crowned by a capitate stigma. Legume cylindrical or a little compressed, straight, smooth.– Herbs with impari-pinnate leaves, and with the leaflets usually alternate. Stipulas membranous, minute, or obsolete. Peduncles axillary, long. Flowers umbellate, usually yellow.

FIG. 32.



1 H. bícolor (Douglas, mss. ex. bot. reg. 1257.) plant glabrous; flowers umbellate, bractless; leaves with 7-9 leaflets. ♃. H. Native of North America, in overflowed meadows, between Fort Vancouver and the grand rapids of the Columbia river. Lòtus pinnàtus, Hook, bot. mag. 2913. Root creeping. Stems ascending. Flowers 6-10 in each umbel. Vexillum and carina yellow, but with the wings white.

Two-coloured-flowered Hosackia. Fl. July, Aug. Clt. 1823. Pl. ascending, 1½ long.

2 H. decu'mbens (Bentham, in bot. reg. no. 1257.) plant pubescent; flowers umbellate; bractea of 1 or 3 leaflets; leaves having 4 or 5 alternate leaflets. ♃. H. Native of North America. Stipulas very minute or wanting. Calycine segments linear, equal, villous. Form of petals like those of the preceding species. Filaments all antheriferous.

Decumbent Hosackia. Pl. decumbent.

3 H. Purshia'na (Bentham, l. c.) plant pubescent; peduncles 1-flowered, bearing a 1-leaved bractea just under the flower; calyx villous; leaves having 3-4 or 5 leaflets. ♃. H. Native of North America, on the banks of the Missouri. Lòtus sericeus, Pursh, fl. amer. sept. 2. p. 489. Trigonélla Americàna, Nutt. gen. 2. p. 120. Ser. in D. C. prod. 2. p. 185. Leaflets usually alternate. Stipulas very minute or wanting. Calycine segments about equal in length to the corolla. Flowers yellow.

Pursh's Hosackia. Fl. July, Aug. Clt. 1824. Pl. ½ foot.

4 H. parviflòra (Bentham, l. c.) plant quite smooth and glaucous; peduncles 1-flowered, furnished with a bractea under each flower, which is usually trifoliate; calyx almost glabrous; leaves having 4-6 leaflets. ♃. H. Native of North America. Root furnished with pea-formed tubercles. Leaflets alternate, obtuse. Stipulas very minute or wanting. Calyx almost glabrous, its segments short, and sparingly pilose. Corolla as in *H. Purshiàna*, but smaller.

Small-flowered Hosackia. Pl. decumbent.

5 H. angustifòlia; plant procumbent, silky; leaflets 5-7, obovate or linear-lanceolate, mucronate; flowers solitary or in pairs; calyx hairy, with awl-shaped teeth. ♃. F. Native of Mexico. Lòtus angustifòlius, Moc. et Sesse, in herb. Lamb. Resembles *Lòtus corniculàtus.* Flowers large, purple? Pod linear, compressed, nearly 2 inches long. Stigma large, capitate.

Narrow-leafletted Hosackia. Pl. procumbent.

6 H. re'pens; plant almost smooth; stems creeping, rooting; leaflets 5 pairs, obovate, slightly mucronulate; heads containing about 5 flowers; calyx strigately hairy, with lanceolate teeth. ♃. F. Native of Mexico. Lòtus rèpens, Moc. et Sesse, in herb. Lamb. Resembles *H. bicolor.* Flowers yellow. Pods linear, compressed. Stigma capitate.

Creeping Hosackia. Pl. creeping.

Cult. The species of *Hosáckia* are rather shewy, and well adapted for ornamenting flower-borders and rock-work. They will grow in any common garden soil, and are easily increased by seeds, or by dividing the plants at the root.

LXXVI. CARMICHÆ'LIA (in honour of the late Captain Dugald Carmichael, F.L.S. an acute Scotch botanist, author of a Flora of the island of Tristan da Acunha, inserted in the 12th volume of the Linnæan Society's Transactions). R. Br. in bot. reg. t. 950.

Lin. syst. *Diadélphia, Decándria.* Calyx cup-shaped, 5-toothed. Vexillum broad. Ovary many-seeded. Style simple. Legume few-seeded, with the valves separating from both margins, which are left on the plant even when the seeds have fallen.—A shrub, with flat branches and bluish flowers; the leaves when present ternate or pinnate.

1 C. austra'lis (R. Br. in bot. reg. 912.) ♄. G. Native of New Holland and New Zealand. Legumes quinate; leaves with 3-7 obcordate leaflets. Stem arboreous; branches compressed. Racemes simple, rising from the denticulations of the branches. Flowers lilac. Frame of legume permanent. Lòtus arbòreus, Forst. prod. 278. Lòtus austràlis, Hort. but not of Andrews.

Southern Carmichælia. Fl. May, Sep. Clt. 1823. Sh. 2 to 4 ft.

Cult. This shrub is a great ornament to greenhouses in spring and almost all the year, being profusely clothed with beautiful blue flowers. A mixture of loam, peat, and sand suits it best, and young cuttings will root if planted in a pot of sand, with a bell-glass placed over them.

LXXVII. CYAMO'PSIS (from *κυαμος, kyamos*, a bean, and οψις, *opsis*, resemblance; the plant resembles the bean). D. C. leg. mem. vi. prod. 2. p. 215.

Lin. syst. *Monadélphia, Decándria.* Calyx turbinately-tubular, 5-cleft; the lobes lanceolate-subulate and acute, the two superior ones rather remote. Petals about equal, at length separating elastically. Vexillum roundish. Wings oblong. Keel composed of 2 petals, straight and acute. Stamens 10, monadelphous. Ovary linear, terete. Style ascending. Stigma capitate. Legume compressed, 2-valved, oblong-linear, beaked, by the acuminated style, having 2 nerves near the superior suture, and furnished with cellular substance between the seeds. Seeds 7-8, obovate or truncate, compressed. Endopleura tumid, appearing like albumen. Cotyledons elliptic, flat, thickish, and foliaceous. Primordial leaves simple and ovate.—An erect herb, with subulate stipulas, pinnately trifoliate leaves, ovate, exstipellate, glaucous, denticulated leaflets, and axillary, short, racemes of small, erect, blue flowers. The hairs on the plant are fixed by their centre, as in *Indigófera.* The genus appears to be allied to *Dólichos* or *Canavàlia* on the one hand and to *Lupìnus, Psoràlea* or *Indigófera* on the other.

1 C. psoraleoìdes (D. C. prod. 2. p. 216.). ⊙. S. Native of the East Indies, from whence it has probably been sent into Arabia and the West India Islands. Psoràlea tetragonólobus, Lin. mant. 104. Dólichos fabæfórmis, Lher. stirp. t. 78. Dólichos psoraleoìdes, Lam. dict. 2. p. 300. Lupìnus trifoliàtus, Cav. icon, 1. t. 59.

Psoralea-like Cyamopsis. Fl. Jul. Aug. Clt. 1813. Pl. 1 ft.

Cult. This plant is not worth cultivating, except in botanical gardens. The seeds of it should be sown in a pot filled with loam and sand, and placed in a hot-bed, and when the plants have grown 2 or 3 inches high, they should be planted singly into separate pots, and replaced again in the hot-bed, where they will ripen their seed. Some of the plants may be planted out in the open border, in a sheltered situation.

Subtribe III. Clito'riæ (plants agreeing with *Clitòria* in some characters). D. C. leg. mem. vi. prod. 2. p. 216. Legume 1-celled (f. 34. *c.*). Stamens usually diadelphous (f. 34. *d.*). Stems herbaceous or suffrutescent, usually twining. Perhaps some of the genera should have been placed in Tribe *Phaseòleæ.*

LXXVIII. PSORA'LEA (from ψωραλεος, *psoraleos*, scurfy; in reference to the scurfy appearance of the calyx, and most parts of the plants, from tubercles). Lin. gen. no. 894. Lam. ill. t. 614. D. C. prod. 2. p. 216.—Dorycnium and Rutèria, Mœnch.

Lin. syst. *Diadélphia, Decándria.* Sepals 5, joined together to the middle into a 5-cleft, permanent calyx, with the tube usually beset with glands; the lobes acuminated, having the lower one a little more lengthened out than the others. Stamens 10, usually diadelphous, the tenth one is sometimes connected with the others at the base. Legume length of calyx, valveless, 1-seeded, sometimes ending in a beak.—Shrubs or herbs, usually warted from glandular tubercles. Leaves variable. Stipulas adnate to the base of the petiole. Disposition of flowers variable, blue, white, or purple.

* *Flowers axillary, especially sessile, or on simple pedicels in the axils of the leaves, but never disposed in a spike or head.*

1 P. odorati'ssima (Jacq. hort. schœnbr. 2. p. 229.) leaves impari-pinnate; leaflets usually 7-pairs, linear-lanceolate; pedicels axillary, 1-flowered, shorter than the leaves. ♄. G. Native of the Cape of Good Hope. Flowers blue and white. Lobes of calyx 3 acute and 2 obtuse, upper one reflexed at the apex, lower one straight. Bracteoles 2, rather distant from the calyx.

Sweet-scented Psoralea. Fl. May, Jul. Clt. 1725. Sh. 4 to 6 ft.

2 P. arbòrea (Sims, bot. mag. t. 2090.) leaves impari-pinnate; leaflets 5-pairs, linear-lanceolate; pedicels axillary, 1-flowered, longer than the leaves. ♄. G. Native of the Cape of Good Hope. Flowers bluish. Bracteoles 2, concrete, approximating the calyx, which is hairy. Stipulas callous, recurved.

Tree Psoralea. Fl. May. Clt. 1814. Shrub 6 to 8 feet.

3 P. pinna'ta (Lin. spec. 1074.) leaves impari-pinnate; leaflets 2-3-pairs, linear, and are as well as the branchlets rather puberulous; pedicels axillary, 1-flowered, much shorter than the leaves. ♄. G. Native of the Cape of Good Hope. Andr. bot. rep. 474. Rutèria pinnàta, Mœnch.—Herm. lugd. 273.—Burm. cap. 22. Flowers blue, striped.

Pinnate-leaved Psoralea. Fl. May, July. Clt. 1690. Sh. 3 to 6 feet.

4 P. lævigа'ta (Lin. fil. suppl. 339.) leaves impari-pinnate, with about 3 pairs of lanceolate leaflets, which are smooth as well as the branchlets; stipulas reduced to acute tubercles. ♄. G. Native of the Cape of Good Hope. Flowers purple, but not striped.

Smooth Psoralea. Shrub 2 to 3 feet.

5 P. verrucòsa (Willd. spec. 3. p. 1343.) leaves impari-pinnate, with 1 or 2 pairs of lanceolate, glabrous, glaucous leaflets; branches warted; pedicels 1-flowered, usually 3 together, axillary. ♄. G. Native of the Cape of Good Hope. P. angustifòlia, Jacq. hort. schœnbr. 2. p. 226. P. triflòra, Thunb.? Flowers blue and white. Peduncles sometimes 3-flowered.

Var. β, intermèdia (D. C. prod. 2. p. 216.) leaflets linear-lanceolate. ♄. G. P. intermèdia, Bess. cat. hort. crem. no. 111. Jacq. l. c. the right hand figure. P. axillàris, Poir. dict. 5. p. 687. ex herb. Desf. and perhaps of Linnæus.

Warted-stemmed Psoralea. Fl. May, Aug. Clt. 1774. Sh. 4 to 8 feet.

6 P. triflòra (Poir. dict. 5. p. 683.) leaves almost sessile, trifoliate; leaflets linear-spatulate, ending in a somewhat recurved mucrone; branches and calyxes pubescent; pedicels in threes, axillary, 1-flowered, and forming something like a spike at the tops of the branches. ♄. G. Native of the Cape of Good Hope. P. triflòra, Thunb. p. 135. Flowers blue.

Three-flowered Psoralea. Shrub 2 to 3 feet.

7 P. filifórmis (Poir. dict. 5. p. 682.) leaves trifoliate; leaflets filiform, upper ones simple, and are as well as the branches pubescent; pedicels axillary, 1-flowered, solitary. ♄. G. Native of the Cape of Good Hope. P. decídua, Berg. pl. cap. 220. Sieb. pl. exsic. cap. 37. Branches glandular, but pubescent at the apex. Very like *P. tenuifòlia.*

Filiform-leaved Psoralea. Shrub 2 to 4 feet.

8 P. axilla'ris (Lin. fil. suppl. 338.) leaves trifoliate; leaflets lanceolate; pedicels filiform, axillary, 1-flowered. ♄. G. Native of the Cape of Good Hope. P. lineàris, Thunb. prod. 135. This species is hardly known. The plant preserved in the Banksian herbarium under this name has the leaflets obovate, emarginate, and the flowers almost sessile. Lher. mss.

Axillary-flowered Psoralea. Fl. June, July. Clt. 1820. Shrub 2 to 3 feet.

9 P. tenuifòlia (Lin. spec. 1074.) upper leaves simple, the rest trifoliate; leaflets linear-lanceolate, mucronate; pedicels axillary, 1-flowered, solitary. ♄. G. Native of the Cape of Good Hope. Jacq. hort. schœnbr. 2. p. 225. Rutèria tenuifòlia, Mœnch. Very like *P. verrucòsa*, but the branches are smooth. Flowers blue and white, mixed.

Fine-leaved Psoralea. Fl. Mar. Jul. Clt. 1793. Sh. 3 to 4 ft.

10 P. fascicula'ris (D. C. prod. 2. p. 217.) leaves trifoliate, but some of them are simple; leaflets linear, very much acuminated; pedicels axillary, 1-flowered, 6 or 8 in a fascicle, a little longer than the flowers. ♄. G. Native of the

Cape of Good Hope. Lòtus tenuifòlius, Burm. cap. prod. 22. Flowers blue.

Fascicled-flowered Psoralea. Shrub 3 to 4 feet.

11 P. MULTICAU'LIS (Jacq. hort. schœnbr. 2. p. 55. t. 230.) leaves trifoliate, but the upper ones are simple; leaflets linear-lanceolate, mucronate; pedicels axillary, very short, aggregate, and somewhat capitate. ♃. G. Native of the Cape of Good Hope. Flowers with the vexillum white and the wings and keel violet.

Many-stemmed Psoralea. Fl. Aug. Oct. Clt. 1793. Pl. 1 to 2 ft.

12 P. APHY'LLA (Lin. mant. 450.) lower leaves trifoliate or simple; leaflets linear-lanceolate, upper ones abortive, scale-formed; pedicels axillary, short, solitary, 1-flowered. ♄. G. Native of the Cape of Good Hope. Jacq. hort. schœnbr. 223. Sims, bot. mag. 1727. Flowers blue, but with the keel and wings white. Breyn. cent. 25.

Leafless Psoralea. Fl. May, Aug Clt. 1790. Sh. 4 to 7 ft.

13 P. LATHYRIFÒLIA (Balb. st. hort. taur. descr. p. 25. with a figure) leaves simple, ovate, or oval-oblong, ciliated; stipulas joined in one, clasping the stem, bifid at the apex; stems decumbent, diffuse; flowers axillary, 1-2, almost sessile. ♃. G. Native of the Cape of Good Hope. Flowers blue.

Lathyrus-leaved Psoralea. Fl. Ju. Aug. Clt. 1816. Pl. dec.

14 P. DECU'MBENS (Ait. hort. kew. 3. p. 80.) leaves trifoliate; leaflets obovate-cuneated, somewhat obcordate, mucronate, longer than the petiole; branches as well as the calyxes rather villous; flowers axillary, 1-2, sessile. ♃. G. Native of the Cape of Good Hope. Burch. cat. no. 485. Lodd. bot. cab. 282. P. mucronàta, Thunb. prod. 135. P. ononoìdes, Poir. dict. 5. p. 688. Onònis virgàta, Burm. cap. 21. Onònis decúmbens, Sieb. pl. exsic. cap. no. 58. Branches weak and slender. Leaves covered with pellucid as well as black dots. Flowers blue.

Decumbent Psoralea. Fl. April, May. Clt. 1774. Pl. dec.

15 P. RE'PENS (Lin. mant. 263.) leaves trifoliate; leaflets obovate, obtuse, shorter than the petiole; pedicels 1-flowered, disposed in something like umbels in the axils of the leaves, each furnished with 2 bracteas in the middle. ♃. G. Native of the Cape of Good Hope. Calyx pubescent. Flowers blue. Stems trailing and rooting.

Creeping Psoralea. Fl. May, Aug. Clt. 1774. Pl. prost.

16 P. HÍRTA (Lin. amœn. 6. afr. 35.) leaves trifoliate; leaflets obovate, ending in a recurved point, dotted, and pubescent beneath; branches clothed with adpressed hoary villi; flowers axillary, sessile, numerous, upper ones disposed in a spicate manner. ♄. G. Native of the Cape of Good Hope. Poir. dict. 5. p. 688. Onònis strigòsa, Burm. cap. 21. but not of Thunb. Flowers blue.

Hairy Psoralea. Fl. May, Aug. Clt. 1713. Sh. 2 to 3 ft.

17 P. JACQUINIA'NA; leaves trifoliate, on short petioles; leaflets obovate, emarginate, hairy, as well as the rest of the plant; stipulas subulate; peduncles axillary and terminal, each bearing a bracteate head of flowers, those at the tops of the branches disposed in interrupted spikes. ♄. G. Native of the Cape of Good Hope. P. hírta, Jacq. hort. schœnbr. 2. t. 228. P. hírta, var. *β*, Jacquiniàna, D. C. prod. 2. p. 217. Flowers white, but with the vexillum pale violet.

Jacquin's Psoralea. Fl. May, Jul. Clt. 1713. Sh. 3 to 4 ft.

18 P. ACULEA'TA (Lin. spec. 1074.) leaves trifoliate; leaflets cuneiform, ending in a recurved mucrone, glabrous; stipulas prickle-formed; flowers axillary, solitary, sessile, approximate. ♄. G. Native of the Cape of Good Hope. Andr. bot. rep. 146. Sims, bot. mag. 2158. Flowers blue and white mixed.

Var. β, capitàta; flowers capitate. Thunb. prod. 136. Lam. ill. t. 614. f. 2.?

Prickly-stipuled Psoralea. Fl. Ju. Jul. Clt. 1774. Sh. 2 to 3 ft.

* * *Flowers nearly sessile, and approximate in the axils of the leaves, but capitate or spicate at the tops of the branches.*

19 P. BRACTEA'TA (Lin. mant. 264.) leaves trifoliate; leaflets cuneiform, ending in a recurved mucrone, full of pellucid dots, longer than the petiole; heads of flowers terminal, bracteate. ♄. G. Native of the Cape of Good Hope. Jacq. hort. schœnb. 2. t. 224. Curt. bot. mag. 446. P. cuneifòlia, Brot. Onònis trifoliàta, Lin. syst. nat. Trifòlium frúticans, Lin. spec. 1085. Stipulas membranous, rather fleshy. Flowers violaceous, but with the keel white. Comm. hort. 2. p. 211. t. 106.

Bracteate-headed Psoralea. Fl. June, July. Clt. 1731. Sh. 3 to 4 feet.

20 P. INVOLUCRA'TA (Thunb. fl. cap. 607.) leaves trifoliate; leaflets obovate, acute, stiff, glabrous; flowers umbellate, terminal, involucrated. ♄. G. Native of the Cape of Good Hope. Peduncles hairy. Umbels usually 5-flowered. Calyxes striated. Corolla bluish.

Involucrated Psoralea. Fl. Ju. Jul. Clt. 1818. Sh. 2 to 3 ft.

21 P. SPICA'TA (Lin. mant. 264.) leaves trifoliate; leaflets obovate-oblong, terminating in a recurved mucrone, beset with black dots beneath; spikes of flowers terminal, oblong. ♄. G. Native of the Cape of Good Hope. Willd. spec. 3. p. 1345. Andr. bot. rep. 411. Flowers blue, mixed with white? This species comes very near *P. bracteàta*, but the leaves are without the pellucid dots which are so conspicuous in that plant.

Spicate-flowered Psoralea. Fl. June, July. Clt. 1774. Sh. 2 to 4 feet.

22 P. STA'CHYDIS (Lin. fil. suppl.) leaves trifoliate; leaflets oblong, mucronate, villous on both surfaces as well as the stems and calyxes; spike of flowers terminal, interrupted. ♄. G. Native of the Cape of Good Hope. P. stàchyos, Thunb. fl. cap. 608. Leaves dotted above. Petioles 4-times shorter than the leaflets. Deflorated spike not unlike a head of lavender. Corolla ferruginous.

Lavender-*spiked* Psoralea. Fl. April, May. Clt. 1793. Shrub 2 to 4 feet.

23 P. STRIA'TA (Thunb. l. c.) leaves trifoliate; leaflets oblong, mucronate, pubescent beneath; racemes terminal, interrupted. ♄. G. Native of the Cape of Good Hope. Flowers blue.

Striated Psoralea. Fl. May, Ju. Clt. 1816. Sh. 2 to 3 ft.

24 P. RACEMO'SA (Thunb. l. c.) leaves trifoliate; leaflets oblong, mucronate; racemes terminal, elongated. ♄. G. Native of the Cape of Good Hope. Flowers blue.

Racemose-flowered Psoralea. Shrub 2 to 4 feet.

25 P. ARGE'NTEA (Thunb. l. c.) leaves trifoliate; leaflets ovate, cut, mucronate, silvery; racemes of flowers interrupted. ♄. G. Native of the Cape of Good Hope. Flowers blue.

Silvery Psoralea. Fl. May, July. Clt. 1816. Sh. 2 to 4 ft.

26 P. TOMENTÒSA (Thunb. fl. cap. 606. but not of Cav.) leaves trifoliate; leaflets oblong, tomentose beneath; heads of flowers terminal. ♄. G. Native of the Cape of Good Hope. Flowers blue.

Tomentose Psoralea. Fl. May, July. Clt. 1820. Sh. 2 to 4 ft.

27 P. ASTRAGALIFO'LIA (Poir. dict. suppl. 4. p. 587.) leaves trifoliate, glabrous; lower leaflets elliptic-ovate, smaller, superior ones narrow, lanceolate, and longer; spike of flowers terminal, somewhat capitate. ♃. ? G. Native of the Cape of Good Hope. Perhaps the same as *P. capitàta*.

Milk-vetch-leaved Psoralea. Shrub 1 to 2 feet.

28 P. CAPITA'TA (Lin. fil. suppl. 339. Thunb. l. c.) leaves trifoliate and simple, linear or elliptic-linear; heads of flowers spicate, terminal. ♄. G. Native of the Cape of Good Hope. Vexillum scattered over with dots, similar to those on the leaves. Flowers purple.

Capitate-flowered Psoralea. Fl. June, Aug. Clt. 1815. Shrub 2 to 3 feet.

29 P. ROTUNDIFO′LIA (Lin. fil. suppl. 338. Thunb. l. c.) leaves simple, ovate, entire, glabrous; heads of flowers terminal, and are, as well as the bracteas, villous. ♄. G. Native of the Cape of Good Hope. This species belongs probably to the following division.

Round-leaved Psoralea. Shrub.

* * * *Peduncles axillary, bearing capitate spikes of flowers at their tops.*

30 P. CORYLIFO′LIA (Lin. spec. 1075.) leaves simple, ovate, cordate, a little toothed; heads of flowers axillary, ovate, on long peduncles. ⊙. G. Native of the East Indies and Arabia. Curt. bot. mag. 665. Trifòlium unifòlium, Forsk. descr. 140. Flowers violaceous or pale flesh-coloured.

Hazel-leaved Psoralea. Fl. Ju. July. Clt. 1739. Pl. 2 feet.

31 P. VIRGA′TA (Nutt. gen. amer. 2. p. 104.) leaves simple, very remote, almost glabrous, linear-lanceolate, radical ones oblong-ovate; spikes of flowers ovate-oblong, on peduncles, which are shorter than the leaves; bracteas long, subulate, deciduous. ♃. H. Native of the west of Florida, between St. Mary's and Satilla river. Stem striated, twiggy, a little pubescent, as well as the leaves. Flowers blue; the vexillum finely striated.

Twiggy Psoralea. Pl. 2 feet.

32 P. ACAU′LIS (Stev. in Bieb. fl. taur. 2. p. 206.) radical leaves trifoliate, on long petioles; leaflets ovate, obtuse, sharply toothed, the middle leaflet sessile; peduncles radical, very long. ♃. H. Native of Western Iberia. Spike of flowers oval-oblong. Flowers purplish. Petioles pubescent. Leaves hairy, as well as the peduncles. Calyx beset with black hairs.

Stemless Psoralea. Pl. 1 foot.

33 P. ARENA′RIA (Nutt. gen. amer. 2. p. 103.) leaves trifoliate, rather pubescent; leaflets linear-lanceolate, obtuse, mucronulate; peduncles axillary, longer than the leaves; spikes of flowers capitate; bracteas deciduous; teeth of calyx obtuse, nearly equal in length, glandular. ♃. F. Native of North America, on the banks of the river Missouri. Psoràlea lanceolàta and P. ellíptica, Pursh, fl. sept. amer. 2. p. 475 and 741. Root creeping. Stems dichotomous, erect. Flowers purplish-blue. The leaves are aromatic when bruised.

Sand Psoralea. Fl. July, Aug. Clt. 1823. Pl. 1 foot.

34 P. SIBI′RICA (Poir. suppl. 4. p. 587.) leaves pinnately-trifoliate; leaflets elliptic, obtuse, glabrous, whitish beneath, somewhat emarginate and mucronulate at the apex; racemes very short, axillary, glandless; segments of the calyx linear, elongated, acuminated, and rather villous. ♃. F. Native of Siberia. Flowers pale-blue.

Siberian Psoralea. Pl. 1 to 2 feet.

35 P. PALÆSTI′NA (Gouan. ill. 51.) leaves pinnately-trifoliate; lower leaflets ovate, superior ones lanceolate; petioles pubescent, sulcated; peduncles axillary, 2-3-times longer than the leaves; spikes of flowers capitate; calyxes pubescent, at length a little inflated. ♃. F. Native of Palestine, south of Tauria, and about Constantinople, and now in the south of France. Jacq. hort. vind. 2. t. 184. D. C. fl. fr. suppl. p. 554. P. bituminòsa, Pall. ined. Flowers blue. Very like the following species, but the plant is nearly scentless.

Palestine Psoralea. Fl. July, Aug. Clt. 1771. Pl. 2 feet.

36 P. BITUMINÒSA (Lin. spec. 1075.) leaves pinnately-trifoliate; leaflets ovate-lanceolate; petioles pubescent; peduncles axillary, 3-4-times longer than the leaves; spikes of flowers capitate; calyxes pubescent. ♄. F. Native of the south of Europe, in exposed places. Lam. ill. 614. f. 1. There is a variety with narrower leaflets. Besl. eyst. æst. t. 11. f. 2. Dorýcnium angustifòlium, Mœnch. Perhaps this last variety is sufficiently distinct from P. frutéscens of Poir. dict. 5. p. 684. There is a plant described in Berg. cap. 221. which differs from this in the spikes of flowers being terminal. Flowers with the vexillum and keel purple, and the wings almost white, smelling like black currants. The leaves when handled emit a strong scent of bitumen.

Bitumen-scented Psoralea. Fl. April, Sept. Clt. 1570. Shrub 2 to 3 feet.

37 P. SERI′CEA (Poir. dict. 5. p. 687.) leaves pinnately-trifoliate; leaflets ovate-lanceolate, silky beneath; peduncles axillary, 2 or 3 times longer than the leaves; heads of flowers depressed, involucrated; leaflets of the involucrum about equal in length to the calyx. ♄. G. Native of the Cape of Good Hope. P. pedunculàta, Ker, bot. reg. t. 223. Stipulas narrow, acuminated. Corolla bluish-violet.

Silky Psoralea. Fl. Aug. Oct. Clt. 1815. Sh. 2 to 3 feet.

38 P. MUTI′SII (H. B. et Kunth, nov. gen. amer. 6. p. 487. pl. legum. 191. t. 54.) leaves trifoliate; leaflets lanceolate-oblong, quite entire, glabrous, having the middle nerve, petioles, and branches pilose; spikes axillary, pedunculate, oblong-cylindrical, dense-flowered; calyx clothed with adpressed pili. ♄. ? S. Native of South America, near Santa Fe de Bogota, and about Quito. Indigófera Mexicàna, Lin. fil. suppl. 335. Flowers white.

Mutis's Psoralea. Shrub 2 to 3 feet.

* * * * *Peduncles axillary, bearing the flowers in loose spikes or racemes at their tops. Poikadeniæ, Ell.*

39 P. PENTAPHY′LLA (Lin. spec. 1076.) leaves with 5 leaflets, palmately disposed; leaflets unequal, oval, acute at both ends, pubescent, and glandular, and with the margins ciliated; stem and petioles villous. ♄. ? ♃. ? G. Native of Mexico. B. Juss. act. par. 1744. p. 381. t. 17. The roots are thick, and are supposed to be the *contrayerva* of the shops.

Five-leaved Psoralea. Shrub.

40 P. ESCULE′NTA (Pursh. fl. sept. amer. 2. p. 475. t. 22.) plant hairy; leaves with 5 leaflets, which are disposed palmately; leaflets ovate-elliptic, glabrous above; spikes of flowers somewhat capitate, pedunculate, axillary; bracteas ovate, acuminated, each enclosing 3 flowers; corolla hardly longer than the calyx. ♃. F. Native of North America, on the elevated plains of the river Missouri. Flowers blue. Root simple, somewhat fusiform, bulbous above the middle; it is rather insipid in taste, but not disagreeable either raw or boiled, the latter is the common mode of preparation among the savages; its texture is lamellated, always tenacious, solid, and never farinaceous; it is also somewhat medicinal, and operates as a diuretic. It is known to the Canadian boatmen by the name of *Pomme de prairie.*

Esculent-rooted Psoralea. Fl. Ju. Jul. Clt. 1811. Pl. 1 ft.

41 P. CUSPIDA′TA (Pursh. fl. sept. amer. 2. p. 741.) plant villous; leaves with 5 leaflets, which are disposed in a palmate manner; leaflets obovate, mucronate; spikes axillary, dense-flowered; calycine segments as well as the bracteas ovate, cuspidate, conspicuously dotted. ♃. F. Native of Upper Louisiana, on the high plains of the river Missouri. P. macrorhìza, Fras. cat. 1813. Root large, tuberous, branched. Flowers blue.

Cuspida e-bractead Psoralea. Fl. Jul. Aug. Clt. 1811. Pl. 1 ft.

42 P. INCA′NA (Nutt. in Fras. cat. 1813. gen. amer. 2. p. 102.) plant silky and canescent; leaves having 3 or 5 leaflets, disposed in a palmate manner; leaflets elliptic-lanceolate; spikes few-flowered, interrupted; bracteas acuminated, 3-flowered. ♃. F. Native of North America, on the plains of the Missouri. P. argophýlla, Pursh. fl. sept. amer. 2. p. 475. Root flagellately-fusiform. Flowers small, azure-blue. Like *P. esculénta*, but differs in being clothed with soft, white, and silky villi, but not tomentum.

Hoary Psoralea. Fl. July, Aug. Clt. 1824. Pl. 1 foot.

43 P. LUPINÉLLA (Michx. fl. bor. amer. 2. p. 58.) plant smooth; leaves on long petioles, having 5 or 7 leaflets, which are disposed palmately; leaflets narrow, linear; racemes axillary, longer than the leaves; bracteas 1-flowered; lower segment of the calyx longer than the rest. ♃. F. Native of North America, from South Carolina to Florida. Nutt. gen. amer. 2. p. 103. Calyx and leaves glandular. All the lower leaves have 7 leaflets, and all the upper ones 5. Flowers purplish, not remarkably small. A very singular plant, the leaflets are so narrow as scarcely to be distinguished from the petiole, 2 or 3 inches long.

Small-lupine Psoralea. Fl. July, Aug. Clt. 1812. Pl. 1 ft.

44 P. MULTÍJUGA (Ell. sketch. 2. p. 198.) stem branched, smoothish; leaves pinnate, with 9 or 10 pairs of leaflets; leaflets oblong-lanceolate, obtuse, pubescent; spikes oblong; bracteas small, membranous, glandless. ♃. F. Native of Carolina, about Abbeville. Corolla violaceous. Ovary perhaps 1 ovulate.

Many-paired-leafletted Psoralea. Pl. 1 to 2 feet.

45 P. TENUIFLÒRA (Pursh, fl. sept. amer. 2. p. 475.) plant nearly smooth, much branched; leaves trifoliate; leaflets elliptic, obtuse, rugged from dots on both surfaces, pubescent beneath; peduncles axillary, few-flowered, longer than the leaves; calycine segments nearly equal. ♃. F. Native of North America, on the plains of the Missouri, near the Arikaree village. Habit and mode of vegetation similar to *Baptísia tinctòria*. Bracteas 3-flowered, shorter than the pedicels. Root flagellately fusiform. Racemes slender, 2 or 3 inches long, interrupted, 9-12-flowered. Flowers very small, pale-purple.

Fine-flowered Psoralea. Fl. July, Aug. Pl. 2 feet.

46 P. LONGIFÒLIA (Pursh, fl. sept. amer. 2. p. 741.) plant clothed with silky villi; leaves trifoliate; leaflets linear, elongated; spikes pedunculated, loose-flowered, shorter than the leaves; teeth of calyx as well as bracteas subulate. ♃. F. Native of Upper Louisiana. Leaves glandless. Flowers apparently white.

Long-leaved Psoralea. Pl. 1 to 2 feet.

47 P. JAMÈSII (Torrey, in. ann. lyc. new york. vol. 2. p. 165.) leaves trifoliate; leaflets obovate, very obtuse, cuneated at the base, quite entire, silky on both surfaces; petioles pubescent; spikes of flowers capitate; bracteas oblong, acuminated; calyx very hairy; the teeth subulate, and nearly equal. ♃. F. Native of Canada, in the plains. Flowers blue. Stamens constantly monadelphous.

James's Psoralea. Pl. ½ foot.

48 P. LATIFÒLIA (Torrey, l. c.) leaves trifoliate; leaflets broad-ovate, acuminated, smooth, but ciliated on the margins, terminal leaflet on a long petiole; spikes loose-flowered, elongated, axillary; bracteas deciduous; calyx glabrous, with acutish teeth. ♃. F. Native of the plains of Missouri, near St. Louis.

Broad-leaved Psoralea. Pl. 2 to 3 feet.

49 P. EGLANDULÒSA (Ell. sketch. 2. p. 198.) plant pubescent and glandless; leaves pinnately trifoliate; leaflets oblong-lanceolate, entire; racemes of flowers oblong; bracteas broad-lanceolate, ending each in a long acumen, and are pubescent as well as the calyx. ♃. ? F. Native of Carolina and Florida, and common in the open forests of Ohio, Kentucky, and Tenessee. Melilòtus psoraleoìdes, Nutt. gen. amer. 2. p. 104. ex Ell. Stem minutely strigose, grooved; spike or raceme of flowers 3-4 inches long, on a peduncle, which is from 4 to 6 inches long. Flowers pale-violet, pedicellate. Legume gibbous and transversely wrinkled. The plant appears to be a connecting link between *Psoràlea* and *Melilòtus*.

Glandless Psoralea. Fl. July. Pl. 1 to 1½ foot.

50 P. MELILOTOÌDES (Michx. fl. bor. amer. 2. p. 58.) plant pubescent; leaves pinnately trifoliate; leaflets lanceolate, glandular beneath; peduncles racemose, length of leaves; racemes or spikes linear; bracteas acuminated, longer than the calyx. ♃. F. Native of Carolina, Florida, Ohio, Kentucky, and Tenessee in open forests. Sims, bot. mag. 2063. Ker. bot. reg. 454. Bart. fl. t. 51. f. 1. P. melilòtus, Pers. Flowers pale-purple. Legume length of calyx, gibbous, wrinkled, terminated by the style.

Melilot-like Psoralea. Fl. Aug. Clt. 1814. Pl. 1 to 2 ft.

51 P. ONOBRÝCHIS (Nutt. gen. amer. 2. p. 104.) plant nearly glabrous; leaves pinnately trifoliate; leaflets ovate-lanceolate, rather pubescent; racemes axillary, on long peduncles; flowers secund; legume obovate, muricated, glabrous. ♃. F. Native of North America, on the banks of the river Merimek, a few miles from St. Louis. Ker. bot. reg. 433. Root flagellate. Stems brownish. Flowers small, purplish. Perhaps *P. hedysaroìdes*, Muhl. Perhaps a trifoliate species of *Onobrychis*.

Saintfoin-like Psoralea. Fl. Aug. Clt. 1818. Pl. 3 to 5 ft.

52 P. GLANDULÒSA (Lin. spec. 1075.) plant glabrous; leaves pinnately trifoliate; leaflets ovate-lanceolate, acuminated; petioles scabrous from glands; racemes axillary, pedunculate, longer than the leaves. ♃. G. Native of Chili, where it is called *Culen*. Sims, bot. mag. 990. Feuill. per. 7. t. 3. Ard. spec. 1. p. 24. t. 11. P. lùtea, Mol. chil. 135. P. Cùlen, Poir. dict. 5. p. 685. Flowers bluish-purple, the wings and keel white. The plant has the smell of *rue*, and is considered vulnerary and purgative; the leaves are applied in the forming of a cataplasm to heal wounds, and an infusion of the roots is purgative.

Glandular Psoralea. Fl. May, Aug. Clt. 1770. Sh. 2 to 4 ft.

53 P. PUBÉSCENS (Balb. in Pers. ench. 2. p. 347.) leaves pinnately trifoliate; leaflets ovate-oblong, pubescent, dotted on both surfaces; branches, petioles, and peduncles hairy; bracteas and calyxes villous and glandular; spike interrupted, rather shorter than the leaves. ♄. G. Native of Peru. P. pubéscens, Willd. enum. 788. Lindl. bot. reg. 968. Poir. dict. 5. p. 686. P. frutéscens, Poir. dict. Flowers bright blue.

Pubescent Psoralea. Fl. Aug. Clt. 1825. Sh. 2 to 3 feet.

54 P. MACROSTÀCHYA (D. C. prod. 2. p. 220.) leaves pinnately trifoliate, pubescent; leaflets ovate, mucronate; petioles scabrous from glands; peduncles axillary, 4-times longer than the leaves; spikes cylindrical, and are as well as the rachis, bracteas, and calyxes very hairy. ♃. F. Native of Nootka Sound, on the north-west coast of America. Bracteas acuminated, length of calyx. Spike a little branched.

Long-spiked Psoralea. Pl. 2 feet.

55 P. CANÉSCENS (Michx. bor. amer. 2. p. 57.) leaves trifoliate, on very short petioles, pubescent; leaflets ovate, on longish petioles; peduncles axillary, 2 or 3-times the length of the leaves; spikes or racemes interrupted; calyx rather gibbous, villous; bracteas ovate, mucronate. ♃. F. Native of Carolina and Georgia. Root rather fusiform, bulbous at the neck. Leaves and calyxes full of pellucid dots. Flowers blue.

Canescent Psoralea. Fl. Jul. Aug. Clt. 1821. Pl. 1 to 2 ft.

56 P. DIVARICÀTA (H. B. in Willd. enum. 788.) leaves trifoliate, glabrous; leaflets lanceolate; spikes interrupted, pedunculate, axillary, longer than the leaves; stem branched, divaricate. ♄. S. Native of Peru, near Guancabamba. Allied to *P. pubéscens*. Calyx tomentose, according to Link. in enum. 2. p. 258. Stipulas ovate, adnate to the base of the petiole. Stamens monadelphous, ex Bonpland, mss. in Kunth, nov. gen. amer. 6. p. 486. Flowers yellow.

Divaricate Psoralea. Fl. Jul. Aug. Clt. 1820. Sh. 2 to 3 ft.

57 P. DENTÀTA (D. C. prod. 2. p. 221.) leaves pinnately trifoliate, glandular, and almost glabrous; leaflets ovate, repandly-toothed, cuneated at the base, and entire; racemes spicate, interrupted, pedunculated, longer than the leaves; bracteas subulate, hardly exceeding the pedicels. ♄. G. Native

of Madeira, not of America. P. Americàna, Lin. spec. 1075. Jacq. hort. schoenb. 227.—Lob. icon. 2. t. [illegible]. Flowers white, but the keel is dark purple at the apex. Calyx glandular and smoothish.

Var. β, *villòsa*; calyx glandular and villous. P. polystàchya, Poir. suppl. 4. p. 587. if the synonyms be rightly attached. Native of Mauritania, near Alcassar.

Toothed-leaved Psoralea. Fl. Jul. Aug. Clt. 1640. Sh. 1 ft.

58 P. plica'ta (Delil. fl. ægypt. p. 109. t. 37. f. 3.) branches warted from glands; leaves pinnately trifoliate; leaflets oblong-lanceolate, plicate, repand-toothed; spikes axillary, longer than the leaves; rachis permanent after the flowers have fallen, and becoming hard and spinose. ♄. G. Native of Upper Egypt, at the foot of the mountains between Qournah and Medynet-abou.

Plaited-leafletted Psoralea. Shrub 1 to 2 feet.

59 P. obtusifòlia (D. C. prod. 2. p. 221.) branches and leaves clothed with adpressed canescent pubescence; leaves trifoliate; leaflets obovate, plicate, denticulated, the middle one petiolulate. ♄. G. Native of the Cape of Good Hope. Burch. cat. 1214. This plant is very much like the preceding species.

Obtuse-leaved Psoralea. Shrub.

† *Species not sufficiently known.*

60 P.? rube'scens (Lour. coch. p. 444.) arboreous; leaves pinnate; leaflets oblong-ovate; peduncles lateral, many-flowered; calyx rather truncate, biglandular at the base. ♄. G. Native of Cochin-china, in woods. Flowers reddish-white.

Reddish-flowered Psoralea. Tree 10 feet.

61 P.? scutella'ta (Lour. coch. p. 443.) arboreous; leaves impari-pinnate; leaflets ovate, acuminated, glabrous; spikes crowded, nearly terminal; calyx scutate, glandular. ♄. G. Native of Cochin-china in woods. Flowers violaceous. Legume 1-2-seeded.

Saucer-calyxed Psoralea. Tree 20 feet.

62 P.? hu'milis (Mill. dict. no. 7.) leaves impari-pinnate, with 3 or 4 pairs of roundish, villous leaflets; heads of flowers axillary and terminal. ♄. S. Native of Vera Cruz. Flowers yellow, mixed with red.

Humble Psoralea. Shrub 5 to 6 feet.

63 P.? sca'ndens (Mill. dict. no. 4.) leaves pinnate, with 3 pairs of oval obtuse leaflets; racemes sessile, axillary; stem branched, climbing. ♄. ◡. S. Native of Campeachy. Flowers blue. Perhaps a species of *Gàlega*.

Climbing Psoralea. Shrub cl.

64 P.? prostra'ta (Lin. amœn. 6. p. 93.) leaves glabrous, supra-decompound, digitate; lobes and lobules linear, middle one trifid; racemes axillary, pedunculate, roundish; stem decumbent. ♄. G. Native of the Cape of Good Hope. Flowers yellow. The plant has the habit of a species of *Hermánnia*. The stipulas are ovate and the stamens diadelphous. The legume is unknown, therefore the genus is doubtful.

Prostrate Psoralea. Shrub prostrate.

Cult. All the species of this genus are rather elegant when in bloom. The stove and greenhouse kinds grow best in a mixture of loam and peat, and young cuttings root freely, if planted in a pot of sand, with a bell-glass placed over them; those of the stove species in heat. The frame kinds, or those natives of North America, grow best in peat and sand, and are increased by seeds, or cuttings will strike root.

LXXIX. INDIGO'FERA

(*indigo*, a blue dye, stuff, which is a corruption of *Indicum*, Indian, and *fero*, to bear; the greater part of this species of the genus produce indigo). Lin. gen. 889. Lam. ill. 626. D. C. leg. mem. vi. prod. 2. p. 221.

Lin. syst. *Diadélphia, Decándria.* Calyx 5-cleft; lobes acute. Vexillum roundish, emarginate (f. 33. *a.*). Keel furnished with a subulate spur on both sides, at length usually bending back elastically. Stamens diadelphous. Style filiform, glabrous. Legume nearly terete (f. 34. c.), or flat or tetragonal, 2-valved, many-seeded, rarely few-seeded or ovate, 1-seeded at the base or subglobose. Seeds ovate, truncate at both ends, and usually separated from each other by cellular substance. Herbs or subshrubs. Stipulas small, distinct from the petiole. Peduncles axillary. Flowers disposed in racemes, purple, blue, or white. Leaves impari-pinnate, digitate, or simple. Leaflets usually stipellate at the base. The hairs on the plants usually adpressed and fixed by their centre.

§ 1. *Simplicifòlia* (from *simplex*, simple, and *folium*, a leaf; in reference to the leaves of all the species contained in this division being simple). *Leaves simple, sessile, or standing on a very short petiole.*

1 I. linifòlia (Retz, obs. 4. p. 29. and 6. p. 33. t. 2.) leaves obovate, obtuse, mucronate, hoary; racemes axillary; flowers hardly pedicellate; legume ovate, globose, 1-seeded. ⊙. S. Native of the East Indies. Roxb. cor. 2. t. 195. Hedýsarum linifòlium, Lin. fil. suppl. 331. I. polygonoìdes, Wendl. Sphæridiòphorum, Desv. journ. 3. p. 125. t. 6. f. 35. Flowers red.

Flax-leaved Indigo. Fl. July, Aug. Clt. 1792. Pl. proc.

2 I. tetraspe'rma (Vahl. ined. in herb. Juss. ex Pers. ench. no. 6.) leaves simple, linear, acuminated, hoary; flowers axillary, usually solitary; legume nearly terete, 4-seeded. ⊙. S. Native of Guinea. J. scopària, Vahl. ined. ex herb. Puer. Stem erect, branched, herbaceous. Flowers red.

Four-seeded Indigo. Pl. 1 foot.

3 I. panicula'ta (Pers. ench. 2. p. 7.) leaves oblong-linear, nearly naked; peduncles shorter than the leaves, the alternate ones terminal and panicled, elongated; legume terete, deflexed, 4-seeded, glabrous. ♄. S. Native of Guinea. Stem much branched; branches twiggy. Flowers red.

Panicled Indigo. Shrub 1 to 2 feet.

4 I. simplicifòlia (Lam. dict. 3. p. 251.) leaves oblong-linear, almost naked; peduncles shorter than the leaves, each bearing 3 or 4 remote flowers; legume terete, tetragonal, mucronate, erect, 12-16-seeded, glabrous. ♄. S. Native of Sierra Leone. Stem erect, much branched; branches twiggy. Leaves an inch long.

Simple-leaved Indigo. Shrub 1 to 2 feet.

5 I. filifòlia (Thunb. prod. 132. fl. cap. 595. but not of Ker.) leaves and branches filiform; the strigæ on the leaves, branches, and calyxes are few and adpressed; racemes pedunculate, few-flowered; legume deflexed, filiform. ♄. G. Native of the Cape of Good Hope. Flowers red or purple.

Thread-leaved Indigo. Fl. July, Oct. Clt. 1812. Sh. 1 ft.

6 I. oblongifòlia (Forsk. descr. 137. Vahl. symb. 1. p. 55.) leaves simple, oblong, silky; racemes axillary, 3-times longer than the leaves; calyx and vexillum villous. ♄. G. Native of Arabia Felix at Lohajam. A decoction of the herb is used in Egypt against the colic.

Oblong-leaved Indigo. Shrub.

7 I.? depre'ssa (Thunb. prod. 132. fl. cap. 596.) leaves ovate, silky; branches stiff, pubescent; spikes terminal, leafy, silky. ♄. G. Native of the Cape of Good Hope. Willd. spec. 3. p. 1222. Flowers red.

Depressed Indigo. Shrub prostrate.

8 I. ova'ta (Thunb. prod. 132. fl. cap. 596.) leaves simple, ovate, villous; stem erect, glabrous; racemes terminal, ovate. ♄. G. Native of the Cape of Good Hope. Flowers red.

Ovate-leaved Indigo. Shrub.

9 I. Mysore'nsis (Rottl. in herb. Balb.) leaves elliptic, mucronate, beset with adpressed strigæ on both surfaces; stems, branches, and legumes clothed with simple villi; flowers axillary, solitary, almost sessile, disposed in a leafy raceme; legume

nearly terete, hardly 3-times longer than the calyx. ♄. ? S. Native of the East Indies.

Mysore Indigo. Shrub.

10 I. ECHINA'TA (Willd. spec. 3. p. 1222.) leaves obovate, glabrous; stem prostrate, compressed at the apex; racemes axillary, about equal in length to the leaves; legumes falcate, echinated. ⊙. S. Native of Tranquebar. I. prostràta, Roxb. but not of Willd. Flowers purple.

Echinated-legumed Indigo. Pl. prostrate.

11 I. CORDIFÒLIA (Roth, nov. spec. 357.) hoary and pilose; leaves simple, cordate, roundish, mucronate, almost sessile; flowers axillary, sessile. ⊙. S. Native of the East Indies. Flowers small, purple.

Cordate-leaved Indigo. Pl. prostrate.

§ 2. *Oligophýlla* (from ολιγος, *oligos*, few, and φυλλον, *phyllon*, a leaf; in reference to the species contained in this section having the leaves composed of very few leaflets). *D. C. prod. 2. p. 222. Petiole elongated. Leaflets* 1 *or* 3, *terminal one stalked, the rest lateral, usually only one pair.*

12 I. MONOPHY'LLA (D. C. prod. 2. p. 222.) leaves and branches hoary from adpressed down; petiole furnished with 2 little stipulas at the base; leaflet one, obovate, mucronate, feather-nerved; racemes much longer than the leaves; corolla clothed with rufous villi; legume spreading, straight, somewhat compressed, clothed with rufescent down. ♄. G. Native of New Holland, on the eastern coast. A very distinct species: the leaves appear impari-pinnate, but are reduced to the terminal leaflet.

One-leaved Indigo. Shrub 2 feet.

13 I. DIPHY'LLA (Vent. choix. t. 30.) plant decumbent and pubescent; leaves petiolate, bifoliate; leaflets ovate, one of which is terminal the other lateral and smaller; racemes length of leaves; legumes arched, compressed, 2-4-seeded. ⊙. S. Native of Africa. Flowers small, rose-coloured.

Var. β, *lanuginòsa* (D. C. prod. 2. p. 223.) plant clothed with lanuginous strigæ; stem and legumes very hispid. ⊙. S. Native of Senegal. I. glaúca, Perr. in litt. but not of Lam.

Two-leaved Indigofera. Fl. July, Aug. Clt. 1815. Pl. dec.

14 I. SUBULA'TA (Vahl. in Poir. suppl. 3. p. 150.) erect, glabrous; leaves petiolate, trifoliate; leaflets ovate-elliptic, the lateral leaflets seldom absent; racemes slender, shorter than the leaves; legume reflexed, slender, terete, acuminated, many-seeded. ⊙. S. Native of Guinea (Thonning), Jamaica (Bertero). I. mucronàta, Spreng. in herb. Balb. Stipulas subulate. Flowers pale-red.

Subulate-stipuled Indigo. Pl. 1 foot.

15 I. CLITORIOÌDES; plant hairy, herbaceous, branched; leaves ternate; leaflets lanceolate, obtuse; racemes elongated, axillary; legume hairy, straight. ⊙. S. Native of Sierra Leone, in arid places. Flowers flesh-coloured.

Clitoria-like Indigo. Pl. 1 foot.

16 I. ELONGA'TA; herbaceous, erect; stem simple; leaves ternate; leaflets elliptic, acute, hairy; racemes elongated, axillary; legume short, compressed, hairy. ⊙. S. Native of Sierra Leone, in arid places.

Elongated-racemed Indigo. Pl. 1 foot.

17 I. PILÒSA (Poir. suppl. 3. p. 151.) branches slender, pilose; leaves of 1 or 3 elliptic leaflets, on short petioles; pedicels axillary, 1-flowered; calyxes hairy. ⊙. S. Native of Guinea. Flowers red.

Pilose Indigo. Pl. 1 foot.

18 I. LESCHENAU'LTII (D. C. prod. 2. p. 223.) branches angular, finely pubescent; leaves on long petioles, trifoliate; leaflets oval, obtuse, terminal one largest; racemes shorter than the leaves, many-flowered, sessile, only bearing fruit at the base; legumes straight, spreadingly deflexed, tetragonal, acute, 8-10-seeded. ⊙. S. Native of Bengal. Flowers purple.

Leschenault's Indigo. Fl. July, Aug. Clt. 1820. Pl. 1 ft.

19 I. TRIFOLIA'TA (Lin. amœn. 4. p. 327.) plant ascending, rather pubescent, exstipulate; leaflets 3, oval-oblong, pilose, mucronulate; flowers axillary, almost sessile, glomerate; legume obsoletely tetragonal, pendulous, scabrous, 3-6-seeded. ⊙. ? S. Native of the East Indies. Lateral leaflets opposite. Flowers red.

Trifoliate Indigo. Fl. July, Aug. Clt. 1816. Pl. ascending.

20 I. ARISTA'TA (Spreng. syst. 3. p. 273.) leaflets 3, spatulate, mucronately-awned, hoary from hairs on both surfaces; pedicels axillary, 1-flowered; calycine segments capillary and plumose. ⊙. G. Native of the Cape of Good Hope.

Awned-leaved Indigo. Pl. decumbent.

21 I. MULTICAU'LIS (D. C. prod. 2. p. 223.) stems numerous, slender, diffuse; stipulas subulate, small; leaflets 3, oblong-cuneated, obtuse, mucronulate; flowers axillary, sessile, glomerate; legumes pendulous, compressed, acute, 5-6-seeded, scabrous from adpressed pili, which are fixed by their centre, as well as the stems and leaves. ⊙. G. Native of Nipaul. I. trifoliàta, D. Don, prod. fl. nep. 245. The terminal leaflet on a short petiole. Legume obsoletely tetragonal. D. Don. Flowers small, red.

Many-stemmed Indigo. Fl. July. Pl. diffuse.

22 I. GRA'CILIS (Spreng. syst. append. p. 285.) stem diffuse, branched, smoothish; leaflets 3, elliptic, mucronate, glabrous above, but rather strigose beneath; stipulas subulate; racemes few-flowered; legumes hairy, reflexed, few-seeded. ♄. S. Native of the Cape of Good Hope. Flowers red or purple.

Slender Indigo. Shrub diffuse.

23 I. TIMORIE'NSIS (D. C. prod. 2. p. 223.) erectish, hoary in every part from adpressed pubescence, which is fixed by the centre; leaflets 3, obovate-oblong, glandless; racemes axillary, length of petioles; legumes spreading, tetragonal, straight, 6-8-seeded. ⊙. S. Native of the East Indies.

Timor Indigo. Pl. 1 foot.

24 I. GLANDULO'SA (Willd. spec. 3. p. 1227.) erect; branches angular, rather pilose; leaflets 3, oblong-obovate, pilose beneath, and covered with glandular dots; racemes shorter than the petioles; legume muricated. ⊙. S. Native of the East Indies. Flowers purple.

Glandular Indigo. Fl. July, Aug. Clt. 1820. Pl. 1 foot.

25 I. DIVERSIFÒLIA (D. C. prod. 2. p. 223.) plant diffuse, rather hoary from adpressed pubescence, which is fixed by the centre; leaflets 1 or 3, oblong, the terminal one longest, the rest solitary, alternate or opposite; peduncles 1-3-flowered, rather longer than the petioles; legumes straight, spreadingly deflexed, rather downy. ⊙. ? S. Native of Bourbon. Stem slender, a finger high, suffruticose at the base.

Diverse-leaved Indigo. Pl. diffuse.

26 I. BRACTEOLA'TA (D. C. prod. 2. p. 223.) stem herbaceous, erect, much branched; branches terete, rather hairy, at length glabrous; cauline leaves few, impari-pinnate, having 3 or 5 leaflets, those on the branches bractea-formed, oval, sessile, simple, all covered with adpressed bristles; legume oval-oblong, acute, compressed, 1-2-seeded. ⊙. S. Native of Senegal. Crotalària bracteolàta, Perr. in litt. Perhaps the axillary branches are elongated peduncles, furnished with leaf-like bracteas, and bearing solitary flowers in the axils of these bracteas.

Bracteolate Indigo. Pl. 1 foot.

27 I. BIFLÒRA (Roth. nov. spec. 358.) shrubby, erect, clothed with rufescent down; leaflets 1-3, elliptic, acuminated, 3-nerved, scabrous; peduncles axillary, 2-flowered, equal in length to the petioles; legume ovate, 2-seeded, mucronate, glabrous. ♄. S. Native of the East Indies. Flowers dark-purple.

Two-flowered Indigo. Shrub 1 to 2 feet.

28 I. PEREGRÌNA (D. C. prod. 2. p. 224.) stem terete, filiform, glabrous, suffruticose; leaflets 3, about equal in size and shape, oblong-linear, acute, pubescent above, dotted and strigose beneath; flowers 2, axillary, nearly sessile; legume reflexed, tetragonal, straight, 6-8-seeded. ☉.? S. Native of the East Indies. Lòtus peregrìnus, Burm. fl. ind. 173. but not of Lin. Trifòlium I'ndicum, flòre rùbro, Kleinh. in herb. Burm. Flowers red.

Foreign Indigo. Pl. procumbent.

29 I. DENUDA'TA (Jacq. hort. schœnbr. 2. t. 233.) suffruticose, erect, glabrous; leaflets 3, obcordate or obovate; racemes pedunculate, few-flowered, hardly twice the length of the leaves; legume terete, acute, pendulous. ♄. G. Native of the Cape of Good Hope. Lodd. bot. cab. 500. Flowers red, streaked with more intense lines. Thunb. fl. cap. 597.

Striped Indigo. Fl. May, July. Clt. 1790. Shrub 2 feet.

30 I. AMŒ'NA (Ait. hort. kew. 3. p. 68.) plant suffruticose, erect; leaflets 3, oval, rather pilose, mucronate, pale beneath; spike pedunculate, many-flowered, 4-times the length of the leaves; calyx loose; legume terete, acute, pendulous. ♄. G. Native of the Cape of Good Hope. Jacq. hort. schœnbr. 2. t. 234. Ker. bot. reg. 300. I. heterophýlla, Thunb. fl. cap. 597. Flowers deep red.

Pleasing Indigo. Fl. Mar. June. Clt. 1774. Sh. 2 to 3 ft.

31 I. RI'GIDA (Willd. enum. 780.) plant shrubby, erect; branches angular, pendulous; leaflets 3, obovately orbicular, retuse, covered beneath with strigose pili. ♄. S. Native of the East Indies. Flowers and fruit unknown.

Stiff Indigo. Fl. July, Aug. Clt. 1816. Shrub 1 to 2 feet.

32 I. MUTÌSII (Spreng. syst. 3. p. 274.) branches clothed with rufous pubescence; leaflets 3, and are as well as the stipulas ovate and glabrous; spikes of flowers panicled. ♄. G. Native of New Granada. I. Mexicàna, Lin. fil.

Mutis's Indigo. Shrub.

33 I. VIRGA'TA (D. C. prod. 2. p. 224.) plant suffruticose, erect, slender; branches terete; leaflets 3, obcordate, mucronate by an awn, somewhat coriaceous, glabrous above and pubescent beneath; racemes somewhat spicate, shorter than the leaves; calyxes villous. ♄. S. Native of the East Indies. Flowers purplish.

Var. β, parvifòlia (D. C. prod. 2. p. 224.) leaflets obovate, smaller. ♄. G. Native of China.

Twiggy Indigo. Fl. July, Aug. Clt. 1820. Sh. 1 to 2 ft.

34 I. COMPLANA'TA (Reichb. ex Spreng. syst. append. p. 284.) branches flat, 2-edged; leaflets 3, lanceolate-linear, acute, silvery beneath, from very short, adpressed strigæ; racemes many-flowered, terminal; calyx white. ♄. G. Native of the Cape of Good Hope. Flowers red.

Flat-stemmed Indigo. Shrub 1 foot.

35 I. CANE'SCENS (Lam. dict. 3. p. 251.) the whole plant clothed with adpressed canescent down; branches angular; leaflets 3, ovate, obtuse, terminal one largest; racemes axillary, sessile, shorter than the leaves; legume straight, linear, tetragonal, white, spreadingly reflexed. ♄.? S. Native of the East Indies. Flowers red.

Canescent Indigo. Shrub 1 foot.

36 I. NI'VEA (Willd. herb. ex Spreng. syst. 3. p. 273.) erect, and clothed with silky white down; leaflets 3, obovate, obtuse; racemes shorter than the leaves. ♄. G. Native of the Cape of Good Hope. Flowers red.

White-leaved Indigo. Shrub 1 to 2 feet.

37 I. PAUCIFÒLIA (Delil. fl. ægypt. 107. t. 37. f. 22.) plant shrubby, erect, clothed with white adpressed down; branches terete; leaflets 1 to 4, oblong, mucronulate, lower ones smallest, usually alternate; racemes somewhat spicate, longer than the leaves; legumes somewhat filiform, torulose. ♄. G. Native of Egypt, in Elephant Island, and of the East Indies. Flowers probably red. Very like the following species.

Few-leaved Indigo. Shrub 1 to 2 feet.

§ 3. *Multijugæ* (from *multus*, many, and *jugum*, a yoke or pair; in reference to the leaves being composed of many yokes or pairs of leaflets). *Leaves impari-pinnate, having usually many pairs of leaflets, rarely 2 pairs only.*

* *Petioles elongated. Stems shrubby.*

38 I. ARGE'NTEA (Lin. mant. 27. but not of Burm.) shrubby; branches terete, white from silky adpressed down; leaves with 1-2 pairs of obovate leaflets, which are clothed with silky pubescence; racemes shorter than the leaves; legumes pendulous, somewhat compressed, torulose, canescent, 2-4-seeded. ♄. G. Native of Egypt, Arabia, and the East Indies. Lher. stirp. t. 29. I. articulàta, Gouan. ill. 49. I. glaúca, Lam. dict. 3. p. 246. I. tinctòria, Forsk. descr. 138. This plant is gathered in Barbary and Egypt for indigo. According to Desfontaines it is cultivated extensively in the kingdom of Tunis for dyeing; but he says it is not indigenous there. The Arabs call it *Habnil*. Flowers with the vexillum and keel yellow and wings red.

Silvery or Arabian Indigo. Fl. July, Aug. Clt. 1776. Sh. 2 to 3 feet.

39 I. TINCTÒRIA (Lin. spec. 1061.) stem suffruticose, erect; leaves pinnate, with 4-7 pairs of obovate leaflets, which are pubescent beneath; racemes axillary, shorter than the leaves; legumes terete, torulose, arched, 8-10-seeded. ♄. S. Native of both Indies and tropical Africa, where it is cultivated to a great extent.—Sloan. jam. 2. t. 179. f. 2.—Rheed. mal. 1. t. 54. Rumph. amb. 5. t. 8. I. Sumatràna, Gærtn. fruct. 2. p. 317. t. 148. Lam. ill. t. 626. f. 1. Perhaps I. cærùlea of Roxb. hort. beng. p. 55. is sufficiently distinct from this plant. I. I'ndica, Lam. dict. 3. p. 245. Flowers with a pale vexillum and red keel and wings. *Indigo* is one of the most profitable articles of culture in Hindostan, because an immense extent of land is required to produce but a moderate bulk of the dye; because labour and land there is cheaper than any where else, and because the raising of the plant and its manufacture may be carried on even without the aid of a house. The first step in the culture of the plant is to render the ground, which should be friable and rich, perfectly free from weeds, and dry if naturally moist. The seeds are then sown in shallow drills about a foot apart. The rainy season must be chosen for sowing, otherwise if the seed is deposited in a dry soil or in the dry season, it heats, corrupts, and is lost. The crop, being kept clear of weeds, is fit for cutting in 2 or 3 months, and it may be repeated in the rainy season every six weeks. The plants must not be allowed to come into flower, as the leaves at that time become dry and hard, and the *indigo* produced is of less value, nor must they be cut in dry weather, as they would not spring again. A crop generally lasts two years. Being cut, the herb is first steeped in a vat till it has become macerated, and parted with its colouring matter, then the liquor is let off into another vat, in which it undergoes the peculiar process of beating, to cause the fecula to separate from the water. This fecula is then let off into a third vat, where it remains some time, and is then strained through cloth bags, and evaporated in shallow wooden boxes placed in the shade. Before it is perfectly dry it is cut into small pieces of an inch square; it is then packed in barrels or stowed in sacks for sale. *Indigo* was not extensively cultivated in India before the British settlements were formed there; its profits were at first so considerable, that, as in similar cases, its culture was carried too far, and the market glutted with the commodity. The *indigo* is one of the most precarious of oriental crops, being liable to be destroyed by hail-storms,

which do comparatively little injury to the sugar-cane and other plants.

Indigo has long been cultivated in Spain, but has been long on the decline in that country, owing to the more favorable circumstances of the East and West Indies. It was tried in the south of France and Italy during the time of Bonaparte, but found not worth following for the same reason.

The *indigo* commonly cultivated in the West Indies is the *I. A'nil*, and sometimes *I. tinctòria* and *I. Guatimàla*, though there are various species and varieties which afford a similar dye. *Indigo* thrives best in free rich soil and a warm situation, frequently refreshed with moisture. Having first chosen a piece of ground and cleared it, hoe it into little trenches, not above two inches or two inches and a half in depth, and not more than 14 or 15 inches asunder. In the bottom of these at any season of the year, strew the seeds pretty thick, and immediately cover them. As the plants shoot they should be frequently weeded, and kept constantly clean, until they spread sufficiently to cover the ground. Those who cultivate *indigo* in great quantities, only strew the seed pretty thick in little shallow pits, hoed up irregularly, but generally within 4-5 or 6 inches of each other, and covered as before. Plants raised in this manner are observed to answer as well or rather better than the others, but they require more care in the weeding. The plants grow to full perfection in 2 or 3 months, and are observed to answer when cut in full blossom. They are cut with reaping hooks, a few inches above the root, tied in loads, carried to the works, and laid by strata in the steeper. Seventeen negros are sufficient to manage twenty acres of *indigo;* and one acre of rich land, well planted, will, with good seasons and proper management, yield 500 pounds of *indigo* in twelve months, for the plant after being cut sends out stolons or new growths, and gives 4 or 5 crops a-year, but must be replanted or resown afterwards. (P. Browne.)

According to Loureiro *indigo* is spontaneous in China and Cochin-china, and is cultivated all over those vast empires. The ancients were acquainted with the dye which we call *indigo* under the name of *indicum.* Pliny knew that it was a preparation of vegetable substance, though he was not acquainted with the plant nor the process of making the dye. Even at the close of the sixteenth century it was not known in England what plant produced *indigo.* For in the Remembrancer for Master T. by Richard Harkluyt in 1582, he was instructed "to know if *Anil*, that coloureth blew, be a natural commodity of those parts (Turkey) and if it be compounded of an herbe, to send the seed or root, with the order of sowing, &c. that it may become a natural commodity in the realme as woad is, that the high price of foreign woad might be brought down."

Dyer's Indigo. Fl. July, Aug. Clt. 1731. Shrub 2 to 3 ft.

40 I. GUATIMA'LA (Lun. hort. jam. 1. p. 420.) plant shrubby, erect; leaves pinnate, with 4 or 5 pairs of lanceolate leaflets, which are hoary beneath; racemes axillary, shorter than the leaves; legumes recurved, declining, gibbous at the sutures, many-seeded. ♄. S. Native of South America, at Guatimala. I. tinctòria β, brachycárpa, D. C. prod. 2. p. 224. Flowers red. Dr. Patrick Browne says this plant seldom exceeds 3 or 4 feet high, throwing out many suberect branches as it rises. It is said to be much hardier than *I. tinctòria* or *I. Anil*, and affords a finer pulp, but it does not yield so great a quantity, and is only cultivated where the seasons are not so certain, or in mixed fields. The former yielding more of the dye than either of the others is generally preferred, though liable to many more mischances.

Guatimala Indigo. Fl. July, Aug. Clt. 1731. Sh. 3 to 4 ft.

41 I. A'NIL (Lin. mant. 272.) stems shrubby, erect; leaves pinnate, having 3-7 pairs of oval or oblong leaflets, hardly pubescent beneath; racemes axillary, shorter than the leaves; legumes compressed, not torulose, deflexed, arched, with the sutures on both sides rather prominent. ♄. S. Native of South America, spontaneous, but cultivated for indigo in both Indies. See *I. tinctòria* for culture and uses. Mr. Miller says this plant grows to the height of 5 or 6 feet (if this be his *I. suffruticòsa*), and that being a much larger plant than *I. tinctòria*, it will afford a greater quantity of *indigo* from the same compass of ground, than any of the other species, especially if cut before the stems grow woody; it will also grow on poorer land. It is very common in Jamaica, growing wild in all the savannahs, where doubtless it had been cultivated in former times. It is hardier than any of the other sorts, and grows very luxuriantly, even in the dryest lands; but it does not yield so much pulp, according to P. Browne; the dye, however, that is extracted from it is generally the best, of a fine copperish cast, and of a fine grain. The plant is called *Hab-nil* or *Nilè* by the Arabs, and *Nil* by the Bengalese.

Var. α, *oligophýlla* (D. C. prod. 2. p. 225.) leaves having 3-4 pairs of leaflets; legumes arched. ♄. S. Sloan. jam. t. 176. f. 3. Lam. ill. t. 629. f. 2. Native of South America, and the West Indies.

Var. β, *polyphýlla* (D. C. l. c.) leaves having 5-7 pairs of leaflets; legumes arched. ♄. S. I. Cornezuèlo, Moc. et Sesse, fl. mex. icon. ined. Native of South America, and the West Indies.

Var. γ, *orthocárpa* (D. C. l. c.) leaves having 5-7 pairs of leaflets; legume deflexed, straight. ♄. S.—Rumph. amb. 5. t. 80. ? East Indies and Madagascar. Perhaps a proper species.

Anil or West Indian Indigo. Fl. July, Aug. Clt. 1731. Shrub 2 to 4 feet.

42 I. THIBAUDIA'NA (D. C. prod. 2. p. 225.) stem suffruticose, erect; leaves pinnate, having 10 or 11 pairs of elliptic, retuse, mucronate leaflets, which are pubescent on both surfaces; racemes length of leaves; legume pendulous, straight, linear, compressed, tapering into an acumen at the apex, 8-10-seeded. ♄. S. Native of Mexico. Legumes disposed in a raceme, which is 30 or 40 inches long. Flowers dark purple.

Thibaud's Indigo. Shrub 5 to 6 feet.

43 I. LEPTOSTA'CHYA (D. C. prod. 2. p. 225.) stem suffruticose, erect; leaves pinnate, with 5-10 pairs of leaflets; leaflets elliptic-obovate, retuse, mucronulate, rather pubescent on both surfaces; racemes axillary, slender, length of leaves; flowers distant, erect; legumes reflexed, straight. ♄. S. Native of the East Indies. Flowers red, about 20 in a spike.

Slender-spiked Indigo. Fl. Ju. Jul. Clt. 1818. Sh. 2 to 3 ft.

44 I. UNCINA'TA; shrubby, erectish, branched, stiff; leaves pinnate, with 5 pairs of lanceolate, mucronate pubescent leaflets; racemes short, spicate, axillary, sessile; legumes arched, crowded. ♄. S. Native of Sierra Leone, in waste places.

Hooked-podded Indigo. Shrub 2 feet.

45 I. ATROPURPU'REA (Hamilt. in Horn. hort. hafn. add. 152.) shrubby, erect; leaves pinnate, with 5-7 or 10 pairs of oval, retuse, mucronulate leaflets, having their margins rather undulated, younger ones covered with adpressed pubescence, adult ones nearly glabrous; racemes axillary, slender, lower ones length of leaves; calyx silky; legume straight, compressed, mucronate, pendulous, 8-10-seeded. ♄. G. Native of Nipaul, at Narain-hetty. D. Don, prod. fl. nep. 244. Flowers shewy, dark-purple. Stipulas obsolete.

Dark-purple-flowered Indigo. Fl. June, Aug. Clt. 1810. Shrub 5 to 6 feet.

46 I. DÒSUA (D. Don, prod. fl. nep. 244.) shrubby; leaves pinnate, having 10-16 pairs of oval, retuse, mucronulate leaflets, which are clothed with rufescent pili on both surfaces, as well as the branches; spikes axillary, shorter than the leaves; bracteas and stipulas linear and hispid; teeth of calyx ovate,

acute. ♄. G. Native of Upper Nipaul, at Suembu, where it is called *Dosi-swa* by the Nawaris. Flowers purple.

Dosi-swa Indigo. Shrub 2 to 4 feet.

47 I. galegoìdes (D. C. prod. 2. p. 225.) stem erect; leaves pinnate, having 8 or 9 pairs of elliptic, mucronate leaflets, which are beset with minute pubescence on both surfaces; racemes axillary, one half shorter than the leaves; legumes erect, straight, linear, acuminated, compressed, rather callous at the sutures on both sides. 10-12-seeded. ♄. S. Native of Ceylon. Legume 2 inches long and hardly a line broad.

Galega-like Indigo. Shrub 3 to 4 feet.

48 I. cassioìdes (Rottl. ex herb. Balb. D. C. prod. 2. p. 225.) stem suffruticose, erect; leaves pinnate, having 4 or 5 pairs of elliptic-obovate, retuse, mucronulate leaflets, which are rather pubescent on both surfaces; racemes length of leaves; legumes spreading, rather compressed, glabrous, 10-seeded, with the suture thick and prominent on both sides. ♄. S. Native of India, on the Nelligery mountains, where it is called *Maniligueda.* The leaves are nearly like those of a species of *Colùtea.* Legume stiff, an inch long.

Cassia-like Indigo. Shrub 3 to 4 feet.

49 I. cylíndrica (D. C. prod. 2. p. 225.) stem suffruticose; leaves pinnate, having 4 or 5 pairs of obovate, obtuse, or emarginate, glabrous leaflets; racemes longer than the leaves; legumes spreading, straight, cylindrical, 8-10-seeded, glabrous, with the sutures not prominent. ♄. G. Native of the Cape of Good Hope. Leaves very like those of *Colùtea.* The legume almost like that of *Calophàca,* about an inch long, and about 2 or 3 lines in diameter.

Cylindrical-podded Indigo. Shrub 1 to 2 feet.

50 I. ju'ncea (Delaum. herb. amat. t. 227.) stem shrubby, erect, and is as well as the leaves smooth; petioles elongated, filiform, in the young plants the leaves are furnished with 3 or 4 pairs of obovate-oblong leaflets, but at length almost all nearly leafless; racemes erect, shorter than the petioles; legumes reflexed. ♄. G. Native of the Cape of Good Hope. I. aphýlla, Link. enum. 2. p. 251. I. filifòlia, Ker. bot. reg. 104. Lebéckia contaminàta, Ait. hort. kew. ed. 2. vol. 4. p. 261. but not of Thunb. Spártium contaminàtum, Ait. hort. kew. ed. 1. vol. 3. p. 10. but not of Lin. Flowers purple.

Rushy Indigo. Fl. June, July. Clt. ? Shrub 1 to 2 feet.

51 I. austra'lis (Willd. spec. 3. p. 1235.) shrubby; branches terete, rather pubescent; leaves pinnate, having 5-7 pairs of elliptic-obtuse, glabrous leaflets; racemes rather shorter than the leaves; legumes spreading, terete. straight, glabrous, 8-10-seeded. ♄. G. Native of New Holland. Lodd. bot. cab. 149. Ker. bot. reg. 365. Flowers rose-coloured.

Southern Indigo. Fl. Mar. June. Clt. 1790. Sh. 3 to 4 ft.

52 I. sylva'tica (Sieb. pl. exsic. nov. holl. no. 379.) erect, shrubby; stem and branches acutely angled; leaves with 4-7 pairs of leaflets; leaflets nearly equal, elliptic, quite smooth, for the most part emarginate; racemes shorter than the leaves, or about the same length. ♄. G. Native of New Holland. Hook, in bot. mag. 3000. I. angulàta, Lindl. bot. reg. 2578. I. speciòsa, Fraser, mss. Flowers rose-coloured, inclining to purple. A very showy plant.

Wood Indigo. Fl. Mar. June. Clt. 1824. Sh. 3 to 8 feet.

53 I. nu'da (G. Don, in Loud. hort. brit. p. 301.) plant almost leafless; branches terete, mucronate; racemes axillary; corolla, calyx, and pedicels purple. ♄. G. Native of the Cape of Good Hope. Racemes long, in the axils of the branches. Lebéckia nùda, Sims, bot. mag. t. 2214. Flowers purple.

Naked Indigo. Fl. June, July. Clt. 1816. Shrub 2 to 3 ft.

54 I. macrosta'chya (Vent. malm. t. 44.) shrubby; branches terete, clothed with adpressed pubescence; leaves pinnate, having 8 or 10 pairs of oval-oblong, obtuse, mucronate, pubescent leaflets; racemes many-flowered, longer than the leaves. ♄. G. Native of China. Flowers rose-coloured, those on the lower part of the raceme soon falling off in the gardens.

Long-spiked Indigo. Fl. June, July. Clt. ? Sh. 2 to 3 ft.

55 I. polyca'rpa (Willd. herb. ex Spreng. syst. 3. p. 276.) shrubby, erect; leaves with 5 pairs of obovate-oblong leaflets, which are rather strigose on both surfaces; racemes many-flowered, about equal in length to the leaves; legumes reflexed, tetragonal. ♄. S. Native of South America.

Many-fruited Indigo. Shrub 1 to 3 feet.

56 I. frute'scens (Lin. fil. sùppl. 334.) stem shrubby, terete, beset with short hairs at the apex, which are fixed by their centre, as well as the under side of the leaves; leaves pinnate, with 2 or 4 pairs of obovate-oblong leaflets; racemes a little longer than the leaves. ♄. G. Native of the Cape of Good Hope. Thunb. fl. cap. 598. Flowers red.

Shrubby Indigo. Fl. May, Aug. Clt. 1822. Sh. 2 to 3 ft.

57 I. emargina'ta; shrubby, branched, spreading; leaves with 3 pairs of obovate-oblong, emarginate leaflets; flowers in axillary and terminal panicles. ♄. S. Native of Sierra Leone, at the edges of woods. Flowers dark purple.

Emarginate-leafletted Indigo. Shrub 2 to 3 feet.

58 I. divarica'ta (Jacq. hort. schœnbr. t. 365.) shrubby; branches spreading much, puberulous, sulcated; leaves pinnate, with 4 or 5 pairs of elliptic-oblong, mucronate leaflets, which are clothed with adpressed pubescence beneath; racemes shorter than the leaves; legume spreading, arched upwards, rather tetragonal, and somewhat nodulose, 6-8-seeded. ♄. G. Native of? Flowers red. Lower leaves having 2 or 3 pairs of leaflets, the upper with 6 or 7 pairs.

Divaricate-branched Indigo. Fl. July, Aug. Clt. ? Shrub 2 to 3 feet.

59 I. compre'ssa (Lam. dict. 3. p. 248.) shrubby; branches glabrous, compressed, flat; leaves pinnate, having 1 or 2 pairs of leaflets; leaflets ovate-lanceolate, rather silky, minute; racemes slender, longer than the leaves, 5-6-flowered; legume nearly terete, straight, smoothish. ♄. S. Native of Madagascar. Flowers red.

Compressed-stemmed Indigo. Shrub 1 to 2 feet.

60 I. cinera'scens (D. C. prod. 2. p. 226.) shrubby; branches terete, slender, velvety at the apex from cinereous, rufescent, very short down; leaves pinnate, with 2 or 4 pairs of obovate, obtuse leaflets, which are clothed with cinereous pubescence beneath; racemes much shorter than the leaves, floriferous at the base. ♄. S. Native of the Mauritius.

Greyish Indigo. Shrub 1 to 2 feet.

61 I. hu'milis (H. B. et Kunth, nov. gen. amer. 6. p. 451.) shrubby, procumbent, silvery from silky strigæ; leaves pinnate, having 2 or 4 pairs of oblong, acutish, stiff leaflets; racemes few-flowered, much exceeding the leaves; legumes reflexed, rather terete, straight, usually 2-seeded. ♄. S. Native of Peru, [illegible] the mountains near Caxamarca. Flowers red.

Hu[illegible]o. Shrub procumbent.

6[illegible]es (H. B. et Kunth, l. c. p. 455. t. 580.) shrubby, [illegible]ulate, lo[illegible]mbing, when young clothed with adpressed, strigose villi; [illegible]s pinnate, with 6 to 9 pairs of leaflets; leaflets oblong, mucronately awned, clothed beneath with silky and silvery strigæ; racemes on very long peduncles; legumes reflexed, pendulous, tetragonal, straight. ♄. S. Native of Quito, near Cuenca. Flowers red. Ova 10 or 12, but the seeds are only 5 or 6, from abortion.

Tephrosia-like Indigo. Shrub 2 to 3 feet.

63 I. Truxille'nsis (H. B. et Kunth, l. c.) shrubby, much branched; branches clothed with ferruginous strigæ; leaves pinnate; leaflets 5 or 6 pairs, oblong, obtuse, mucronate, cuneated at the base, strigose on both surfaces, but especially on

the under; racemes many-flowered, nearly sessile, shorter than the leaves; legumes reflexed, nearly terete, rather falcate, 4-6-seeded. ♄. S. Native on the shores of Peru, near Truxillo. Flowers rose-coloured.

Truxillo Indigo. Shrub 6 feet.

64 I. LESPEDEZIOÏDES (H. B. et Kunth, l. c.) shrubby; leaves pinnate; leaflets 3 pairs, cuneate-lanceolate, rounded at the apex and mucronate, acute at the base, beset with strigæ on both surfaces as well as the branches, glaucescent beneath; racemes many-flowered, on short peduncles, exceeding the leaves; legumes reflexed, rather compressed, straight, usually 8-seeded. ♄. G. Native of Mexico, on Mount Jorullo. Flowers red.

Lespedeza-like Indigo. Shrub 1 to 3 feet.

65 I. ARBORE'SCENS (Zucc. obs. 1. no. 84.) stems shrubby; rough from papulæ; branches terete, scabrous from adpressed bristles; leaves pinnate, with 4 to 8 pairs of oblong, mucronate leaflets, which are also beset with adpressed bristles beneath; racemes almost terminal, twice the length of the leaves; legumes spreading, terete, linear, glabrous. ♄. S. Native of?

Arborescent Indigo. Shrub.

66 I. SECUNDIFLÒRA (Poir. suppl. 3. p. 148.) shrubby; branches terete, and are as well as the leaves beset with clammy pili; leaves pinnate, with 2 or 3 pairs of almost lanceolate leaflets; racemes shorter than the leaves; flowers secund; calyx very pilose; legume almost cylindrical, mucronate, hairy. ♄. S. Native of Guinea. I. glutinòsa, Vahl. in herb. Desf. Flowers red.

Secund-flowered Indigo. Shrub 1 to 3 feet.

67 I. BERTERIA'NA (Spreng. syst. 3. p. 277.) shrubby, decumbent; leaves with usually 4 pairs of oblong-spatulate leaflets, which are clothed with white silky pubescence beneath; peduncles axillary, usually 1-flowered; legumes linear, straight. ♄. S. Native of Guadaloupe. Flowers red.

Bertero's Indigo. Shrub decumbent.

68 I. MUCRONA'TA (Spreng. in herb. Balb. D. C. prod. 2. p. 227.) stem terete, suffrutescent at the base; petioles and leaves clothed with adpressed strigæ on both surfaces; leaves pinnate, with 2 pairs of mucronate, ovate leaflets, which are pale beneath; racemes pedunculate, longer than the leaves; legumes [illegible] straight, a little tetragonal, mucronate, clothed with reflexed, [illegible]gence, many-seeded. ♄. S. Native of Jamaica. strigose pubesc[illegible] Shrub 2 to 3 feet.

Mucronate-leafletted In[illegible]

§ 2, [illegible]ed. *Stem herbaceous.*

* * *Petioles elong*[illegible]

69 I. INQUI'NANS (Willd. spec. 3. p. 1236.) stem herbaceous, [illegible] ranche[illegible]pid from clammy erect, and is as well as the terete [illegible] with adpressed pili; leaflets 4-5 pairs, elliptic-oblong [illegible] the leaves; legumes white pili beneath; racemes shorter th[illegible]-10-seeded. ⊙. S. spreading, straight, terete, rather pilose, 8[illegible] plant is cultivated Native of St. Domingo. Flowers red. This for Indigo in St. Domingo.

Dyeing Indigo. Pl. 1 foot.

70 I. LATERI'TIA (Willd. spec. 3. p. 1233.) [illegible]rica, at Guinea[illegible] herbaceous, erect, pilose, clammy; leaves with 1 or 2 pairs [illegible]24. Flowers villous leaflets; racemes usually about equal in length [illegible]seed[illegible] the leaves; legumes tetragonal, hairy, straight, 8-10-seeded. ⊙. S. Native of Guinea, particularly in the island of St. Thomas. I. hirsùta, Jacq. icon. rar. t. 359. coll. 2. p. 359. but not of Lin. Flowers red.

Brick-coloured-haired Indigo. Fl. Ju. Jul. Clt. 1806. Pl 1 ft.

71 I. VISCÒSA (Lam. dict. 3. p. 247.) stem herbaceous, erect, and is as well as the terete branches, rather hispid from clammy pili; leaves with 6 pairs of oblong-elliptic leaflets, which are clothed with adpressed bristles beneath; racemes shorter than the leaves; legumes spreading, straight, somewhat compressed, rather pilose, 8-10-seeded. ⊙. S. Nativ[illegible] stems herbaceous, I. graveòlens, Wendl. sert. han. t. 12. Flowe[illegible]duncles 2- species is very like *I. lateritia.* [illegible]ecies.

Var. β; stem rather diffuse. ⊙. S. Native of the is[illegible] of Timor.

Clammy Indigo. Fl. July, Aug. Clt. 1806. Pl. 1 foot.

72 I. GLUTINÒSA (Perr. in litt. but not of Vahl. D. C. prod. 2. p. 227.) stem almost herbaceous, much branched; branches terete, beset with glutinous hairs; leaves with 3 pairs of elliptic-obovate leaflets, which are clothed with adpressed bristles beneath; racemes a little longer than the leaves; flowers distant; legumes straight, nearly terete, erect, clothed with clammy hairs, 8-10-seeded. ⊙. S. Native of Guinea, particularly in Senegal. Flowers red.

Glutinous-haired Indigo. Pl. 1 foot.

73 I. DENDROÏDES (Jacq. icon. rar. 3. t. 571. coll. 2. p. 357.) stem herbaceous, erect, and is as well as the terete branches smoothish; leaves with 6-15 pairs of oblong leaflets, which are clothed on both surfaces with very minute adpressed pubescence; racemes slender, a little longer than the leaves; legume erect, terete, straight, mucronate, smoothish, 8-12-seeded. ⊙. S. Native of Guinea. Flowers rose-coloured.

Tree-like Indigo. Pl. 1 foot.

74 I. POLYPHY'LLA (D. C. prod. 2. p. 227.) stem herbaceous, erect, scabrous from strigæ; leaves with 12-16 pairs of elliptic leaflets, which are scabrous on the upper surface, and clothed with white tomentum on the under; racemes length of leaves; legumes pendulous, straight. ⊙. G. Native of Nipaul. Habit almost of a species of *Dàlea.* Racemes and branches clothed with rufous villi. Stamens diadelphous. Ovary linear, compressed, almost tetragonal, acuminated by the style.

Many-leafletted Indigo. Pl. 1 foot.

75 I. HETERO'TRICHA (D. C. prod. 2. p. 227.) stem almost herbaceous, terete; branches and peduncles hispid from long, stiff, bristly hairs, which are hooked at their apexes; leaves with 4-6 pairs of elliptic or obovate, mucronate leaflets, which are beset with adpressed strigæ beneath; racemes much longer than the leaves, pedunculate; legumes reflexed, terete, mucronate, bearing adpressed strigæ and bristly hairs. ♄. ? G. Native of the Cape of Good Hope. Burch, cat. geogr. no. 2635. Flowers red? A very distinct species.

Variable-haired Indigo. Pl. 1 to 2 feet.

76 I. DOMINGE'NSIS (Spreng. in herb. Balb. D. C. prod. l. c.) stems somewhat herbaceous; branches rather villous, and rather compressed at the apex; leaves with 4 pairs of obovate leaflets, which are dotted beneath and covered with adpressed pubescence on both surfaces; racemes longer than the leaves, crowded with flowers; legumes pendulous, terete, rather torulose, and rather villous, 3-4-seeded. ⊙. ? S. Native of St. Domingo. Allied to the following and *I. enneaphýlla.* Flowers rose-coloured.

St. Domingo Indigo. Pl. 1 foot.

77 I. OLIGOSPE'RMA (D. C. prod. 2. p. 228.) stem herbaceous, erect; branches angular at the apex and pubescent; leaves with 4-5 pairs of elliptic-oblong, mucronate leaflets, which are covered with adpressed bristly hairs on both surfaces; racemes length of leaves; legumes terete, villous, and bristly, 2-3-seeded, spreadingly-reflexed. ⊙. S. Native of Senegal. It differs from *I. dispérma* in the leaves not being glabrous, in the legumes being more slender and not torulose, and in being much more villous. Flowers red.

Few-seeded Indigo. Pl. 1 foot.

78 I. DISPE'RMA (Lin. syst. nat. 3. p. 232.) stem herbaceous? branches terete; leaves with 4-6 pairs of elliptic-oblong, glabrous leaflets; racemes slender, longer than the leaves; legumes terete, rather torulose, mucronate, 2-seeded, scabrous

Native of the C[illegible] (ex icon.). ⊙.? S. Native of the Indies. p. 249. Fl. et. t. 55. Flowers rose-coloured.

Ca[illegible]seeded Indigo. Pl. 1 foot.

79 I. FU'SCA; stem erect, beset with long brown hairs; leaves with 2 or 3 pairs of cuneated, mucronate, pilose leaflets; stipulas filiform, also pilose; spikes or racemes of flowers axillary or lateral; calyx and legume clothed with fuscous hairs. ⊙. S. Native of Guinea, among grass. Flowers small, flesh-coloured.

Fuscous-haired Indigo. Fl. July, Aug. Clt. 1823. Pl. 1 ft.

80 I. HIRSU'TA (Lin. spec. 1062. but not of Jacq.) stem suffruticose, erect; branches terete, and are as well as the petioles and peduncles hairy; leaves with 3-5 pairs of obovate-oblong, obtuse leaflets, which are villous on both surfaces; racemes longer than the leaves; legumes tetragonal, 6-seeded, pendulous, hairy. ♄. S. Native of the East Indies and Guinea. Lam. ill. t. 626. f. 3. I. I'ndica, Mill. dict. no. 4. but not of Lam.—Burm. zeyl. 37. t. 14. Rheed. mal. 1. t. 55. Flowers purple or red.

Hairy Indigo. Fl. July, Aug. Clt. 1823. Pl. 1 foot.

81 I. ASTRAGALÌNA (D. C. prod. 2. p. 228.) stem herbaceous, erect, rough from simple hairs; leaves having 4 pairs of obovate, very obtuse leaflets, which are villous on both surfaces and white beneath; racemes shorter than the leaves; legume tetragonal, pendulous, very hairy, 2-seeded. ⊙. S. Native of Senegal. Astrágalus, Perr. in litt. 1825. This species is very nearly allied to the preceding, but the hairs on the upper surface of the leaves are adpressed and scarcely or not bifurcate. Flowers red.

Milk-vetch-like Indigo. Pl. 1 foot.

82 I. SENEGALE'NSIS (Lam. dict. 3. p. 248.) stem herbaceous, decumbent; branches slender, angular; leaves with from 1-3 pairs of leaflets; leaflets oblong, beset with adpressed bristly hairs on both surfaces; racemes longer than the leaves; legumes pendulous, much compressed, puberulous, oblong, mucronate, 3-4-seeded. ⊙. S. Native of Senegal. I. tetraspérma, Vahl. ex herb. Juss. Habit of a species of *E'rvum.* This is a very distinct species. Flowers red.

Senegal Indigo. Pl. procumbent.

83 I. PA'RVULA (Gailliaud, voy. mer. part. bot. t. 3. f. 1.) branches diffuse; leaves pinnate, with 2 or 3 pairs of obovate, grey leaflets; stipulas awl-shaped; spike of flowers about equal in length to the leaves. ⊙. F. Native of Nubia. Flowers red.

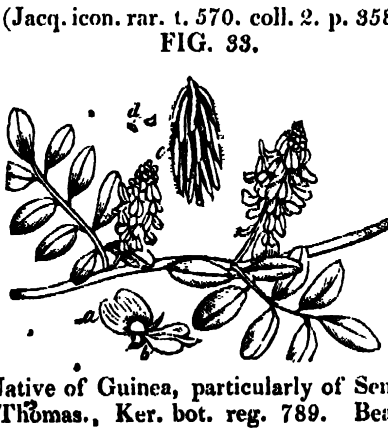
Least Indigo. Pl. diffuse.

84 I. LINEA'RIS (D. C. prod. 2. p. 228.) stems herbaceous, rather diffuse; branches slender, angular; leaves having 1 or 2 pairs of linear leaflets, which are beset with adpressed bristly hairs on both surfaces; racemes rather longer than the leaves; legumes pendulous, linear, mucronate, straight, much compressed, scabrous, and puberulous, 10-12-seeded. ⊙. S. Native of Senegal. Flowers red.

Linear-leafletted Indigo. Pl. diffuse.

85 I. HENDECAPHY'LLA (Jacq. icon. rar. t. 570. coll. 2. p. 358.) stem herbaceous, prostrate; branches terete and are as well as the leaves slightly covered with cinereous pubescence on both surfaces; leaves with 4-5 pairs of obovate, oblong, cuneated, obtuse leaflets; racemes shorter than the leaves; legumes reflexed, terete, but slightly tetragonal, straight, villous, 8-10-seeded. ♃. S. Native of Guinea, particularly of Senegal and the island of St. Thomas., Ker. bot. reg. 789. Beau. fl. d'ow. 2. t. 84. Flowers rose-coloured. The plants of this species which are cultivated in the gardens are almost smooth, except the under surface of the leaves.

FIG. 33.



Eleven-leafletted Indigo. Fl. July, Aug. Clt. 1824. Pl. pr.

86 I. PERROTTE'TII (D. C. prod. 2. p. 228.) stems herbaceous, prostrate, young ones compressed, and clothed with villous pubescence; leaves with 3 or 4 pairs of oblong-obovate leaflets, clothed on both surfaces with canescent pubescence, besides being dotted beneath; racemes crowded with flowers, shorter than the leaves; legumes oblong, terete, straight, pubescent, 3-1-seeded. ⊙.? S. Native of Senegal. I. prostràta, Perr. in litt. but not of Willd. Very like *I. enneaphýlla*, but the petioles are longer, the stipulas linear-subulate, and the legume 3-4-seeded. Flowers red.

Perrottet's Indigo. Pl. prostrate.

87 I. SESSILIFLÒRA (D. C. prod. 2. p. 228.) stem herbaceous, erect, much branched; branches terete, and are as well as the leaves clothed with adpressed silky pubescence; leaflets 3 or 4 pairs, obovate; spikes crowded with flowers, sessile in the axils of the leaves, and shorter than them; legume terete, pubescent, straight, 4-6-seeded. ⊙. S. Native of Senegal. Root simple, cylindrical, rather fusiform. Flowers red.

Sessile-flowered Indigo. Pl. 1 foot.

88 I. A'NCEPS (Vahl. in Poir. suppl. 3. p. 147.) stems herbaceous, compressed, 2-edged, glabrous; leaflets 9 or 11, alternate, obovate-oblong, obtuse, smoothish; racemes longer than the leaves; legumes pendulous, linear, compressed, acute, puberulous, 8-10-seeded. ⊙. S. Native of Guinea. Flowers rose-coloured.

Two-edged-stemmed Indigo. Pl. prostrate.

89 I. ALTE'RNANS (D. C. prod. 2. p. 229.) branches filiform, and are as well as the leaves clothed with adpressed, bristly hairs; leaflets 7-11, alternate, obovate, or oblong, a little mucronulate; racemes longer than the leaves; calycine lobes ending each in a setaceous acumen, about equal in length to the corolla; legumes reflexed. ♄.? G. Native of the Cape of Good Hope. Burch. cat. no. 2079. Flowers reddish. Perhaps the same as *I. punctàta*, Thunb. prod. 133. fl. cap. 599. but there are nothing like dots on the present plant to be seen.

Alternating-leafletted Indigo. Pl. 1 foot.

90 I. CAROLINIA'NA (Walt. car. 187.) stem herbaceous, erect; branches terete; leaves with 6 or 7 pairs of oval-oblong leaflets, which are slightly covered with adpressed pubescence; racemes slender, longer than the leaves; legumes pendulous, usually 2-seeded, reticulately veined. ♃. G. Native of North America, from Carolina to Florida. Mich. fl. bor. amer. 2. p. 68. Flowers blue.

Carolinian Indigo. Pl. 1 foot.

91 I. LAGASCA'NA (D. C. prod. 2. p. 229.) stems herbaceous, erect; branches terete, beset with adpressed bristly hairs, canescent at the apex; stipulas linear, acuminated, rufous, and scarious; leaves with 5 pairs of obovate or oblong, mucronate leaflets, young ones clothed on both surfaces with adpressed bristly hairs, the adult ones only on the under surface; racemes pedunculate, longer than the leaves; legumes reflexed. Native of Peru, at Cheuchim. Flowers red?

Lagasca's Indigo. Pl. 1 foot.

92 I. PLUMÒSA (Spreng. syst. 3. p. 278.) plant decumbent and villous; leaflets usually about 8 pairs, spatulate, emarginate; racemes few-flowered, on long peduncles; calycine segments at length elongated, very villous and plumose. ⊙.? S. Native of?

Feathery-calyxed Indigo. Pl. decumbent.

93 I. A'SPERA (Perr. in litt. D. C. prod. 2. p. 229.) stem herbaceous, erect, branched; branches terete; leaves and peduncles covered with adpressed strigæ; leaves with 1 or 2 pairs of linear, acute leaflets; racemes slender, longer than the leaves; legumes

reflexed. ⊙. S. Native of Senegal, on plains near Richard-Tole. Flowers red. Habit nearly like that of *I. psoraleoìdes*, but differs in the leaves being pinnate.

Rough Indigo. Pl. 1 foot.

94 I. JAMAICE'NSIS (Spreng. syst. 3. p. 277.) herbaceous; leaves with 3 pairs of oblong, mucronate leaflets, and are as well as the erect angular branches beset with adpressed bristly hairs; racemes straight, exceeding the leaves; legumes reflexed, almost terete. ⊙. S. Native of Jamaica. Flowers red.

Jamaica Indigo. Pl. 1 foot.

95 I. SPICA'TA (Forsk. descr. 13. Vahl. symb. 1. p. 56.) stem herbaceous, decumbent, villous; leaves with 4 pairs of obovate villous leaflets, outer ones largest; stipulas lanceolate-subulate, dry; spikes longer than the leaves; legume terete, torulose, pendulous.—Native of Arabia Felix. Flowers red. Allied to *I. hirsùta*.

Spicate-flowered Indigo. Pl. decumbent.

96 I. SCA'BRA (Roth, nov. spec. 359.) the whole plant is scabrous from adpressed strigæ: stem erect, tetragonal; leaves with 4 pairs of oval, mucronate leaflets; racemes elongated, loose, exceeding the leaves; legume pendulous, a little arched, strigose, and somewhat tetragonal. ⊙. ? S. Native of the East Indies.

Scabrous Indigo. Pl. 1 foot.

97 I. MICROCA'RPA (Desv. journ. bot. 1814. 1. p. 79.) stem?; leaves with 4 pairs of leaflets, covered with white hairs; racemes shorter than the leaves; legume very short, white, 2-seeded. Native of Brazil.

Small-fruited Indigo. Pl. ?

§ 4. *Brachýpodæ* (from βραχυς, *brachys*, short, and πους ποδος, *pous podos*, a foot; in reference to the petioles being very short). *D. C. prod. 2. p. 229. Leaves impari-pinnate; leaflets approximate. Petioles very short.*

98 I. FRA'GRANS (Retz, obs. 4. p. 29.) stems terete, rather pilose; leaves with 1 or 2 pairs of leaflets; leaflets ovate, terminal one obovate and larger; racemes longer than the leaves, 3-5-flowered; legume linear, tetragonal. ♄. S. Native of the East Indies.—Pluk. phyt. t. 166. f. 1. Flowers red.

Fragrant Indigo. Fl. June, July. Clt. 1816. Pl. 1 foot.

99 I. PUSI'LLA (Lam. dict. 2. p. 248.) stems terete, beset with a few adpressed strigæ; leaflets 3 or 4, alternate, oval, clothed beneath with white hairs, terminal one oblong and longer; racemes a little longer than the leaves, few-flowered; legume deflexed, linear, rather terete, 4-6-seeded, hardly puberulous. ⊙. ? S. Native of Madagascar and the Island of Bourbon. I. tenélla, Vahl. mss. Flowers red.

Small Indigo. Pl. prostrate?

100 I. GLA'BRA (Lin. spec. 1062.) stem herbaceous, smoothish; leaves with 1 or 2 pairs of obovate leaflets, which are smooth above and pubescent beneath; racemes few-flowered, length of leaves; legumes horizontal, glabrous, terete, acute. ⊙. H. Native of the East Indies.—Pluk. alm. t. 166. f. 1. Branches with a few long hairs. Stipulas setaceous. Flowers red.

Glabrous Indigo. Fl. July, Aug. Clt. 1820. Pl. 1 ft.? or pr.

101 I. ENNEAPHY'LLA (Lin. mant. 272.) stem herbaceous, procumbent, pubescent; branches compressed; leaves with 3-5 pairs of obovate-oblong, approximate leaflets; racemes sessile, length of leaves; legume straight, somewhat tetragonal, 2-seeded. ⊙. S. Native of the East Indies. Hedýsarum prostràtum, Burm. ind. t. 55. f. 1.—Pluk. alm. t. 166. f. 2. Stipulas membranous, dilated at the base, acuminated at the apex. Corolla dark purple.

Nine-leafletted Indigo. Fl. July, Aug. Clt. 1776. Pl. pr.

102 I. PENTAPHY'LLA (Lin. syst. veg. 564.) stems herbaceous, depressed; leaves with 2 pairs of oval leaflets: peduncles 2-flowered. ⊙. S. Native of? Very like the preceding species. Flowers red.

Five-leafletted Indigo. Pl. prostrate.

103 I. SEMITRI'JUGA (Forsk. descr. 137. Vahl. symb. 1. p. 56.) stem suffruticose, prostrate; branches terete, clothed with hoary villi; leaves with 2 pairs of obcordate, mucronate leaflets; racemes longer than the leaves; legumes pendulous, oblong, torulose, 2-seeded. ♄. S. Native of Arabia and eastern Asia. Mart. acad. mon. 6. p. 189. The whole plant is very villous. Flowers red. Perhaps only a variety of *I. enneaphýlla*.

Var. β; legumes 4-seeded. ♄. G. Native of Persia. I. argéntea, Burm. fl. ind. 171. but not of Lin. Coronílla Pérsica argéntea, Garcin. in herb. Burm.

Half-three-paired-leafletted Indigo. Shrub prostrate.

104 I. PU'LCHRA (Willd. spec. 3. p. 1239.) stems fruticose; branches terete, hairy; leaves with 1 to 3 pairs of oblong, acute, villous leaflets, those on the branches are sometimes simple; racemes ovate, villous, with rufous hairs, length of leaves, terminal, somewhat capitate; legume oblong, hairy, 2-3-seeded. ♄. S. Native of Guinea. I. ferrugínea, Thonn. in herb. Puer. I. rufèscens, Poir. suppl. 3. p. 148. Flowers red.

Fair Indigo. Shrub 1 foot.

105 I. MINIA'TA (Ort. dec. 98.) stems herbaceous, procumbent, and are as well as the leaves clothed with adpressed silky pubescence; leaves with 2-3 pairs of oblong-linear leaflets; racemes pedunculate, longer than the leaves; legumes linear, tetragonal, 4-seeded. ⊙. S. Native of Cuba. Flowers vermilion-coloured.

Vermilion-flowered Indigo. Pl. procumbent.

106 I. CYTISOI'DES (Thunb. prod. 133.) stem shrubby, erect; branches angular, and are as well as the leaves clothed with fine adpressed pubescence; leaves with 2 or 3 pairs of oblong, mucronate leaflets; racemes twice the length of the leaves; legumes somewhat cylindrical, and somewhat torulose. ♄. G. Native of the Cape of Good Hope. Jacq. hort. schœnbr. t. 235. Curt. bot. mag. 742. I. mucronàta, Lam. dict. 3. p. 247. Psoràlea cytisoìdes, Lin. spec. 1076.—Pluk. phyt. t. 185. f. 5. Racemes sometimes terminal from the abortive branches. Bracteas ovate, mucronate, large, deciduous. Flowers rose-coloured. Calyx hoary.

Cytisus-like Indigo. Fl. July, Aug. Clt. 1774. Sh. 3 to 5 ft.

107 I. LOTOI'DES (Lam. dict. 3. p. 247.) stem shrubby, erect; branches terete, clothed with hoary pubescence; leaves with 2 pairs of lanceolate, velvety leaflets; racemes longer than the leaves; calyx short; legume linear, a little arched, velvety, rather torulose. ♄. G. Native of the Cape of Good Hope. Comm. hort. 2. t. 84. Flowers red. Very like the preceding species.

Lotus-like Indigo. Fl. July, Aug. Clt. 1800. Sh. 2 to 3 ft.

108 I. NÍGRICANS (Vahl. in herb. Juss. Pers. ench. no. 46.) stem much branched, twiggy; leaves with 2 pairs of linear-cuneated leaflets; flowers panicled; legume short, strigose. ⊙. ? S. Native of Guinea. Allied to *I. pùlchra*, but differs in the pedicels rising from the axils of the superior leaves, solitary, 1-flowered, and therefore constituting a racemose panicle. Stems, pedicels, petioles, and under surface of leaves beset with white strigæ. Legume oval, 2-3-seeded, clothed with brown villi. Flowers purple.

Blackish Indigo. Pl. 1 foot.

109 I. CAPILLA'RIS (Thunb. prod. 133. fl. cap. 599.) stem suffruticose; branches slender, terete, glabrous; leaves with 2 or 3 pairs of filiform, acute, glabrous, approximate leaflets; racemes pedunculate, much longer than the leaves. ♄. G.

Native of the Cape of Good Hope. J. tenuifòlia, Lam. dict. 3. p. 249. Flowers red.

Capillary-leaved Indigo. Shrub ½ foot.

110 I. Perrinia'na (Spreng. neue. entd. 2. p. 161.) branches terete, beset with adpressed pili; leaves with usually 4 pairs of linear, obtuse, mucronate leaflets, which are lined above, and silky beneath; racemes few-flowered; legumes linear, clothed with rusty villi. ⊙. ? S. Native of South America.

Perrin's Indigo. Pl. 1 foot ?

111 I. angustifòlia (Lin. mant. 272.) stem shrubby; branches terete, hoary; leaves with 2-3-4 or 5 pairs of approximate, linear, obtuse leaflets, which are canescent on the under surface, and somewhat revolute at the margins; racemes 3 times longer than the leaves; calyxes canescent. ♄. G. Native of the Cape of Good Hope. Thunb. fl. cap. 599. Sims, bot. mag. 465. Polýgala pinnàta, Burm. cap. 20. Corolla purplish.

Narrow-leaved Indigo. Fl. Ju. Oct. Clt. 1774. Sh. 1 to 2 ft.

112 I. Humboldtia'na (Spreng. syst. 3. p. 276.) shrubby, erect, smoothish; leaves with 3 pairs of spatulate, mucronate leaflets, which are rather silky beneath; racemes exceeding the leaves; legumes pendulous, nearly terete. ♄. G. Native of Mexico. I. mucronàta, Willd. herb. Flowers red.

Humboldt's Indigo. Shrub 2 to 3 feet.

113 I. ornithopodioi'des (Schlecht. and Cham. in Linnæa. 5. p. 577.) leaves with 2 pairs of leaflets; pili strigose, cinereous; stems diffuse, prostrate; racemes on long peduncles, few-flowered, exceeding the leaves; calycine segments subulately-acuminated, equal in length to the corolla; legume deflexed, 8-seeded, straight. ⊙. S. Native of Mexico. Habit of *I. enneaphýlla.* Stipulas subulate. Flowers red.

Ornithopus-like Indigo. Pl. prostrate.

§ 5. *Digitàtæ* (from *digitàtus*, fingered, in reference to the leaflets all rising from a common centre, as the fingers of the hand). *Leaflets 3 or 5, rising from the same dot or centre, either from the top of petioles, or directly from the branches.*

114 I. sulca'ta (D. C. prod. 2. p. 231.) branches angular and furrowed, rather canescent; petioles wanting; leaflets 3-5, linear, mucronate, stiff, with somewhat revolute margins, clothed with hoary villi beneath; flowers axillary, on short pedicels, in fascicles. ♄. G. Native of the Cape of Good Hope. Flowers red.

Furrowed-stemmed Indigo. Sh. 1 to 2 feet.

115 I. aspalathoìdes (Vahl. in herb. Juss. D. C. prod. 2. p. 231.) branches terete, hoary from adpressed down, which is fixed by the centre; petioles wanting; leaflets 3-5, linear, very slender, somewhat complicated, beset with adpressed hairs; pedicels axillary, solitary, 1-flowered; legumes straight, terete, 4-6-seeded, rather puberulous. ♄. S. Native of Ceylon and Malabar. Aspálathus I'ndica, Lin. spec. 1001.—Burm. fl. ind. 155.—Pluk. phyt. t. 201. f. 1.—Rheed. mal 9. t. 3. Flowers red? Habit of *Aspálathus*, but the stamens are diadelphous, and the down and the legumes are that of *Indigófera.*

Aspalathus-like Indigo. Fl. Ju. Jul. Clt. 1817. Sh. 1 to 2 ft.

116 I. filifórmis (Thunb. fl. cap. 598.) branches terete, young ones rather hairy; petioles almost wanting; leaflets 5, oblong, cuneated, mucronate, strigose above, but white beneath, with the margins revolute; racemes pedunculate, much longer than the leaves; legumes straight, terete, spreading, glabrous, 8-10-seeded. ♄. G. Native of the Cape of Good Hope. I. cándicans, Sieb. pl. exsic. cap. no. 55. Very like the following species, but differs in the flowers being loosely racemose, not capitate. Thunberg says his plant has terminal racemes of flowers; in ours they are axillary.

Filiform Indigo. Fl. Ju. Aug. Clt. 1822. Shrub 1 to 2 ft.

117 I. alopecuroi'des (D. C. prod. 2. p. 231.) branches terete, young ones hairy; petioles very short; leaflets 5, elliptic-oblong, mucronate, clothed with adpressed strigæ on both surfaces; peduncles axillary, slender, 3 times longer than the leaves, bearing at the top an ovate head of flowers. ♄. ? G. Native of the Cape of Good Hope. Lòtus alopecuroìdes, Burm. cap. p. 23. Flowers red.

Fox-tail-like Indigo. Shrub.

118 I. coria'cea (Ait. hort. kew. 3. p. 68.) branches terete, hairy; petioles very short; leaflets 5, obovate, cuneated, somewhat emarginate and mucronate, beset with adpressed strigæ above, but hoary beneath; peduncles 3 times longer than the leaves; flowers disposed in dense heads; legumes straight, terete, glabrous. ♄. G. Native of the Cape of Good Hope. Lòtus Mauritánicus, Lin.. spec. 1091. I. Mauritánica, Thunb. fl. cap. 598. Lòtus fruticòsus, Berg. cap. 226. Lòtus racemòsus, Poir. suppl. 3. p. 508. Indigófera, Sieb. pl. exsic. cap. no. 54. This plant has very much the habit of *Dorýcnium.* Flowers red or purple.

Coriaceous Indigo. Fl. July, Aug. Clt. 1774. Sh. 2 to 3 ft.

119 I. sarmentòsa (Lin. fil. suppl. 334. Thunb. fl. cap. 596.) stem very short, much branched; branches filiform; leaves and calyxes clothed with adpressed strigose pubescence; petiole very short; leaflets ovate, small, mucronate; peduncles axillary, usually 2-flowered, much longer than the leaves; legumes cylindrical, glabrous. ♄. G. Native of the Cape of Good Hope. Onònis filifórmis, Lin. mant. 266. Lòtus exstipulàtus, Berg. cap. 227. Flowers red.

Var. β, microphýlla (Lam. dict. 3. p. 250.) leaves with 3-5 leaflets.

Sarmentose Indigo. Fl. June, July. Clt. 1786. Pl. straggling.

120 I. digita'ta (Thunb. fl. cap. 598.) branches slender, angular at the apex, and are, as well as the leaves and calyxes, somewhat canescent from adpressed strigæ; leaves stalked, palmately 5-6-foliate; leaflets lanceolate-linear, acute, complicated; peduncles much longer than the leaves, bearing at the top of each a dense ovate-oblong spike of flowers. ♄. G. Native of the Cape of Good Hope. Flowers red.

Digitate-leaved Indigo. Shrub 1 to 2 feet.

121 I. Burche'llii (D. C. prod. 2. p. 231.) branches slender, angular at the apex, and are, as well as the petioles and leaves, hoary from adpressed strigæ; leaves stalked, 4-5-foliate; leaflets obcordate, mucronate, hoary beneath, and rather strigose above. ♄. G. Native of the Cape of Good Hope. Burch. cat. no. 2918. Flowers red.

Burchell's Indigo. Shrub 1 to 2 feet.

122 I. sessilifòlia (D. C. prod. 2. p. 231.) branches terete, young ones canescent, at length becoming spinose; petioles wanting; leaflets 3, obovate-cuneated, retuse, somewhat emarginate, pubescent beneath; spikes pedunculate, longer than the leaves; legumes compressed, rather arched, glabrous, 4-seeded. ♄. G. Native of the Cape of Good Hope. This species is nearly allied to *I. spinòsa*, but differs in the leaves being all sessile, and in the legume being compressed, not terete. Flowers red.

Sessile-leaved Indigo. Shrub 1 to 2 feet.

123 I. spinòsa (Forsk. descr. 137. Vahl. symb. 1. p. 55.) branches grey; leaves on short petioles, trifoliate; leaflets obovate, hoary; stipulas acerose; peduncles spinose, 2-3-flowered, twice the length of the leaves; legume terete, but somewhat tetragonal, scabrous. ♄. G. Native of Arabia Felix, and the East Indies. This plant has the habit of a species of *Alhàgi.* Flowers red.

Spiny Indigo. Fl. May, July. Clt. 1820. Shrub 1 to 2 ft.

124 I. ca'ndicans (Ait. hort. kew. 3. p. 67.) branches slender, angular, clothed with adpressed silky canescent down; leaves stalked, trifoliate; leaflets lanceolate-linear, silky beneath; stipulas small; spikes pedunculate, few-flowered, much longer than

the leaves; legumes cylindrical, straight. ♄. G. Native of the Cape of Good Hope. Flowers red. Curt. bot. mag. 198.

White-leaved Indigo. Fl. May, June. Clt. 1774. Sh. 1 to 2 ft.

125 I. PSORALEOI'DES (Lin. syst. nat. 469.) branches angular, hardly pubescent; leaves petiolate, trifoliate; leaflets lanceolate, clothed with adpressed pubescence beneath; stipulas linear-subulate, elongated; racemes pedunculate, much longer than the leaves; legumes pendulous. ♄. G. Native of the Cape of Good Hope. Lam. ill. t. 626. f. 4. Sims, bot. mag. 476. Cýtisus psoraleoìdes, Lin. spec. 1043. Burm. cap. prod. p. 22. I. racemòsa, Lin. spec. 1062.— Pluk. phyt. t. 320. f. 3. ? but the racemes in the figure are shorter than the leaves. Flowers red.

Psoralea-like Indigo. Fl. Ju. Sept. Clt. 1758. Shrub 2 feet.

126 I. CINE'REA (Willd. spec. 3. p. 1225.) branches rather angular, clothed with greyish silky pubescence; leaves petiolate, trifoliate; leaflets oblong-lanceolate, silky; racemes length of leaves; legumes spreading, linear, mucronate, silky. ♄. S. Native of the East Indies. Flowers small, red.

Grey Indigo. Shrub 2 feet.

127 I. MOLUCCA'NA (D.C. prod. 2. p. 232.) branches slender, terete, puberulous; leaves petiolate, trifoliate; leaflets oblong-lanceolate, pubescent beneath; flowers axillary, sessile; legumes spreadingly deflexed, puberulous, rather tetragonal, 4-6-seeded. ♄. ? S. Native of the Moluccas. The middle leaflet is on a short petiole. The flowers are probably red.

Molucca Indigo. Shrub.

128 I. STIPULA'RIS (Link. enum. 2. p. 250.) stem beset with short strigæ; leaves trifoliate; leaflets oval, with a few adpressed hairs; stipulas oval, acute; racemes longer than the leaves. ♄. G. Native of the Cape of Good Hope. Perhaps belonging to a different section. Flowers red.

Stipular Indigo. Fl. May, July. Clt. 1824. Sh. 1 to 2 feet.

129 I. INCA'NA (Thunb. prod. 132. fl. cap. 596.) stems decumbent, very much branched, suffrutescent at the base; branches clothed with silky pubescence; leaves petiolate, trifoliate; leaflets ovate, acute, silky; legume reflexed, silky. ♄. G. Native of the Cape of Good Hope. Flowers red.

Hoary Indigo. Fl. May, July. Clt. 1812. Shrub decumbent.

130 I. ARCUA'TA (Willd. spec. 3. p. 1228.) branches angular, clothed with hoary pubescence; leaves petiolate, trifoliate; leaflets elliptic, obtuse, mucronate, canescent beneath; racemes about equal in length to the petioles; legume arched, reflexed, tetragonal, canescent. ⊙.? S. Native of the East Indies. Flowers red.

Arched-podded Indigo. Pl.

131 I. TRI'TA (Lin. fil. suppl. 335.) stem erect; branched at the base; leaves petiolate, trifoliate; leaflets ovate-lanceolate, acute; racemes shorter than the leaves. ⊙. ? ♂. ? S. Native of the East Indies. Flowers red.

Worn Indigo. Fl. June, July. Clt. 1802. Pl. 1 foot.

132 I. HEDYSAROI'DES (Lam. dict. 3. p. 250.) stem erect, branched at the base; leaves petiolate, trifoliate; leaflets ovate, obtuse; legume arched. ♄. G. Native of the East Indies, ex Rheed. mal. 9. t. 36. and perhaps of China if I. coccinea, Lour. coch. p. 457. be the same. Flowers deep red.

Hedysarum-like Indigo. Fl. June, Aug. Clt. 1822. Pl. 1 ft.

133 I. ERE'CTA (Thunb. prod. 133. fl. cap. 597.) stem herbaceous, nearly erect; leaves petiolate, trifoliate; leaflets obovate, acute, glabrous above, and clothed with fine pubescence beneath; legume cylindrical, acute, reflexed, pubescent.—Native of the Cape of Good Hope. Flowers red.

Erect Indigo. Pl. 1 foot.

134 I. PROCU'MBENS (Lin. mant. 271.) stems flexuous, decumbent, compressed, smoothish; leaves petiolate, trifoliate; leaflets obovate, smooth above, but clothed with adpressed pubescence beneath; racemes much longer than the leaves. ♃. G. Native of the Cape of Good Hope. Thunb. fl. cap. 597. Flowers blood-coloured, large for the size of the plant.

Procumbent Indigo. Fl. May, July. Clt. 1818. Pl. procumbent.

135 I. PROSTRA'TA (Willd. spec. 3. p. 1226.) stems filiform, prostrate, rather angular, and rather pubescent; leaves petiolate, trifoliate; leaflets obovate, whitish beneath; racemes shorter than the leaves; legumes pendulous, filiform. Native of the East Indies. Plant tufted. Flowers red.

Prostrate Indigo. Pl. prostrate.

† *Species not sufficiently known.*

136 I. ROTUNDIFÒLIA (Lour. coch. p. 458.) stem twining, herbaceous, pilose; leaves trifoliate; leaflets roundish, tomentose on both surfaces; racemes axillary, short; legumes oblong, flat, acuminated, glabrous, 2-seeded. ⊙. ◠. G. Native of China, near Canton. Flowers yellow.

Round-leafletted Indigo. Pl. twining.

137 I. BUFALI'NA (Lour. coch. p. 458.) stems suffruticose, climbing, glabrous; leaves trifoliate; leaflets ovate, glabrous; racemes axillary and terminal, on long peduncles; legumes straight, rather compressed, villous. ♄. ◡. G. Native of Cochin-china, among bushes. Flowers between white and purple.

Ox Indigo. Shrub cl.

138 I. STRIGÒSA (Spreng. neue entd. 3. p. 54.) shrubby; stems filiform; leaves abruptly-pinnate? leaflets 5-7, linear, acute, strigose; stipulas cuspidate; racemes terminal? flaccid. ♄. G. Native of the Cape of Good Hope. Allied to *I. filifórmis*.

Strigose Indigo. Shrub 1 foot.

139 I. OXYCA'RPA (Desv. journ. bot. 1814. vol. 1. p. 79.) stem angular, pentagonal, pilose; leaflets oblong-ovate, mucronate, pilose; spikes of flowers on long peduncles; legumes terete, a little incurved, acute. ♄. ? S. Native of the Antilles. Perhaps the leaves are pinnate or digitate.

Sharp-fruited Indigo. Shrub.

140 I. DIFFU'SA (Desv. l. c.) branches diffuse; leaflets obovate, somewhat emarginate, pilose; spikes of flowers very short; legumes divaricate, rather pilose. ♄. ? S. Native of the African islands.

Diffuse Indigo. Shrub.

Cult. The whole of the species of this genus are rather elegant delicate plants, and all the green-house shrubby kinds are worthy of general cultivation; these grow best in a mixture of sandy loam and peat, and they are easily propagated by young cuttings planted in sand with a bell-glass placed over them. The stove kinds require to be grown in the same kind of soil as the green-house kinds, and to be propagated in the same manner. The seeds of the annual species require to be sown in a hot-bed in spring, and when the plants have grown a sufficient height they may be planted singly in separate pots, and placed again in the hot-bed, and some may be planted out in the open ground in a sheltered situation.

LXXX. OU'STROPIS (from ους, *ous*, an ear, and τροπις, *tropis*, a keel; in reference to the keel of the flower being furnished with an auricle on each side).

LIN. SYST. *Diadélphia, Decándria.* Calyx hairy, tubular, 5-cleft; the segments subulate and acute, upper ones shortest. Vexillum broad, not emarginate, about equal in length to the wings, but longer than the keel. Keel furnished with an auricle on each side. Stamens diadelphous. Ovary pubescent, linear. Style glabrous. Stigma capitate and glandular. Legume short, cylindrical, and rather compressed, ending in the straight acute style, 3-seeded, the seeds lodged in as many cells.—A graceful small plant, with decumbent slender stems, which are slightly hairy; and small, trifoliate, rather hairy leaves, small subulate

stipulas; umbels of small rose-coloured flowers, on long axillary peduncles.

1 O. microphy'llus. ♃. G. Native of the Cape of Good Hope. Lòtus microphýllus, Hook, bot. mag. 2808.

Small-leaved Oustropis. Fl. July. Clt. 1827. Pl. decumbent.

Cult. The seeds of this plant should be sown thinly in a pot of light mould, and placed in the green-house, where the plants will rise, flower and seed, the same season.

LXXXI. CLITO'RIA (from *clitoris*, an anatomical term, a resemblance to the subject of which has been fancied to exist in the flower). Lin. gen. no. 869. Lam. ill. 609. Gærtn. fruct. 2. p. 149. D.C. legum. mem. vi. prod. 2. p. 233.—Ternàtea, Tourn. act. acad. par. 1706. t. 1.—Clitòrius, Pet. in Rai. hist. 3. p. p.p.

Lin. syst. *Diadélphia, Decándria.* Calyx furnished with 2 large bracteas at the base, 5-cleft (f. 34. *a*.). Vexillum large (f. 34. *b*.). Stamens diadelphous (f. 34. *d*.), inserted along with the petals above the base of the calyx. Style rather dilated at the apex. Legume linear, compressed (f. 34. *c*.), straight, 2-valved, acuminated by the base of the style, 1-celled, many-seeded. Seeds usually separated by cellular substance.—Climbing herbs, with impari-pinnate leaves, having 2 to 4 pairs of leaflets, but usually the leaves are pinnately-trifoliate; the leaflets usually stipellate. Flowers axillary, pedicellate, large, white, blue or purple, usually resupinate.

Sect. I. Terna'tea (in allusion to *C. Ternàtea* being a native of the island of Ternate). Kunth. nov. gen. amer. 6. p. 415. D. C. prod. 2. p. 233. Calyx tubular. Vexillum spurless. Leaves impari-pinnate, having 2 to 4 pairs of leaflets.

1 C. heterophy'lla (Lam. dict. 2. p. 51.) stems twining, slender, glabrous; leaves with 2 to 4 pairs of roundish, ovate, or linear leaflets; stipels none; pedicels solitary, 1-flowered; bracteoles small, acute. ♃. ⌒. S. Native of the Mauritius. Vent. choix. t. 26. Sims, bot. mag. 2111. Flowers blue.

Variable-leaved Clitoria. Fl. July, Aug. Clt. 1812. Pl. tw.

2 C. Terna'tea (Lin. spec. 1026.) stems twining, and rather pubescent; leaves with 2 to 4 pairs of oval or ovate leaflets; stipels subulate; pedicels solitary, one-flowered; bracteoles large, roundish; legumes smoothish. ♃. ⌒. S. Native of the East Indies, Mauritius, Arabia, Cuba, and usually cultivated in gardens in almost all parts of the world. Sims, bot. mag. 1542.—Rumph. amb. 5. t. 31.—Rheed. mal. 8. t. 38. C. spectábilis, Sal. prod. 336. Láthyrus spectábilis, Forsk. descr. 135. Ternàtea vulgàris, H. B. et Kunth, nov. gen. amer. 6. p. 415. Plumule inconspicuous according to Gærtn. There are varieties of this plant with blue and white flowers, and also variegated with those colours.

FIG. 34.

Var. β, bracteàta (Poir. suppl. 2. p. 301.) leaflets rather scabrous; legumes pubescent. ♄. S. Native of? Flowers whitish-purple.

Ternatea Clitoria. Fl. July, Aug. Clt. 1739. Pl. tw.

Sect. II. Euclitòria (from *eu*, well or good, and *clitoria*; in reference to this section containing the true species of the genus). D. C. legum. mem. vi. prod. 2. p. 234. Calyx tubular. Vexillum spurless. Leaves pinnately trifoliate, that is, with only one pair of leaflets and an odd one.

3 C. Maria'na (Lin. spec. 1026.) stems twining, glabrous; leaflets ovate-lanceolate; pedicels solitary, 1-3-flowered; bracteoles lanceolate, and are, as well as the calyxes, smooth; teeth of calyx nearly equal. ♃. ⌒. F. Native of North America, from Virginia to Carolina, in hedges by the sides of rivulets. Michx. fl. bor. amer. 2. p. 62. Flowers pale-blue, and flesh-coloured. Legume torulose. Seeds glutinous according to Michx.

Maryland Clitoria. Fl. Aug. Clt. 1759. Pl. tw.

4 C. Mexica'na (Link. enum. 2. p. 235.) stems twining; leaflets mucronate, glaucescent and pilose beneath; pedicels twin, 1-flowered; calyx cylindrical, much longer than the linear bracteoles; legume straight, hairy. ♃. ⌒. S. Native of Mexico. Flowers of an obscure purple colour. The plant is said to be nearly allied to the preceding species.

Mexican Clitoria. Fl. Sept. Nov. Clt. 1823. Pl. tw.

5 C. angustifòlia (H. B. et Kunth, nov. gen. amer. 6. p. 417.) stems twining, glabrous; leaflets linear-lanceolate, obtuse, and rather mucronate, rather scabrous above and glabrous beneath; pedicels usually solitary, 1-flowered; calyx smoothish, having the 4 superior teeth very short. ♃. ⌒. S. Native of South America, near Angustura. Flowers rose-coloured.

Narrow-leaved Clitoria. Pl. tw.

6 C. formòsa (H. B. et Kunth, nov. gen. amer. 6. p. 417.) stems twining, smoothish; leaflets oblong, obtuse, ending in a short mucrone each, glabrous; pedicels 1-4 together, 1-flowered; calyx urceolate, glabrous, having the 4 superior teeth very short. ♃. ⌒. S. Native on the banks of the river Orinoco. Flowers violaceous. Legume compressed, sessile, glabrous.

Beautiful Clitoria. Fl. July, Aug. Clt. 1823. Pl. tw.

7 C. racemòsa; stems twining, pilose; leaves pinnately trifoliate; leaflets ovate, entire, pilose; racemes axillary, spike-formed; legume curved. ♃. ⌒. S. Native of the island of St. Thomas, in the Gulf of Guinea. Flowers large, blue. Vexillum spurless?

Racemose-flowered Clitoria. Pl. tw.

8 C.? a'lba; plant glabrous, twining; leaves pinnately trifoliate; leaflets oblique, entire, glabrous; peduncles 2-3-flowered. ♃. ⌒. S. Native of the island of St. Thomas, in the Gulph of Guinea. Flowers white. Vexillum spurless?

White-flowered Clitoria. Pl. tw.

9 C. Poitæ'i (D. C. prod. 2. p. 234.) stems erect, rather velvety; leaflets elliptic, glabrous above, but clothed with silky velvety pubescence beneath, as well as the peduncles and calyxes; racemes longer than the leaves, rather panicled, spicate, many-flowered; calycine lobes acuminated, nearly equal. ♃. S. Native of French Guiana. Flowers large, red, and beautiful, disposed along the peduncles, sessile, and furnished with a bractea and 2 bracteoles each, appearing at first sight to be furnished with 3 bracteoles each; legume compressed, linear, glabrous, each standing on a stipe, which is equal in length to the calyx, 4 or 5 inches long, and 6 lines broad.

Poiteau's Clitoria. Pl. 2 feet?

Sect. III. Centrose'ma (from κεντρον, *centron*, a spur, and σημα, *sema*, a standard or vexillum; in reference to the vexillum being furnished with a spur behind). D.C. legum. mem. vi. prod. 2. p. 234. Calyx campanulate, cleft into 5 beyond the middle. Vexillum furnished with a spur behind. Bracteoles striated lengthwise. Leaves pinnately trifoliate, having one pair of leaflets, and an odd one.

10 C. Virginia'na (Lin. spec. ed. 1. p. 753.) stems climbing, and are, as well as the leaves, glabrous or puberulous; peduncles 1-4-flowered; bracteoles lanceolate, about the length of the calyx; legumes linear, compressed. ♃. ◡. F. Native of Virginia, Carolina, Jamaica, St. Domingo, and Porto-Rico, growing in hedges. Flowers very large, purplish or blue. Lindl. bot.

reg. 1047. C. calcarígera, Sal. par. t. 51. Perhaps there are numerous species confounded under this name.

Var. α, angustifòlia (D. C. prod. 2. p. 234.) leaflets linear.

Var. β, ellíptica (D. C. l. c.) leaflets ovate-oblong or elliptic. —Dill. hort. elth. t. 76.

Var. γ, ovàta (D. C. l. c.) leaflets ovate.—Pluk. alm. t. 90. f. 1.

Virginian Clitoria. Fl. July, Aug. Clt. 1732. Pl. cl.

11 C. Brasilia'na (Lin. spec. 1026.) stems climbing, rather glabrous; leaflets ovate-oblong, glabrous; pedicels twin, 1-flowered; bracteas ovate, longer than the calyx, and hiding it; legume linear, compressed. ♃. ◡. S. Native of Brazil and Cayenne, and of Maranham. C. amœ'na, Roth. cat. 2. p. 92. t. 3. ex Pers.—Breyn. cent. 78. t. 32. Flowers large, blue or white (ex Meyer.)

Brazilian Clitoria. Fl. July, Aug. Clt. 1759. Pl. cl.

12 C. Plumie'ri (Turp. in Pers. ench. 2. p. 303.) stems climbing; leaflets ovate-oblong, acuminated or ovate, glabrous; pedicels 1-3, somewhat racemose; bracteoles ovate, longer than the calyx; legumes linear, somewhat tetragonal. ♃. ◡. S. Native of Mexico, St. Domingo, and perhaps of Peru. Ker. bot. reg. 268. C. racemòsa, Moc. et Sesse, fl. mex. icon. ined. C. calcaràta, Lher. in herb. Domb.—Plum. amer. 1. t. 108. Flowers large, white, but with the middle of the vexillum and wings of a rose-purple colour, tomentose.

Plumier's Clitoria. Fl. Sept. Nov. Pl. cl.

13 C. specio'sa (Cav. curs. 182. ex Lag. et Rod. in anal. sc. nat. 1802. vol. 5. p. 72.) stems climbing; leaflets 3; calyx shorter than the bracteoles, and furnished with a cucullate scale; stipulas spotted with purple. ♃. ◡. S. Native of New Spain. Very like *C. Plumièri.*

Showy Clitoria. Pl. tw.

14 C. arbore'scens (Ait. hort. kew. ed. 2. vol. 4. p. 302.) stem arborescent; leaflets 3; peduncles many-flowered; ovary tomentose; style villous. ♄. S. Native of Trinidad. Flowers pink.

Arborescent Clitoria. Fl. Aug. Sept. Clt [illegible]

Sect. IV. Glycinópsis (from *glycine* and οψις, *opsis*, resemblance; the plants contained in the section resemble species of *Glycine*). D. C. legum. mem. vi. prod. 2. p. 235. Calyx campanulate, 5-toothed. Corolla and stamens inserted almost at the base of the calyx. Style dilated at the apex. Bracteoles striated lengthwise. Leaves pinnately trifoliate, that is, with one pair of leaflets, and an odd one.

15 C. Berteria'na (D. C. legum. mem. vi. prod. 2. p. 234.) stems twining, and are, as well as the leaves, pubescent; leaflets ovate, acuminated; peduncles longer than the leaves, bearing a kind of raceme at the apex, containing 5 or 6 flowers; legumes linear, compressed, apiculated, straight; bracteoles longer than the calyx. ♃. ⌒. S. Native of St. Domingo. Flowers yellowish, with the vexillum pubescent on the outside.

Bertero's Clitoria. Pl. tw.

16 C. cocci'nea (Schrad. gœtt. anz. 1821. p. 717.) stem twining; leaflets 3, elliptic-ovate or oblong, pubescent above, clothed with rusty villi beneath on the nerves, as well as on the petioles; peduncles elongated, usually 3-flowered; upper segment of the calyx truncate. ♄. ⌒. S. Native of Brazil. C. falcàta, Nees in flora. 1821. p. 329. but not of Lamarck. Flowers large, scarlet.

Scarlet-flowered Clitoria. Fl. July, Aug. Clt. 1820. Pl. tw.

† *Species not sufficiently known.*

17 C. vicioi'des (Nees et Mart. nov. act. bonn. 12. p. 28.) branches angular; leaves pinnate, having 10 or 11 pairs of oblong-elliptic pubescent leaflets; racemes axillary, pedunculate; calyx 4-toothed; flowers resupinate. ♃. ◡. S. Native of Brazil, on the road to Felisbert. Galáctia viciæfórmis, Spreng. syst. 3. p. 257. Corolla white. Vexillum broad and roundish.

Vetch-like Clitoria. Pl. tw.

Cult. The species of this genus are beautiful climbers and twiners, with large elegant pea-flowers, which are produced in abundance in hot seasons. The soil best adapted to them is a mixture of peat, loam, and sand. Cuttings will root under a bell-glass in heat; but the best method of increasing them is by seeds, which sometimes ripen in this country, and are generally received yearly from the places of their natural growth.

LXXXII. NEUROCA'RPUM (from νευρον, *neuron*, a nerve, and καρπος, *carpos*, a fruit; in reference to the valves of the pod being furnished with a strong longitudinal nerve each). Desv. journ. bot. 1814. 1. p. 75. H. B. et Kunth, nov. gen. amer. 6. p. 406. D. C. prod. 2. p. 235.—Rhombifòlium, Rich. herb.

Lin. syst. *Diadélphia, Decándria.* Calyx tubular, permanent, having 5 nearly equal acuminated teeth, furnished at the base with 2 lanceolate bracteas. Vexillum large, roundish. Keel obtuse. Wings 2. Stamens diadelphous. Legume stipitate, compressed, rather triquetrous, mucronate by the base of the style, the valves marked with a prominent nerve along the middle lengthwise. Stipe of legume girded by a sheath, which rises from the torus. Seeds 4 to 8, when young, generally separated by cellular substance.—Usually twining shrubs, with pinnately trifoliate leaves, and stipellate leaflets. Peduncles axillary, 1-2-flowered. Flowers large, white or purplish. Legume glabrous.

1 N. simplicifo'lium (Kunth, mim. 213. t. 59. nov. gen. 6. p. 407.) shrubby, erect; leaves simple, ovate-elliptic, rounded at both ends, emarginate, glabrous, rather glaucous beneath, puberulous on the nerves and veins; peduncles 2-flowered. ♄. S. Native of South America, on the banks of the river Orinoco. Flowers large, white.

Simple-leaved Neurocarpum. Clt. 1824. Shrub 2 feet?

2 N. angustifo'lium (Kunth, mim. p. 218. t. 60. nov. gen. amer. 6. p. 408.) shrubby, erect; leaves trifoliate; leaflets linear-lanceolate, obtuse, mucronate, [illegible] glabrous, glaucous beneath, and pilose on the nerves; peduncles solitary, 1-flowered. ♄. S. Native of South America, in sandy places near Maypures, on the Orinoco, and of New Andalusia, near Quetepe. Flowers large, white.

Narrow-leaved Neurocarpum. Shrub 2 feet.

3 N. glycinoi'des (Desv. obs. leg. in Schlecht. Linnæa. vol. 2. p. 510.) stems climbing, hairy; leaflets ovate-elliptic, mucronate, glabrous above, but pale and puberulous beneath along the nerves; racemes pedunculate, longer than the petioles, few-flowered; calyx clothed with adpressed villi, 5-cleft; the lobes acuminated, lowest one longest. ♃. ◡. S. Native of Cayenne. Legume 6-8-seeded. Flowers red in a dried state. Clitòria glycinoìdes, D. C. prod. 2. p. 234.

Glycine-like Neurocarpum. Pl. cl.

4 N. Guiane'nse (Desv. journ. bot. 1814. 1. p. 75.) stem erect, shrubby; leaves sessile, trifoliate; leaflets oblong, obtuse, and somewhat mucronate, and are, as well as the branches, pubescent; flowers 2-3, on very short peduncles. ♃. S. Native of Guiana, in meadows. Crotalària Guianénsis, Aubl. guian. 2. p. 761. t. 305. Crotalària longifòlia, Lam. dict. 2. p. 201. Rhombifòlium canéscens, Rich. herb. Stamens diadelphous. Flowers purplish.

Guiana Neurocarpum. Fl. June, July. Clt. 1824. Pl. 1 foot.

5 N. laurifo'lia (Desv. obs. legum. ex Schlecht. Linnæa. 2. p. 510.) erect; leaves on short petioles; leaflets 3, oblong-lanceolate, reticulated, obtuse; flowers axillary, usually twin. ♄. S. Native of Porto-Rico, in pastures. Corolla yellowish. Clitòria laurifòlia, Poir. suppl. 2. p. 301.

Laurel-leaved Neurocarpum. Shrub erect.

6 N. elli'pticum (Desv. l. c.) stems twining, rather herbaceous, pilose; leaves on longish petioles, trifoliate; leaflets elliptic, membranous, rather puberulous above, but glaucous beneath, and puberulous on the nerves; peduncles few-flowered, axillary, solitary; legume mucronate, resinous inside. ♄. ⌒. S. Native of St. Domingo. Crotalària ellíptica, Poir. Clitòria tetragòna, Poir. Clitòria rubiginòsa, Pers. ench. no. 9.

Elliptic-leafletted Neurocarpum. Pl. tw.

7 N. falca'tum (D. C. prod. 2. p. 236.) twining; branches hairy; leaves trifoliate; leaflets ovate, glabrous above, and hairy beneath; peduncles longer than the leaves, usually bearing about 3 flowers; legumes usually falcate. ♄. ⌒. S. Native of St. Domingo and Porto-Rico. Clitòria falcàta, Lam. dict. 2. p. 51. ex herb. Juss. Phaseolus amplíssimus magno-flore, &c. Plum. spec. 8. mss. 2. t. 85. ex Lam. Flowers purplish.

Falcate-podded Neurocarpum. Pl. tw.

8 N.? Javite'nse (H. B. et Kunth, nov. gen. amer. 6. p. 409.) creeping, suffruticose; leaves trifoliate; leaflets elliptic-oblong, acuminated, rounded at the base, coriaceous, glabrous above, and rather pilose beneath. ♄. S. Native of South America, on the banks of the river Tuamini near Javita, at the missions of the Rio-Negro. Flowers purplish?

Javita Neurocarpum. Shrub creeping.

9 N.? macrophy'llum (H. B. et Kunth, l. c.) arboreous; leaves trifoliate; leaflets roundish-elliptic, acuminated, rather cuneated at the base, membranous, hairy above, and clothed with fine pubescence beneath; peduncles bifid, racemose. ♄. S. Native of New Granada, near Turbaco. Flowers red. Legume hairy. Perhaps this shrub ought to be removed from the genus.

Large-leaved Neurocarpum. Shrub 10 feet.

Clt. The climbing and twining species of this genus should be treated in the same manner as the species of *Clitòria*, see p. 216. The upright kinds like other common stove shrubs.

LXXXIII. MARTIU'SIA

(in honour of C. F. P. Von Martius, M.D. professor of botany at Munich, in Bavaria, and companion of Spix in his travels in Brazil; author of a splendid work on Brazilian palms, &c.) Schultes, mant. 1. p. 69. D. C. prod. 2. p. 236.—Mártia, Leander, sacr. akad. munch. 7. p. 233. t. 12.

Lin. syst. *Tetrándria, Monogýnia.* Calyx tubular, permanent, somewhat bilabiate, having 5 acute teeth, the lower tooth longest. Corolla wanting. Stamens 4, 2 bearing anthers, and 2 sterile; filaments all distinct, one-half shorter than the ovary. Anthers somewhat ciliated. Legume stipitate, girded at the base by the calyx, with the stipe also sheathed, compressed, somewhat tetraquetrous; the valves furnished with a longitudinal nerve in the centre of each. Calyx, and especially the fruit, very like that of *Neurocárpum.* The want of petals, and the few distinct stamens, are the characters by which this genus can be known.

1 M. physaloìdes (Schultes, l. c.) ♄. ⌒. S. Native near Rio Janeiro, in fields, where it is called *cow poison* and *timbo.* Mártia physaloìdes, Leand. l. c. Stems frutescent, twining, villous. Leaves pinnately trifoliate; leaflets ovate-oblong, mucronate, glabrous above, but pubescent beneath. Peduncles 2-flowered. This plant is supposed to be deleterious to cattle and sheep in Brazil.

Physalis-like Martiusia. Shrub tw.

Cult. See *Clitòria* for culture and propagation, p. 216.

LXXXIV. COLOGA'NIA

(named by Kunth in honour of a family of the name of Cologan, residing at Port Orotavo, in Teneriffe, from whom men of science visiting that island experience the greatest hospitality). Kunth, mim. p. 205. H. B. et Kunth, nov. gen. amer. 6. p. 41?. D. C. prod. 2. p. 236.

Lin. syst. *Diadélphia, Decándria.* Calyx tubular, bibracteolate at the base, somewhat bilabiate; upper lip entire or bifid, lower one 3-parted. Vexillum roundish. Stamens diadelphous, inserted with the petals in the base of the calyx. Ovary stipitate, linear, very hispid, girded at the base by an orbicular disk. Style glabrous, obtuse.—Stems procumbent or twining, beset with retrograde hairs. Leaves pinnately trifoliate, rarely unifoliate. Flowers axillary, twin, pedunculate, violaceous or purple. Perhaps sufficiently distinct from *Clitòria* and *Galáctia.*

* *Leaves simple.*

1 C. procu'mbens (Kunth, mim. 205. t. 57.) procumbent; leaflet oblong or oblong-lanceolate, obtuse, smooth above, but strigose beneath, as well as the calyxes. ♃. S. Native of South America, near Popayan.

Procumbent Cologania. Pl. procumbent.

** *Leaves trifoliate.*

2 C. ovalifo'lia (H. B. et Kunth, nov. gen. amer. 6. p. 412.) twining; leaflets ovate-elliptic, obtuse, mucronate, rounded at the base, strigulose on both surfaces, rather glaucescent beneath; calyxes pilose. ♃. ⌒. S. Native of South America, on the banks of the river Amazon near Tomependa, in the province of Bracamora.

Oval-leafletted Cologania. Pl. tw.

3 C. pulche'lla (H. B. et Kunth, nov. gen. amer. 6. p. 413.) twining; leaflets elliptic-oblong, obtuse, rounded at the base, and somewhat cordate, rather strigose on both surfaces, glaucescent beneath; calyx pilose. ♃. ⌒. S. Native of New Spain, near Pazcuaro.

Neat Cologania. Pl. tw.

4 C. interme'dia (H. B. et Kunth, nov. gen. amer. 6. p. 414.) twining; leaflets oblong or linear-oblong, glabrous above, paler beneath, and strigose, as well as the calyxes. ♃. ⌒. S. Native of Mexico, in shady woods near Real del Monte.

Intermediate Cologania. Pl. tw.

5 C. angustifòlia (Kunth, mim. p. 209. t. 58.) twining; leaflets linear, obtuse, rather strigose on both surfaces; calyx covered with hispid pili. ♃. ⌒. S. Native of Mexico, in temperate parts of hills and mountains.

Narrow-leaved Cologania. Clt. 1827. Pl. tw.

6 C. Broussone'tii (D. C. prod. 2. p. 237.) twining; leaflets ovate-oblong, mucronate, rather strigose on both surfaces, paler beneath; flowers twin, on short pedicels; calyx villous, rather 5-cleft, the 2 superior lobes hardly connected, lower one longest. ♃. ⌒. S. Native of? Clitòria Broussonètii, Balb. cat. taur. 1813. p. 26. Allied to *C. ovalifòlia*, but is perhaps specifically distinct from all in the 2 superior lobes of the calyx being hardly connected.

Broussonet's Cologania. Clt. 1827. Pl. tw.

Cult. For culture and propagation see *Clitòria*, p. 216.

LXXXV. GALA'CTIA

(from γαλα, *gala*, milk; the *G. péndula* yields a milky juice when cut or broke). P. Browne, jam. 298. Michx. fl. bor. amer. 2. p. 61. D. C. prod. 2. p. 237.

Lin. syst. *Diadélphia, Decándria.* Calyx bibracteate, 4-cleft; the segments acute, and nearly equal. Corolla papilionaceous, having 5 oblong distinct petals; the vexillum broader than the rest, and incumbent. Stamens diadelphous. Style glabrous, crowned by an obtuse stigma. Legume terete or compressed, many-seeded, 2-valved, 1-celled, elongated.—Climbing subshrubs or herbs, with impari-pinnate or pinnately trifoliate leaves, with the leaflets stipellate. Racemes of flowers axillary.

1 G.? pe'ndula (Pers. ench. 2. p. 302. Ker. bot. reg. t. 269.) twining, pubescent; leaflets ovate-oblong, villous beneath, as well as the petioles; racemes longer than the leaves; flowers twin, pendulous; petals 4 times longer than the leaves. ♄. ⌒.

S. Native of Jamaica and Cayenne.—Sloane, jam. 1. t. 114. f. 4.—P. Browne, jam. 298. t. 32. f. 2. Clitòria Galáctia, Lin. spec. 1026. Flowers red. Shrub yielding a milky juice, and the legume is terete according to Sloane.

Pendulous-flowered Galactia. Fl. Jul. Aug. Clt. 1794. Sh. tw.

2 G. SERI'CEA (Pers. ench. 2. p. 302.) stem twining, pubescent: leaflets ovate, rather retuse, hoary and silky on both surfaces; racemes sub-spicate, axillary, shorter than the leaves; corolla a little longer than the calyx. ♄. ⌒. S. Native of the Island of Bourbon. Clitòria Phrýne, Comm. Juss. Legume glabrous, compressed, 4-5-seeded.

Var. β, phrynoìdes (D. C. prod. 2. p. 237.) leaves silky and rather hairy; pedicels axillary, and usually 1-flowered. ♄. ⌒. S. Native of the Mauritius. Superior lobes of calyx a little broader than the rest. Perhaps a proper species.

Silky Galactia. Clt. 1824. Shrub tw.

3 G. CUBE'NSIS (H. B. et Kunth, nov. gen. amer. 6. p. 429.) stem twining, beset with retrograde pubescence; leaflets elliptic, rounded at both ends, membranous, puberulous above, but clothed with soft canescent pubescence beneath; calyxes and legumes silky. ♃. ⌒. S. Native of Cuba, near the Havannah. Flowers purple.

Cuba Galactia. Pl. tw.

4 G. PILÒSA (Nutt. gen. amer. 2. p. 116.) stem twining, clothed with dense and soft pili; leaflets oval, obtuse, and pilose, paler beneath; racemes pedunculate, longer than the leaves; flowers nearly sessile; legume villous. ♃. ⌒. F. Native of Carolina and Georgia. Flowers reddish.

Pilose Galactia. Pl. tw.

5 G. MÓLLIS (Michx. fl. bor. amer. 2. p. 61.) stem twining, clothed with soft villi; leaflets ovate-oblong, obtuse, glaucous beneath, and nearly glabrous, smooth above; racemes pedunculate, a little longer than the leaves; flowers pedicellate; calyxes acuminated; legumes compressed, pubescent. ♃. ⌒. F. Native of Carolina and Georgia. Pursh. fl. sept. amer. 2. p. 486. Hedýsarum volùbile, Lin. spec. 1057.—Dill. hort. elth. 1. f. 170. Flowers purple, and variegated with yellow and white.

Soft Galactia. Fl. July, Aug. Clt. 1827. Pl. tw.

6 G. GLABE'LLA (Michx. fl. bor. amer. 2. p. 62.) stem prostrate and naked, twining, smoothish; leaflets elliptic-oblong, obtuse, emarginate at both ends, glabrous; racemes axillary, simple, short, few-flowered; flowers pedicellate; calyxes and legumes glabrous. ♃. ⌒. F. Native of North America, from New Jersey to Carolina, in pine barrens and sandy places. E'rvum volùbile, Walt. car. 187. Dólichos regulàris, Lin. spec. 1022. Flowers purple, red and white mixed.

Smooth Galactia. Fl. July, Aug. Pl. tw.

7 G. PU'RSHII (Desv. obs. leg. in Schlecht. Linnæa. 2. p. 510.) stem prostrate and somewhat twining, smoothish; leaflets elliptic-oblong, obtuse, emarginate at both ends, glabrous; racemes axillary, simple, short, few-flowered; calyx glabrous; legumes villous. ♃. ⌒. F. Native of North America, from New Jersey to Carolina. G. glabélla, Pursh. fl. sept. amer. 2. p. 487. but not of Michx. Flowers purple, red, and white mixed. Roots fusiform.

Pursh's Galactia. Fl. July, Aug. Pl. tw.

8 G. RADICA'TA (D. C. prod. 2. p. 238.) stem weak, twining, smoothish; leaflets oblong-linear, obtuse, glabrous; flowers axillary, pedicellate, twin; legume pubescent. ♃. ⌒. S. Native of Mexico. Clitòria Mariàna, Moc. et Sesse, fl. mex. icon. ined. but not of Lin. Flowers of a violet-purplish colour. Root woody, thick. Teeth of calyx 4, acute.

Thick-*rooted* Galactia. Pl. tw.

9 G. TUBERO'SA (D. C. prod. 2. p. 238.) stem twining, villous; leaflets ovate; flowers axillary, twin, almost sessile, and with the upper abortive leaves mixed among the flowers so as to give them the appearance of an interrupted spike of flowers; root tuberous, oblong. ♃. ⌒. S. Native of Mexico. Very like the preceding species. Flowers purple.

Tuberous-rooted Galactia. Pl. tw.

10 G. DU'BIA (D. C. prod. 2. p. 238.) stem twining, terete, beset with strigose pili, as well as the under side of the leaves and petioles; leaflets elliptic, obtuse, somewhat emarginate, glabrous above; racemes axillary, about equal in length to the leaves; legumes linear, rather falcate, acute, clothed with adpressed hairs. ♄. ⌒. S. Native of Guadaloupe. Galèga dùbia, Balb. herb. Calyx when young strigose, but at length becoming smooth, having the lobes acuminated. Corolla copper-coloured in a dried state.

Doubtful Galactia. Shrub tw.

11 G. JUSSIÆA'NA (Kunth. mim. 196. t. 55. nov. gen. amer. 6. p. 427.) stem creeping, suffruticose, clothed with silky tomentum; leaflets elliptic, rounded at both ends, rather coriaceous, silky-canescent above, but clothed with silky white tomentum beneath as well as the legumes; calyx clothed with silvery silky pubescence. ♄. S. Native of South America, on the banks of the river Orinoco, near Atures. Flowers rose-coloured.

Jussieu's Galactia. Shrub creeping.

12 G. BERTERIA'NA (D. C. prod. 2. p. 238.) stem twining, clothed with retrograde pili; petioles and leaves clothed with villous pubescence beneath; leaflets ovate, acutish, glabrous above; racemes spicate, longer than the leaves; calyxes glabrous, cleft into 4 beyond the middle: legume compressed, hooked at end, in consequence of the bent style, hairy in the middle of the valves, but glabrous on the margins. ♄. ⌒. S. Native of Porto-Rico. Flowers purple.

Bertero's Galactia. Shrub twining.

13 G. ANGUSTIFÒLIA (Kunth, mim. t. 56. nov. gen. amer. 6. p. 428.) stem erect, clothed with silky tomentum; leaflets linear-oblong, rounded at both ends, with the margins undulately-repand, coriaceous, clothed above with silky pubescence, and beneath with silky silvery tomentum; calyxes silky. ♃. S. Native of New Andalusia, on the declivities of Mount Tumiriquiri. Flowers purple?

Narrow-leafletted Galactia. Pl. 1 to 2 feet.

14 G. GLAUCE'SCENS (H. B. et Kunth, l. c.) stem erect? smoothish; leaflets elliptic-oblong, obtuse at both ends, coriaceous, glabrous, shining above, but glaucescent beneath; calyxes and legumes clothed with silky pubescence. ♄. S. Native of South America, in the province of Quito, at the river Cuella. Flowers violaceous.

Glaucescent Galactia. Shrub.

15 G. CORIA'CEA (Nees et Mart. nov. act. bonn. 12. p. 30.) shrubby, glabrous; leaflets ovate, cuspidate, glabrous, and reticulately veined beneath; racemes erect; pedicels tern; flowers pendulous. ♄. S. Native of Brazil. Calyx cylindrical, 4-cleft. Flowers of a beautiful red colour.

Coriaceous-leaved Galactia. Shrub 2 feet.

16 G. MA'RTII (D. C. prod. 2. p. 238.) stem prostrate, but twining at the apex; leaflets cordate-lanceolate, clothed beneath with yellowish silky pubescence, at length glabrous; racemes axillary; calyxes clothed with rufous villi. ♄. ⌒. S. Native of Brazil, in fields. Clitòria? angustifòlia, Nees. et Mart. nov. act. bonn. 12. p. 29. Calyx 4-cleft, in which particular it agrees with the rest of the species of this genus. Flowers bluish-purple.

Martius's Galactia. Pl. tw.

17 G.? NEE'SII (D. C. prod. 2. p. 238.) stems twining, tomentose; leaflets oblong, obtuse, tomentose beneath; flowers somewhat capitate; bracteas lanceolate; segments of calyx acuminated, villous. ♃. ⌒. S. Native of Brazil, in fields. Clitòria rubiginòsa, Nees et Mart. l. c. p. 29. but not of Pers. Corolla pale-blue. Calyx 4-cleft.

Nees's Galactia. Pl. tw.

18 G.? ELLIÓTTII (Nutt. gen. amer. 2. p. 117.) stems twining; leaves pinnate, with 3 pairs of oblong-elliptic, coriaceous, mucronulate, glabrous, shining leaflets, which are emarginate at both ends; racemes pedunculate, few-flowered, shorter than the leaves. ♃. ⌒. F. Native of South Carolina. Flowers pale-red. Lower segments of the calyx elongated. Ell. sketch. 2. p. 240. Flowers pale-red.

Elliott's Galactia. Pl. tw.

Cult. These plants should be cultivated and propagated in the same manner as that recommended for *Clitòria*, p. 216. but those species natives of North America do not require any heat.

LXXXVI. ODO'NIA (from *οδους οδοντος*, *odous odontos*, a tooth; in reference to the wings being furnished with one tooth each on the upper side). Bertol. lucub. 1822. p. 35. D. C. prod. 2. p. 239.

LIN. SYST. *Diadélphia, Decándria.* Calyx bractless, 4-parted, shorter than the corolla, the segments undivided and nearly equal. Vexillum erectly spreading. Wings having each a single tooth on the upper side. Carina bipartite below, deflexed, remote from the vexillum. Stamens diadelphous. Style hooked at length. Legume compressed, 1-celled, usually 8-seeded.—A twining, sarmentose herb, with pinnately trifoliate leaves and axillary racemes of flowers, which are shorter than the leaves. This genus comes very near *Galáctia.*

1 O. TOMENTÒSA (Bertol. l. c.). ♃. ⌒. S. Native of St. Domingo. Glycine velutina, Bertero, in herb. Balb. Young legumes clothed with velvety tomentum, adult ones almost glabrous.

Tomentose Odonia. Pl. tw.

Cult. See *Clitòria*, p. 216. for culture and propagation.

LXXXVII. STEGANO'TROPIS (from *στεγανος*, *steganos*, covered, and *τροπις*, *tropis*, a keel; in allusion to the keel being covered by the vexillum). Lehm. hort. sem. hamb. and nov. act. bonn. vol. 14. p. 820.

LIN. SYST. *Diadélphia, Decándria.* Calyx 5-toothed, bibracteate, permanent. Vexillum cucullate, bicallous at the base, and spurred behind, inclosing the wings and keel, which are membranous. Style membranous, dilated, and bearded at the apex. Legume linear, many-seeded.—A twining herb, with pinnately ternate leaves and 2-flowered peduncles.

1 S. CONJUGA'TUS (Lehm. in sem. hort. hamb. nov. act. bonn. xiv. p. 821.) stems villous; leaflets sessile, lanceolate, pubescent. ⊙. ⌒. S. Native of South America. Flowers greenish-yellow.

Conjugate-flowered Steganotropis. Fl. Ju. Jul. Clt. 1827. Pl. cl.

Cult. For culture and propagation see *Clitòria*, p. 216.

LXXXVIII. VILMORI'NIA (in honour of M. Vilmorin, Member of the Agricultural Society of Paris). D. C. prod. 2. p. 239.

LIN. SYST. *Diadélphia, Decándria.* Calyx bractless, cylindrical, obtusely 4-toothed, somewhat bilabiate. Corolla papilionaceous; petals oblong, with the wings shorter than the carina. Stamens diadelphous. Style glabrous, subulate, acute. Legume pedicellate, lanceolate, attenuated at the base, compressed, ending in a filiform point. Seeds 12-16.—An upright shrub, with impari-pinnate leaves. Stipulas broadish at the base, ending in a long subulate point. Racemes axillary. Flowers dark-red.

1 V. MULTIFLÒRA (D. C. prod. 2. p. 239.) stem erect, glabrous; leaves pinnate, with 5 or 6 pairs of ovate leaflets, which are pubescent on the under surface; racemes shorter than the leaves. ♄. S. Native of the West Indies, particularly in St. Domingo. Clitòria multiflòra, Swartz, fl. ind. occid. 3. p. 1253.

Many-flowered Vilmorinia. Clt. 1820. Shrub 6 feet.

Cult. For culture and propagation see *Clitòria*, p. 216.

LXXXIX. DIPLO'NYX (from *διπλοος*, *diploos*, double, and *ονυξ*, *onyx*, a claw; in reference to the wings, which are furnished with two claws each). Rafin. ex Spreng. syst. 3. p. 154.

LIN. SYST. *Diadélphia, Decándria.* Calyx urceolate, bilabiate, upper lip bifid, lower one trifid. Vexillum bent, with the claw glandular. Wings biunguiculate. Legume terete, 1-celled, many-seeded.—A twining shrub, with impari-pinnate leaves, having 6 pairs of leaflets; leaflets hastate, tomentose beneath. Flowers violaceous, disposed in racemes.

1 D. E'LEGANS (Rafin. ex Spreng. syst. 3. p. 277.). ♄. ⌒. G. Native of Louisiana.

Elegant Diplonyx. Shrub tw.

Cult. See *Clitòria* for culture and propagation, p. 216.

XC. BARBIE'RIA (in honour of J. B. G. Barbier, M. D. a French physician and naturalist, author of Principes Generaux de Pharmacologie ou de Matière Medicale, 1 vol. 8vo. Paris, 1806). D. C. leg. mem. vi. prod. 2. p. 239.

LIN. SYST. *Diadélphia, Decándria.* Calyx tubular, 5-cleft, bibracteate at the base; segments acuminated, equal. Corolla elongated; petals 5, on long stipes; wings shorter than the carina, and the carina shorter than the vexillum. Stamens diadelphous. Style filiform, bearded lengthwise at the apex. Stigma obtuse. Legume, judging from the ovary, linear, villous, 1-celled, many-seeded.—A shrub, with impari-pinnate leaves, having many pairs of stipellate leaflets. Racemes axillary, few-flowered, shorter than the leaves. Flowers of a scarlet-purplish colour. Stipulas and bracteas acuminated.

1 B. POLYPHY'LLA (D. C. l. c. t. 39.). ♄. S. Native of Porto-Rico. Clitòria polyphýlla, Poir. suppl. 2. p. 300. Galáctia pinnàta, Pers. ench. 2. p. 302. Flowers 2 inches long. Leaves having 9 to 11 pairs of elliptic-oblong, mucronate leaflets; the young ones canescent beneath, the adult ones pubescent.

Many-leafletted Barbieria. Clt. 1818. Shrub.

Cult. See *Clitòria*, p. 216. for culture and propagation.

XCI. KIESE'RIA (in honour of Kieser, some botanist known to Reinwardt). Reinw. ex Spreng. syst. 3. p. 153.

LIN. SYST. *Diadélphia, Decándria.* Calyx campanulate, 5-toothed, gibbous at the base, the lowest tooth longest and carinated. Vexillum orbicular. Stamens diadelphous. Style villous in front. Legume linear, compressed, hooked at the apex, 1-celled, many-seeded.—A tomentose shrub, with impari-pinnate leaves, and terminal racemes of white flowers.

1 K. SERI'CEA (Reinw. ex Spreng. syst. 3. p. 245.). ♄. S. Native of Java.

Silky Kieseria. Shrub.

Cult. For culture and propagation see *Clitòria*, p. 216.

XCII. GRO'NA (from *γρωνη*, *grone*, a cavern; in reference to the keel, which is hollowed beneath). Lour. coch. p. 459. D. C. prod. 2. p. 239.

LIN. SYST. *Diadélphia, Decándria.* Calyx permanent, 4-cleft; the lobes nearly equal, superior one emarginate. Corolla papilionaceous. Vexillum obcordate. Wings obtuse. Keel bent, concave below, joined with the wings as far as the middle. Stamens diadelphous, 9 joined together, and 1 free. Style filiform, crowned by a simple stigma. Legume straight, linear, compressed, many-seeded. Seeds kidney-shaped.—A suffruticose, creeping, prostrate plant, with simple, ovate, entire leaves, and subulate stipulas. Flowers purple, disposed in spikes, each bractea containing 2 flowers. Nearly allied to *Galáctia.*

1 G. RE'PENS (Lour. l. c.). ♄. G. Native of Cochin-china, on hills.

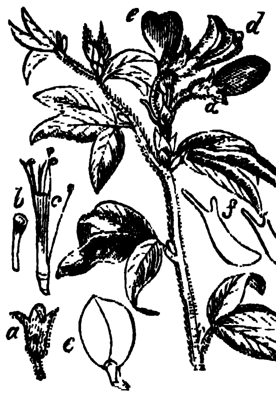
Creeping Grona. Pl. creeping.

Cult. A mixture of loam and sand will suit this genus, and cuttings will root freely in sand, under a hand-glass.

XCIII. COLLÆ'A (in honour of Aloysio Colla, of Turin, an acute botanist, author of Hortus Ripulénsis). D. C. ann. sc. nat. 1825. jan. p. 96. Leg. mem. vi. prod. 2. p. 240.

Lin. syst. *Diadélphia, Decándria.* Calyx 4-cleft (*f.* 35. *a.*), rather coloured on the inside; lobes oval-lanceolate, equal in length, upper one rather the broadest. Petals on long claws (f. 35. *f.*); the vexillum having 2 auricles, and the rest of the petals having only 1 auricle (f. 35. *f.*), those of the keel free at the base, obtuse, and straight. Stamens monadelphous, with the tube cleft in front, one of the stamens almost free (f. 35. *c.*). Ovary linear-oblong, very villous. Style linear, glabrous. Stigma capitate (*f.* 35. *b.*). Legume compressed, oval-oblong (f. 35. *e.*), tomentose, 4-6-seeded.—Shrubs, with terete, woody branches, ovate free deciduous stipulas, palmately trifoliate leaves, on short stalks, large purple flowers on long pedicels, 3 or 4 of which stand on the top of each peduncle, which is axillary and very short. Branches, peduncles, and lower surface of leaves tomentose, as well as the outside of the calyxes.

FIG. 35.



1 C. speciòsa (D. C. l. c. t. 40. prod. 2. p. 210.) leaflets oblong, acutish, quite smooth above, but clothed with hoary tomentum beneath. ♄. S. Native of Peru, about Huasa-Huasi. Cýtisus speciòsus, Lois. in Duham. arb. ed. nov. 5. p. 160. Odònia speciòsa, Spreng. syst. append. p. 279. Stamens 8, 5 of which bear anthers.

Shewy Collæa. Shrub.

2 C. trine'rvia (D. C. l. c. t. 41.) leaflets elliptic, cuneated at the base, 3-nerved, obtuse, mucronulate, clothed with velvety pubescence, reticulated, and somewhat tomentose beneath. ♄. S. Native of the East Indies, on the Nelligery mountains. Odònia trinérvia, Spreng. l. c. Stamens 10, diadelphous. Legume mucronated by the style, which is hooked at the base.

Three-nerved-leafletted Collæa. Shrub.

Cult. These shrubs will grow well in a mixture of loam and peat, and young cuttings will root freely in sand, under a bell-glass. They are both elegant shrubs when in flower.

XCIV. OTO'PTERA (from ους ωτος, *ous otos*, an ear, and πτερον, *pteron*, a wing; in allusion to the wings being furnished with an auricle on the unguis). D. C. legum. mem. vi. prod. 2. p. 240.

Lin. syst. *Monadélphia, Decándria.* Calyx 5-cleft, with the tube attenuated at the base; lobes acuminated, somewhat unequal, 2 superior ones approximate. Corolla papilionaceous. Vexillum large, roundish. Wings oblong, furnished each with an incurved, acute auricle on the stipe. Carina 2-edged. Stamens joined into an entire tube. Ovary linear, straight, compressed, many-ovulate. Style incurved, thickened at the apex. Legume unknown.—A smooth Cape subshrub, with pinnately trifoliate leaves; leaflets lanceolate-linear, ending each in a long mucrone, the lateral ones furnished each with one little stipule, the terminal one with two. Peduncles axillary, longer than the leaves, 2-flowered. Perhaps allied to *Psoràlea* or *Clitòria*.

1 O. Burche'llii (D. C. leg. mem. vi. t. 42.). ♄. ⌒. G. Native of the Cape of Good Hope. Branches terete, and perhaps twining. Lebéckia Burchéllii, Spreng. syst. app. 273.

Burchell's Otoptera. Shrub tw.?

Cult. For culture and propagation see *Clitòria*, p. 216.

XCV. PUERA'RIA (in honour of M. M. N. Puerari, a professor at Copenhagen). D. C. ann. sc. nat. 1825. jan. p. 29. Leg. mem. vi. prod. 2. p. 240.

Lin. syst. *Monadélphia, Decándria.* Calyx campanulate, bluntly bilabiate, upper lip entire or hardly bidentate, lower one trifid. Corolla papilionaceous. Keel straight, obtuse. Vexillum obovate. Stamens monadelphous. Legume compressed, attenuated into a stipe at the base, and apiculated by the style, 2-valved, continuous, many-seeded.—Climbing Indian shrubs, with deciduous stipulas, distinct from the petiole. Leaves trifoliate; leaflets large, ovate, acute, reticulately nerved, stipellate at the base. Racemes compound, branched. Flowers pedicellate, twin, or tern, yellowish. Fruit not sufficiently known. A very distinct genus from *Hedýsarum*.

1 P. tuberòsa (D. C. l. c.) leaves pubescent on the upper surface, but clothed with silky villi on the under as well as the calyxes and pedicels. ♄. ◡. S. Native of the East Indies. Racemes of flowers nearly 2 feet long. Hedýsarum tuberòsum, Roxb. in Willd. spec. 3. p. 1197.

Tuberous-rooted Pueraria. Shrub cl.

2 P. Walli'chii (D. C. leg. mem. vi. t. 43.) leaves glabrous on the upper surface, but pubescent on the under as well as the calyxes and pedicels. ♄. ◡. G. Native of Nipaul. Racemes 3 or 4 inches long.

Wallich's Pueraria. Shrub cl.

Cult. For culture and propagation see *Clitòria*, p. 216.

XCVI. DUMA'SIA (in honour of M. Dumas, one of the editors of Annales des Sciences Naturelles). D. C. ann. sc. nat. jan. 1825. p. 96. leg. mem. vi. prod. 2. p. 241.

Lin. syst. *Diadélphia, Decándria.* Calyx cylindrical, obliquely truncate, toothless, bibracteolate at the base. Corolla papilionaceous, the claws of the petals about equal in length to the calyx. Carina obtuse. Stamens diadelphous, permanent. Style dilated in the middle. Stigma terminal. Legume attenuated at the base, 2-valved, compressed, few-seeded, torulose.—Climbing herbs, which are perhaps suffruticose at the base. Leaves pinnately trifoliate; leaflets ovate. Racemes axillary, usually shorter than the leaves. Legumes velvety, from crowded short down. Bracteoles 2, small, subulate, under the calyx.

1 D. villòsa (D. C. l. c. t. 44. prod. 2. p. 241.) branches, petioles, peduncles, and young leaves, hairy; leaflets ovate-lanceolate, adult ones almost glabrous; legume 3-times longer than the calyx. ♃. ◡. G. Native of Nipaul. Flowers pale in a dried state, 5 lines long.

Villous Dumasia. Fl. Aug. Dec. Clt. 1824. Pl. tw.

2 D. pube'scens (D. C. l. c. t. 45. prod. 2. p. 241.) branches, petioles, peduncles, and leaves pubescent; leaflets ovate; legume 4-times longer than the calyx. ♄. ⌒. G. Native of Nipaul. Flowers yellow. Lindl. bot. reg. 962.

Pubescent Dumasia. Fl. Aug. Dec. Clt. 1824. Pl. tw.

Cult. For culture and propagation see *Clitòria*, p. 216.

XCVII. GLY'CINE (from γλυκυς, *glycys*, sweet; the leaves and roots of one or two of the species are sweet). D. C. leg. mem. vi. prod. 2. p. 241. Glycine species of authors.

Lin. syst. *Diadélphia, Decándria.* Calyx 5-cleft, somewhat bilabiate; upper lip bifid, lower one trifid. Corolla papilionaceous; vexillum not bicallous at the base. Keel not spirally twisted. Stamens diadelphous. Style filiform, acute. Legume linear, compressed, straight, many-seeded, 2-valved, 1-celled, ending in a thickish, hooked mucrone from the style.—Climbing herbs, with pinnately trifoliate leaves, and with the flowers rising in fascicles from the axils of the leaves or in racemes. Many genera are established from *Glycìne*, as it formerly stood, as *Rhynchòsia, Kennèdia, A'pios Voandzèia, Ròthia, Amphicárpa, Wistària*, and *Chætocàlyx.*

1 G. HEDYSAROÌDES (Willd. spec. 3. p. 1062.) stem erect, tomentose; branches twining a little; leaflets ovate, obtuse, mucronate, pilose beneath; flowers axillary, usually 5 together; legume broadest at the apex, ending in a short, erect, obtuse mucrone. ♄. ⌒. S. Native of Guinea. Flowers purple.

Hedysarum-like Glycine. Fl. Ju. Jul. Clt. 1823. Pl. 2 ft. tw.

2 G. CLANDESTÌNA (Wendl. obs. Willd. spec. 3. p. 1054.) stem twining, filiform, villous; leaflets lanceolate, pubescent beneath; flowers axillary, tern; calyx closed, larger than the 3-petalled corolla; legume hardly pubescent. ♄. ⌒. G. Native of New Holland. Flowers small, pale-yellow. Valves of legumes rather convex.

Clandestine-flowered Glycine. Fl. July, Aug. Clt. 1824. Shrub tw.

3 G. EMARGINA'TA (Desv. herb. ex Hamilt. prod. fl. ind. occ. p. 50.) stem woody; leaflets 3, elliptic-oblong, emarginate, about 2 inches long, quite glabrous, reticulated; flowers in spikes; calycine segments subulate, elongated. ♄. S. Native of St. Domingo.

Emarginate-leafletted Glycine. Shrub.

4 G. DE'BILIS (Ait. hort. kew. ed. 1. vol. 3. p. 54.) stem twining, filiform, beset with retrograde hairs; leaflets oval, pubescent beneath; flowers axillary, crowded; calyx silky, a little shorter than the corolla; legume glabrous, ending in a hooked style. ♂. ⌒. S. Native of the East Indies. G. labiàlis, Lin. fil. suppl. 3. p. 325. Flowers small, copper-coloured.

Weak Glycine. Fl. June, July. Clt. 1778. Pl. tw.

5 G. MI'NIMA (Willd. enum. 756.) stem twining, beset with retrograde pili; leaflets elliptic, acutish at both ends; flowers axillary, almost sessile, twin; legume glabrous, hooked at the apex. ♃. ⌒. G. Native of New Holland. Flowers purple.

Least Glycine. Fl. July, Aug. Clt. 1818. Pl. tw.

6 G.? LAGASCA'NA (D. C. prod. 2. p. 241.) stems twining; leaves and legumes clothed with villous tomentum; leaflets oval; racemes sessile, axillary, very short, few-flowered; legume ending in a short, straight mucrone. ♄. ⌒. S. Native of? Legume an inch and a half long, 2-4 lines broad, 4-6-seeded; seeds intercepted by cellular substance.

Lagasca's Glycine. Shrub tw.

7 G. STRIA'TA (Lin. fil. suppl. 326. Jacq. hort. vind. t. 76.) stem twining; leaflets oblong, clothed with hoary, soft, pubescence; racemes axillary, length of leaves; legumes very hairy. ♄. ⌒. S. Native of South America. Flowers striped, purple.

Striated-flowered Glycine. Fl. Jul. Aug. Clt. 1818. Sh. tw.

8 G. TENUIFLÒRA (Klein, in Willd. spec. 3. p. 1059.) stem twining; leaflets oblong, mucronate, shining, pilose beneath; racemes axillary, filiform; legume linear, acute, rather falcate, and rather pilose. ♄. ⌒. S. Native of the East Indies, on hills about Pondicherry. Flowers small, twin, remote, purplish?

Fine-flowered Glycine. Shrub tw.

9 G. PARVIFLÒRA (Lam. dict. 2. p. 738.) stems twining, rather angular; branches clothed with retrograde villi; leaflets ovate, pubescent beneath; racemes axillary, shorter than the leaves; legume linear, smoothish, ending in a thick hooked mucrone. ♂.? ⌒. S. Native of the East Indies. Flowers small, red.

Small-flowered Glycine. Fl. Jul. Aug. Clt. 1812. Pl. tw.

10 G. SENEGALE'NSIS (D. C. prod. 2. p. 242.) stem twining, terete; branches clothed with retrograde villi; leaflets ovate, pubescent above, but at length smooth, villous beneath; racemes axillary, longer than the leaves; legume linear, glabrous, ending in a thick hooked mucrone. ♄. ⌒. S. Native of Senegal. Flowers small, purplish?

Senegal Glycine. Shrub tw.

11 G. SERÍCEA (Willd. spec. 3. p. 1059.) stems twining; leaflets ovate, retuse, silky beneath; racemes longer than the leaves; legumes, when not mature, linear, acuminated, clothed with white silky pubescence. ♄. ⌒. S. Native of Guinea. Flowers of *Clitòria*, reddish, but the vexillum is narrow, oblong-obovate, and reflexed.

Silky Glycine. Shrub tw.

12 G. GUINEE'NSIS; plant twining and villous; leaves pinnately trifoliate; leaflets ovate-lanceolate, clothed with silky villi beneath; peduncles 3-4-flowered; legume compressed. ♃. ⌒. S. Native of the Island of St. Thomas, in the Gulf of Guinea. Flowers small.

Guinea Glycine. Pl. tw.

13 G. BÍLOBA (Lindl. bot. reg. 1418.) stem twining, pilose; leaflets oval, mucronulate, pubescent; racemes axillary, many-flowered, erect, shorter than the leaves; vexillum 2-lobed ♃. ⌒. S. Native of Mexico. Flowers violaceous.

Two-lobed Glycine. Fl. Nov. Clt. 1827. Pl. tw.

† *Species not sufficiently known.*

14 G. ANGULA'TA (Desv. journ. bot. 1814. vol. 1. p. 78.) stem angular; the angles hairy; leaflets ovate-oblong, obtuse, silky beneath; legumes linear, compressed, hairy. Native of North America.

Angular-stemmed Glycine. Pl. ?

15 G. EMARGINA'TA (Desv. l. c.) stems twining, woody; branches pubescent; leaflets quite smooth, emarginate at the apex; flowers racemose. ♄. ⌒. S. Native of the Antilles.

Emarginate-leafletted Glycine. Shrub tw.

16 G. LEUCOSPE'RMA (Desv. l. c.) stem twining, herbaceous, pubescent; leaflets elliptic, coriaceous, quite smooth; legume pilose. ♄. ⌒. S. Native of St. Domingo.

White-seeded Glycine. Shrub tw.

17 G. LANCIFÒLIA (Lag. nov. gen. et spec. p. 24.) stem twining; leaflets narrow, lanceolate, glabrous, lateral ones oblique; peduncles axillary, solitary, racemosely 4-flowered. ♄. ⌒. G. Native of the Canary Islands.

Lance-leafletted Glycine. Shrub tw.

18 G. ERE'CTA (Thunb. l. c.) stem erect, hairy; leaflets oblong, villous, having rather revolute margins; flowers usually 4 in an umbel. ♄. G. Native of the Cape of Good Hope. Flowers rufescent.

Erect Glycine. Shrub 2 to 3 feet.

19 G. HETEROPHY'LLA (Thunb. l. c.) stems decumbent and twining a little, glabrous; leaflets oblong and linear, glabrous; with somewhat revolute margins; flowers umbellate. ♃. ⌒. G. Native of the Cape of Good Hope. Flowers yellow.

Variable-leaved Glycine. Fl. July, Aug. Clt. 1816. Pl. tw.

20 G. ARGE'NTEA (Thunb. l. c.) stems twining, clothed with silky tomentum; leaflets ovate, somewhat mucronate, clothed with white tomentum beneath; peduncles axillary, 4-5-flowered; flowers umbellate. ♃. ⌒. G. Native of the Cape of Good Hope. Flowers yellowish.

Silvery Glycine. Pl. tw.

21 G. MONNIE'RA (D. C. prod. 2. p. 242.) stems diffuse, terete, glabrous; branches twining a little, clothed with adpressed pubescence; leaflets obovate or oval, rather acute, glabrous above, but clothed with adpressed pubescence beneath; peduncles longer than the leaves; flowers racemose, at length reflexed. ♄.? ⌒. G. Native of the Cape of Good Hope. Monnièra trifòlia, Burm. cap. prod. p. 20. exclusive of the synonymes.

Monnier's Glycine. Shrub cl.

22 G. SECU′NDA (Thunb. prod. 131. fl. cap. 591.) stems decumbent, filiform, angular, pubescent; leaflets roundish, glabrous above; racemes pedunculate, axillary, many-flowered; flowers secund; legumes hairy. ♃. G. Native of the Cape of Good Hope, in grassy places. Flowers yellow.

Secund-flowered Glycine. Fl. Jul. Aug. Clt. 1825. Pl. dec.

23 G. JAVA′NICA (Lin. spec. 1024.) stem twining, beset with retrograde villi as well as the petioles; peduncles length of leaves; flowers disposed in dense spikes, nodding; bracteas lanceolate, minute. Native of the East Indies and Japan. Thunb. in Lin. trans. vol. 2. p. 340. Flowers violaceous. The plant under this name in the herbarium of Retzius has 3-lobed repand leaflets, the middle lobe acute, the lateral ones short and very blunt; the peduncles are also longer than the leaves, and the flowers are disposed in rather loose spikes, also the calyx is acutely 5-toothed. It is, however, only the same species.

Java Glycine. Pl. tw.

24 G. VILLÒSA (Thunb. fl. jap. 283.) stems twining, tomentose; leaflets 3-lobed, acute, tomentose; racemes pedunculate, axillary, 2-5-flowered; legume tomentose. ♃. ? ⌒. G. Native of Japan. Flowers purplish ?

Villous Glycine. Pl. tw.

Cult. See *Clitòria* for culture and propagation, p. 216.

XCVIII. CHÆTO′CALYX (from χαιτη, *chaite*, a bristle, and καλυξ, *calyx*; in reference to the calyx being covered with spiny bristles). D. C. Leg. mem. vi. prod. 2. p. 243.

LIN. SYST. *Diadélphia, Decándria.* Calyx beset with glands and spiny bristles, bilabiate; segments subulate, those of the superior lip recurved, of the lower lip adpressed. Vexillum roundish, emarginate; keel conforming to the wings. Stamens diadelphous; filaments connected at the base. Ovary linear, many-seeded. Style compressed, filiform, villous. Legume unknown.—Frutescent twining plants, with impari-pinnate leaves, having 2 pairs of oval, mucronate, exstipellate leaflets. Stipulas lanceolate-linear, spreadingly deflexed. Pedicels filiform, 1-flowered, rising in numbers from the axils of the leaves. Flowers yellow. This genus has the habit of *Tephròsia*, but is perhaps more nearly allied to *Glýcine.*

1 C. VINCENTÌNA (D. C. prod. 2. p. 243.) leaflets obovate, glabrous on both surfaces, but pale beneath. ♄. ⌒. S. Native of the Island of St. Vincent. Glýcine Vincentìna, Lindl. bot. reg. 799.

St. Vincent Chætocalyx. Fl. May, Aug. Clt. 1823. Sh. tw.

2 C. PUBE′SCENS (D. C. prod. 2. p. 243.) leaflets oval, mucronate, clothed with velvety pubescence on both surfaces, as well as branches. ♄. ⌒. S. Native of St. Domingo. Glýcine pubéscens, Bertero, in herb. Balb. The stamens which were examined in one young flower were seen to be almost distinct.

Pubescent Chætocalyx. Shrub tw.

Cult. See *Clitòria* for culture and propagation, p. 216.

SUBTRIBE IV. GALE′GEÆ (plants agreeing in some important characters with *Gálega*). Bronn. l. c. exclusive of some genera, D. C. prod. 2. p. 243. Legume 1-celled (f. 36. *c.* f. 37. *c.*). Stamens diadelphous, rarely monadelphous. Stems herbaceous, shrubby, or arboreous. Leaves alternate or opposite, lower ones simple, the rest impari-pinnate.

XCIX. PETALOSTE′MUM (from πεταλον, *petalon*, a petal, and στημων, *stemon*, a stamen; in reference to the stamens being joined to the petals at the base). Michx. fl. bor. amer. 2. p. 48. D. C. prod. 2. p. 243.

LIN. SYST. *Monadélphia, Pentándria.* Calyx 5-cleft or 5-toothed. Petals 5, unguiculate, like each other in shape. Stamens 5, joined together into a tube. Vexillum conduplicate, free. Legume covered by the calyx, 1-seeded, indehiscent.—Perennial North American herbs, beset with glandular dots, with impari-pinnate leaves, and with the flowers disposed in dense, pedunculate spikes, which are either opposite the leaves, or terminal from the upper branches becoming abortive.

SECT. I. PETALOSTE′MON (see genus for derivation). D. C. prod. 2. p. 243.—Dàlea, with pentandrous flowers, Vent. Calyx 5-toothed; teeth short, not plumose. Petals on long claws, with roundish limbs. Spikes of flowers cylindrical; bracteas subulate.

1 P. CA′NDIDUM (Michx. fl. bor. amer. 2. p. 48. t. 37. f. 1.) spike cylindrical, on a long peduncle; bracteas longer than the flowers; leaves glabrous, with 3 pairs of lanceolate leaflets. ♃. F. Native of Tenessee, in the Illinois region, and on the banks of the Missouri. Dàlea cándida, Willd. spec. 3. p. 1337. Psoràlea cándida, Poir. suppl. Flowers white.

White-flowered Petalostemum. Fl. July, Aug. Clt. 1811. Pl. 1 foot.

2 P. CA′RNEUM (Michx. l. c.) spikes cylindrical, pedunculate; bracteas subulate, length of calyx; bracteoles setaceous, permanent; calyxes glabrous; leaflets lanceolate. ♃. F. Native of Georgia and Florida, in pine forests. Flowers pale flesh-coloured.

Flesh-coloured-flowered Petalostemum. Fl. July, Aug. Clt. 1811. Pl. 1½ foot.

3 P. VIOLA′CEUM (Michx. l. c. t. 37. f. 2.) spike cylindrical, on a short peduncle; bracteas about equal in length to the calyx; bracteoles spatulate, deciduous; calyxes silky; leaves having 2 pairs of linear leaflets. ♃. F. Native of Tenessee, in the Illinois country, and in the prairies of the Missouri. Dàlea violàcea, Willd. spec. 3. p. 1337. Dàlea purpùrea, Vent. hort. cels. t. 40. Psoràlea violàcea, Poir. suppl. Sims, bot. mag. 1707. Flowers pale-purple.

Violaceous-flowered Petalostemum. Fl. July, Sept. Clt. 1811. Pl. 1 foot.

4 P. MACROSTA′CHYUM (Torrey, in ann. lyc. 2. p. 176.) spike cylindrical, compact, very long; bracteas lanceolate; calyxes clothed with silky villi; leaves generally with 3 pairs of lanceolate-oblong glabrous leaflets. ♃. H. Native of North America, about the forks of the Platte. Flowers small, white.

Long-spiked Petalostemum. Pl. 2 feet.

5 P. RÒSEUM (Nutt. in Sillim. amer. journ. 5. p. 1822. p. 298.) plant glabrous; leaflets linear; bracteas subulate, very short, permanent; calyx striated, glabrous. ♃. F. Native of Eastern Florida. Very like *P. violàceum*, but differs in the calyxes being perfectly glabrous, and in the petals being rose-coloured.

Rose-coloured-flowered Petalostemum. Pl. 1 foot.

6 P. VILLO′SUM (Nutt. gen. amer. 2. p. 85.) plant villous, decumbent; spike cylindrical, nearly sessile; bracteas shorter than the woolly calyx; leaves having 7 pairs of linear-oblong leaflets. ♃. F. Native in sandy places near the river Missouri about Fort Mandan, at the Knife river. Root fusiform. Petals pale-red.

Villous Petalostemum. Pl. decumbent.

SECT. II. KUHNISTE′RA (in honour of Adam Kuhn, a pupil of Linnæus. There is, however, a genus *Kúhnia*, named by Linneus in compliment to him; the different termination of the word is to distinguish it from that genus). Lam. dict. 3. p. 370. Vent. mem. soc. hist. nat. par. p. 113. D. C. prod. 2. p. 244.—Cylipògon, Rafin. in journ. phys. aug. 1819. p. 97. Calyx almost 5-parted; segments plumose. Petals linear, attenuated at the base. Flowers capitate. Bracteas scarious, roundish, forming as it were an involucrum to the head of the flowers. Perhaps a proper genus.

7 P. CORYMBÒSUM (Michx. ex Poir. in herb. Juss. D. C. prod. 2. p. 244.) flowers disposed in panicled corymbs; leaves having 2-3 pairs of linear, awnless, glabrous leaflets; segments of the calyx very villous. ♃. F. Native of Carolina and Georgia, in pine barrens. Kúhnia affi'nis, Walt. car. 103. Kuhnistèra Carolinénsis, Lam. dict. l. c. Dàlea Kuhnistèra, Willd. spec. 3. p. 1337. Cylipògon virgàtum, Rafin. l. c. Petals white.

Corymbose-flowered Petalostemum. Fl. July, Sept. Clt. 1811. Pl. 1½ foot.

8 P.? CAPITA'TUM (D. C. prod. 2. p. 244.) stem striated, silky; leaflets 5, oblong-cuneiform, obtuse, entire, silky; spike oblong, capitate, clothed with rufous villi; bracteas imbricated; stamens inclosed. ♃. F. Native of the plains of Missouri. Cylipògon capitàtum, Rafin. l. c. Flowers yellow. Stamens 8, connected together at the base in this, as well as the following species, according to Rafin. l. c.

Capitate-flowered Petalostemum. Pl. 1 foot.

Cult. The species of this genus are very difficult to preserve in gardens. They should be grown in pots in a mixture of loam, leaf mould, and sand; and they are increased by seeds, or by dividing the plants at the roots.

C. DA'LEA (in honour of Thomas Dale, an English botanist of the last century). Lin. hort. cliff. 363. Michx. fl. bor. amer. 2. p. 56. D. C. prod. 244.—Parosélla, Cav. elench. hort. madr. —Dàlea, with decandrous flowers, Vent. Willd.

LIN. SYST. *Monadélphia, Decándria.* Calyx 5-cleft (f. 36. *a.*) or 5-toothed, sometimes beset with glands. Wings and carina adhering to the tube of the stamens. Vexillum short, free (f. 36. *b.*). Stamens 10, monadelphous. Legume ovate, 1-seeded (f. 36. *c.*), shorter than the calyx.—American herbs, which are sometimes suffruticose at the base, beset with glandular dots in every part. Stipulas adhering to the petioles at the base. Leaves impari-pinnate, having the terminal leaflet sessile. Flowers disposed in pedunculate spikes, which are opposite the leaves.

1 D. LAXIFLO'RA (Pursh, fl. sept. amer. 2. p. 741.) plant quite glabrous; stem tall, branched; leaves with usually 4 pairs of linear-oblong leaflets; racemes few-flowered; flowers distinct, having 9 stamens; bracteas glabrous, acute; calycine segments acuminated, silky, and plumose. ♃. F. Native of Upper Louisiana, Nutt. gen. amer. 2. p. 101. D. enneándra, Fras. Psoràlea laxiflòra, Poir. suppl. Flowers white. Leaves small, strong-scented. Calyx almost like that of *Petalostèmum*, Sect. vi. *Kuhnistèra.* Root reddish, and rather fusiform.

Loose-flowered Dalea. Fl. Jul. Aug. Clt. 1811. Pl. 3 to 4 ft.

2 D. AU'REA (Nutt. in Fras. cat. 1813. gen. amer. 2. p. 101.) plant clothed with silky villi; stem erect; leaves having 4 pairs of obovate leaflets, which are pilose beneath; spikes of flowers dense, cylindrical; bracteas rhomboid-ovate, about equal in length to the calyx; calyx densely clothed with wool; the teeth subulate. ♃. F. Native of Upper Louisiana, near White-river, on the Missouri. Pursh, fl. sept. amer. 2. p. 741. Psoràlea aúrea, Poir. suppl. Flowers golden-yellow.

Golden-flowered Dalea. Fl. July, Aug. Clt. 1811. Pl. 2 ft.

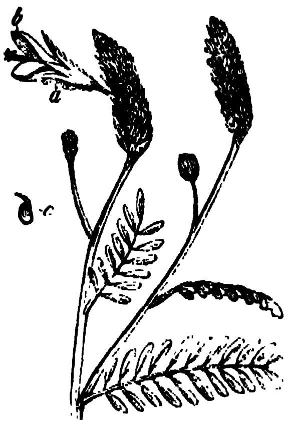
3 D. ALOPECUROI'DES (Nutt. gen. amer. 2. p. 101.) plant glabrous and erect; leaves having 10-15 pairs of linear-elliptic retuse leaflets; spikes of flowers ovate or cylindrical, pedunculate, beset with silky villi; bracteas length of calyx. ⊙. H. Native of Georgia, Florida, and Louisiana. Lin. hort. cliff. t. 22. Psoràlea Dàlea, Lin. D. Linnæ'i, Michx. fl. bor. amer. 2. p. 57. t. 38. D. alopecuroìdes and D. Cliffortiàna, Willd. spec. 3. p. 1336. Petalostèmum alopecuroìdeum, Pursh, fl. sept. amer. 2. p. 461. Psoràlea alopecuroìdes, Poir. Flowers having a white vexillum, and pale-violet wings and keel.

Fox-tail-like-spiked Dalea. Fl. Jul. Aug. Clt. 1812. Pl. 1 ft.

4 D. PEDUNCULA'TA (Pursh, fl. sept. amer. 2. p. 474.) plant smoothish; leaves with usually 6 pairs of linear, acute, mucronate leaflets; spikes of flowers oblong, axillary, rather crowded, and short; peduncles 3 times shorter than the leaves; bracteas minute, length of pedicels; teeth of calyx subulate. ⊙. H. Native on the banks of the river Mississippi. Flowers rose-coloured. Perhaps the same as *D. alopecuroìdes*, ex Nuttall.

Pedunculate-spiked Dalea. Pl. 1 foot.

FIG. 36.



5 D. LAGÒPUS (Willd. spec. 3. p. p. 1340.) plant glabrous, erect; leaves with 9-15 pairs of obovate-oblong obtuse leaflets; spikes of flowers pedunculate, cylindrical, beset with silky villi; bracteas ovate, acuminated, shorter than the calyx. ⊙. H. Native of Mexico. Psoràlea lagòpus, Cav. icon. 1. t. 86. P. leporìna, Ait. hort. kew. ed. 1. vol. 3. p. 81. Spike about an inch long. Flowers violaceous.

Hare's-foot Dalea. Fl. Oct. Nov. Clt. 1780. Pl. 2 to 4 feet.

6 D. ANGUSTIFÒLIA; plant herbaceous, smooth; leaflets 3 or 5 pairs, linear, pointless, glandular beneath; spike cylindrical; calyx downy, fulvous, with awl-shaped feathery teeth. ⊙. H. Native of Mexico. Stipels obsolete. Spike of flowers 2 inches long. Bracteas ovate, acuminated, blackish. Flowers small, purple. (v. s. herb. Lamb.)

Narrow-leafletted Dalea. Pl. 1 foot.

7 D. ALOPECU'RUS (Sesse and Moc. mss.) plant herbaceous, simple, hairy; leaves with 5 pairs of lanceolate, acute leaflets; spikes ovate-cylindrical, on long peduncles; calyx very hairy, with awl-shaped, feathery teeth; stipulas long and narrow. ⊙. H. Native of Mexico. Flowers large, purple. (v. s. herb. Lamb.)

Fox-tail-spiked Dalea. Pl. 1 foot.

8 D. SERI'CEA (Lag. nov. gen. et spec. p. 23.) plant ascending, clothed with adpressed silky villi; leaves with 4 or 5 pairs of oval-lanceolate acute leaflets; spikes of flowers ovate, on very long peduncles, silky-villous; bracteas oblong, acuminated, shorter than the calyx. ♃. S. Native of Mexico, near Guanaxuato. D. lóngipes, Moc. et Sesse, fl. mex. icon. ined. D. gràcilis, Kunth, mim. 166. t. 48. H. B. et Kunth, nov. gen. amer. 6. p. 481. Flowers of a dark-violaceous colour. Peduncles 8 or 9 inches long.

Silky Dalea. Fl. July, Aug. Clt. 1824. Pl. 1½ foot.

9 D. ACUTIFÒLIA (Moc. et Sesse, fl. mex. ined. D. C. prod. 2. p. 245.) plant glabrous, erect; leaves with 3 or 4 pairs of oblong-linear acute leaflets, the odd one longest; spike of flowers oblong, almost terminal, pedunculate; bracteas longer than the calyx. ⊙. G. Native of Mexico, on the mountains of Chilapan, in humid places. Flowers mixed with white and purple.

Acute-leaved Dalea. Pl. 1 foot.

10 D. HYPOGLOTTI'DEA (D. C. prod. 2. p. 245.) plant spreading, smoothish; leaves with 11-13 pairs of ovate leaflets; spikes of flowers ovate, on long peduncles, which are lateral and pubescent; bracteas length of calyx. ♃. S. Native of Mexico. Flowers purple. D. astragalina, Moc. et Sesse, fl. mex. ined.

Under-tongued Dalea. Pl. spreading.

11 D. ASTRAGALI'NA (H. B. et Kunth, nov. gen. amer. 6. p. 484.) plant shrubby, much branched; leaves with 8-11 pairs of lanceolate-oblong, mucronate leaflets, which are hardly scabrous above, but pubescent beneath, as well as the branches, and

somewhat glandular; spikes of flowers opposite the leaves, cylindrical, pedunculate; calyx glandular at the base, and with a hairy limb. ♄. S. Native of South America, near Quito, and on the mountains about Popayan. Flowers rose-coloured.

Astragalus-like Dalea. Shrub 4 to 6 feet.

12 D. PECTINA'TA (Kunth, mim. 169. t. 49. nov. gen. amer. 6. p. 483.) plant erect or procumbent, many-stemmed; leaves with 20-30 pairs of linear, acutish, canaliculately-concave, glabrous, glaucescent leaflets; spikes of flowers ovate-oblong, on long peduncles; bracteas subulate; calyx glandular and hairy. ♃. G. Native of Mexico, near Villalpando. Flowers violaceous, but yellow at the claws.

Pectinated-leaved Dalea. Pl. procumbent.

13 D. LANA'TA (Sesse et Moc. mss.) herbaceous, smooth; leaflets in many pairs, elliptic-oblong, blunt, glandular beneath; stipels obsolete; spike capitate; teeth of calyx awl-shaped, feathery. ⊙. S. Native of Mexico. D. lutéscens, Cerv. mss. Flowers large, white, tinged with purple. (v. s. herb. Lamb.)

Woolly Dalea. Pl. ½ foot.

14 D. PULCHE'LLA; herbaceous, smooth, with glandular, slightly warted branches; leaves with many pairs of obcordate leaflets, glandular on both surfaces, lower pair the largest and recurved; stipulas minute; spikes capitate; calyx very hairy, with bristle-shaped, feathered teeth. ⊙. S. Native of Mexico. Leaflets very small. Flowers large, purple. A slender plant. (v. s. herb. Lamb.)

Neat Dalea. Pl. ½ to 1 foot.

15 D. TUBERCULA'TA (Lag. nov. gen. et spec. p. 23.) plant erect, suffruticose, glabrous; stem and branches beset with tubercles; leaves with 4 pairs of cuneate-oblong retuse leaflets, which are beset with dot-like tubercles beneath; spikes of flowers oblong-cylindrical, villous; bracteas ovate, shorter than the calyx. ♄. G. Native of Mexico. Parosélla tuberculàta, Cav. elench. hort. madr. 1805. D. pendulìna, Moc. et Sesse, fl. mex. icon. ined.? Flowers purple.

Tubercled Dalea. Fl. July, Aug. Clt. 1824. Shrub 1 to 2 ft.

16 D. FORMÒSA (Torrey, in ann. lyc. 2. p. 177.) suffruticose, much branched, glabrous; leaves with 5 pairs of cuneate-oblong, retuse leaflets, which are beset with black dots beneath; spikes loose, few-flowered, on short peduncles; bracteas ovate, shorter than the calyx; calyx feathery, villous. ♄. G. Native of North America, on the Platte. Flowers large and shewy bright-purple. Allied to D. tuberculàta, Lag. but differs in its smooth stem and branches, and loose spikes of flowers.

Shewy Dalea. Shrub 1 to 2 feet.

17 D. CITRIODÒRA (Willd. spec. 3. p. 1339.) plant erect, glabrous, branched; stems beset with a few tubercles; leaves with 9-11 pairs of elliptic-oblong, glandless leaflets; spikes of flowers ovate, pedunculate; calyx villous, 10 nerved: bracteas ovate, mucronate by a bristle, rather longer than the calyx, deciduous. ⊙. H. Native of Mexico. Psoràlea citriodòra, Cav. icon. 3. t. 271. Psoràlea foliolòsa, Ait. hort. kew. ed. 1. vol. 3. p. 32. Dàlea latéripes, Moc. et Sesse, fl. mex. icon. ined. Flowers mixed with white and purple. Plant when bruised smelling of lemon.

Citron-scented Dalea. Fl. Oct. Nov. Clt. 1780. Pl. 1 foot.

18 D. LU'TEA (Willd. spec. 3. p. 1341.) plant decumbent, tomentose; leaves with 6 or 8 pairs of obovate, slightly emarginated leaflets, but the terminal one is longest; spikes of flowers ovate at first, but at length becoming cylindrical, pedunculate, villous; bracteas ovate, acute, shorter than the calyx. ♃. G. Native of Mexico. D. ovalifòlia, Ort. dec. p. 30. t. 3. Psoràlea lùtea, Cav. icon. 4. t. 325. D. flàva, Moc. et Sesse, fl. mex. icon. ined. Flowers yellow. Teeth of calyx awl-shaped, feathery.

Yellow-flowered Dalea. Pl. decumbent.

19 D. MUTA'BILIS (Willd. spec. 3. p. 1339.) erect, branched, glabrous; leaves with 5-10 pairs of obovate or obcordate leaflets; spikes of flowers cylindrical, at length much elongated, pedunculate; peduncles hispid just under the spike; calyx glabrous, striated with 10 black nerves; bracteas ovate, terminated by a bristle, shorter than the calyx. ♃. S. Native of Mexico and of the island of Cuba. Sims, bot. mag. 2486. D. bícolor, Willd. hort. berl. t. 89. ex Sims. D. obovatifòlia, Ort. dec. p. 31. Psoràlea mutábilis, Cav. icon. 4. t. 394. D. unguiculàta, Moc. et Sesse, fl. mex. icon. ined. Corolla at first white, but at length becoming of a violet colour.

Changeable-flowered Dalea. Fl. Oct. Nov. Clt. 1818. Pl. 1½ ft.

20 D. UNCÍFERA (Schlecht. et Cham. in Linnæa. 5. p. 580.) stem herbaceous, branched, beset with glandular hairs; leaves with 4 pairs of obovate, obtuse, mucronulate, stalked leaflets, which are dotted beneath and ciliated on the margins; stipulas filiform; spike terminal, ovate-cylindrical; bracteas navicular, longer than the calyx, ending each in a hooked acumen; calyx glandless. ⊙.? H. Native of Mexico. Corolla violaceous.

Hook-bearing Dalea. Pl. ½ foot.

21 D. THYMOÌDES (Schlecht. et Cham. in Linnæa. 5. p. 580.) shrubby, clothed with cinereous pubescence, decumbent; branches erect, beset with black dots; leaves petiolate, with 4 pairs of elliptic-lanceolate, obtuse, petiolulate leaflets, beset with black dots beneath; stipulas setaceous; spikes terminal, conical, but becoming at length cylindrical and loose-flowered; bracteas lanceolate, acuminated, hardly exceeding the calyx, which is glandless; calycine segments subulate, nearly equal. ♄. S. Native of Mexico. Corolla purple, but with the vexillum pale and perhaps yellow.

Thyme-like Dalea. Shrub procumbent.

22 D. VERBENA'CEA (Schlecht. et Cham. in Linnæa. 5. p. 579.) leaves with 2-pairs of obovate-cuneated, mucronate leaflets, tomentose on both surfaces, and beset with black dots beneath; stipulas subulately-acuminated; spike terminal, ovate; bracteas exceeding the calyx. ♄. S. Native of Mexico. Flowers purple.

Var. β, sericea (Schlecht. et Cham. l. c.) leaves with 4-pairs of leaflets, densely clothed with silky tomentum. ♄. S. Flowers paler than in the species.

Vervain-like Dalea. Shrub 1 to 2 feet.

23 D. LÆVIGA'TA (Sesse et Moc. mss.) plant herbaceous, smooth; leaves with 8 pairs of oblong, slightly mucronulate glandular leaflets; spike elongated, loose; calyx hairy, with prominent ribs and lanceolate pointed teeth. ⊙. H. Native of Mexico. Flowers large, purple. Stipulas and stipels minute. (v. s. herb. Lamb.)

Smooth Dalea. Pl. 1 foot.

24 D. DORYCNIOI'DES (D. C. prod. 2. p. 245.) plant erect, rather suffruticose and velvety; leaves with 2, rarely with only one pair of obovate-cuneated retuse leaflets, beset with dots on both surfaces; spikes of flowers capitate, pedunculate; peduncles and branches tubercular; bracteas ovate, acute, length of calyx. ♄. S. Native of South America. The heads of flowers are smaller than in any other species.

Dorycnium-like Dalea. Shrub 1 to 2 feet.

25 D. TRIPHY'LLA (Sesse et Moc. mss.) plant suffruticose, hairy; leaflets 3-lanceolate, acuminated; spike oblong; teeth of calyx and stipulas setaceous, feathery. ♄. S. Native of Mexico. Flowers large, yellow. (v. s. herb. Lamb.)

Three-leafletted Dalea. Shrub trailing.

26 D. HU'MILIS; herbaceous, hairy; leaflets 5 or 7, lanceolate, acuminate; spikes ovate; teeth of the calyx awl-shaped, feathery. ⊙. H. Native of Mexico. D. herbàcea, Sesse et Moc. mss. Plant spreading. Flowers small, yellow.

Humble Dalea. Pl. ½ foot.

27 D. LEPTOSTA'CHYA (D. C. prod. 2. p. 246.) plant erect,

suffruticose, glabrous; leaves with 3 pairs of oval leaflets, which are acuminated at both ends; racemes cylindrical, slender, pedunculate; bracteas ovate, acuminated, glabrous, deciduous, rather shorter than the calyx, which is villously tomentose and 10-ribbed. ♄. S. Native of South America. Leaflets 8 lines long, and 3 lines broad, with the petioles covered with dot-like tubercles. Flowers spreading, rather distant, apparently somewhat distich.

Slender-spiked Dalea. Shrub 1 to 2 feet.

28 D. VIRGA'TA (Lag. nov. gen. et spec. p. 23.) shrubby; leaves with many pairs of elliptic retuse leaflets; spikes of flowers ovate, rather aggregate, terminal; calycine teeth hairy. ♄. S. Native of Mexico.

Twiggy Dalea. Shrub 1 to 2 feet.

29 D. NU'TANS (Willd. spec. 3. p. 1339.) plant erect, branched, quite smooth; leaves with 10-15 pairs of elliptic, glandularly-crenated leaflets, with the petiole rather dilated between the pairs of leaflets; racemes cylindrical; flowers rather loose, nodding; calyx 10-ribbed, and ornamented with rows of glands; calycine teeth 5, lower one longest. ⊙. G. Native of Mexico. Flowers crimson. Leaflets stipellate; stipels minute, subulate, permanent. D. melilotoìdes, Moc. et Sesse, fl. mex. icon. ined. Calyx turbinate, with broad membranous teeth.

Nodding-flowered Dalea. Fl. July, Aug. Clt. 1824. Pl. 3 ft.

30 D. PULCHE'RRIMA (Sesse et Moc. mss.) herbaceous, smooth; branches glandular; leaflets many-pairs, linear-oblong, mucronulate, with the margins slightly crenate, together with the under surface glandular; stipels prominent; spike elongated, loose; calyx smooth, with prominent ribs, the teeth broad and membranous. ⊙. S. Native of Mexico. Flowers large, crimson. D. violàcea, Cervantes, mss. (v. s. herb. Lamb.)

Very-fair Dalea. Pl. 1 foot.

31 D. BI'COLOR (Willd. hort. berl. 2. t. 89.) spikes terminal, elongated; leaves usually with 3-5 pairs of obovate leaflets; stem shrubby; stipulas subulate. ♄. G. Native of Mexico. Hook. exot. fl. t. 43. Flowers yellowish white, having the keel tipped with blue. Plant smooth.

Two-coloured-flowered Dalea. Fl. Oct. Nov. Clt. 1817. Sh. straggling.

32 D. FLA'VO-RO'SEA (Moc. et Sesse, fl. mex. icon. ined. D. C. prod. 2. p. 246.) plant erect, suffruticose, clothed with velvety pubescence; leaves with 5 pairs of oval obtuse leaflets; spikes ovate, pedunculate; bracteas length of calyx. ♄. S. Native of Mexico. Corolla with a yellow vexillum, but with the rest of the petals rose-coloured.

Yellow-and-Red-flowered Dalea. Shrub 1 to 2 feet.

33 D. RECLINA'TA (Willd. spec. 3. p. 1340.) plant procumbent or ascending, clothed with silky villi; leaves with 6 pairs of lanceolate mucronate leaflets; spikes of flowers dense, cylindrical, villous; bracteas linear-subulate, length of calyx; calycine segments linear-subulate, feathery, length of vexillum. ♃. S. Native of Mexico. Psoràlea reclinàta, Cav. icon. 1. t. 87. Corolla of a pale violet colour.

Reclinate Dalea. Fl. July, Aug. Clt. 1820. Pl. proc.

34 D. TOMENTÒSA (Willd. spec. 3. p. 1341.) plant erect, villously-tomentose; leaves with 3 or 4 pairs of obovate mucronate leaflets; spikes of flowers ovate-cylindrical, almost terminal; bracteas filiform, longer than the calyx. ♃. S. Native of Mexico. Corolla pink Perhaps D. onobrychioìdes, Moc. et Sesse, fl. mex. icon. ined. ex D. C. Stipels obsolete.

Tomentose Dalea. Pl. 1 to 3 feet.

35 D. ARGE'NTEA; shrubby, upright, densely silky; leaflets 3 or 5, obovate-oblong, mucronate, glandular beneath; spikes ovate; calyx downy, with lanceolate, pointed teeth. ♄. S. Native of Mexico, near Jalapa. An upright branched shrub, clothed with silky down. Flowers small, pink. (v. s. herb. Lamb.)

Silvery Dalea. Shrub 2 feet.

36 D. VERRUCÒSA; shrubby, pubescent, with warty upright branches; leaflets 5 or 9, obovate, retuse, glandular beneath; spikes of flowers elongated, loose; calyx downy, with lanceolate pointed teeth. ♄. S. Native of Mexico. Spikes loose, 3 inches long. Flowers pale-purple. (v. s. herb. Lamb.)

Warted-branched Dalea. Shrub 1 foot.

37 D. PROSTRA'TA (Ort. dec. t. 69.) stems prostrate, clothed with canescent hairs, thickest towards the apex; leaves with 1 or 2 pairs of lanceolate leaflets, glabrous above, and pubescent beneath; spikes of flowers ovate, on short peduncles, recurved; bracteas lanceolate, length of the calyx, which is very villous. ⊙. ? G. Native of Mexico. Flowers yellow.

Prostrate Dalea. Pl. prostrate.

38 D. PROCU'MBENS (Moc. et Sesse, fl. mex. icon. ined. D. C. prod. 2. p. 246.) stems prostrate, pubescent, thickest at the base; leaves with 8 or 9 pairs of oval obtuse leaflets; spikes of flowers cylindrical, ascending, pedunculate; flowers drooping a little; vexillum very short. ⊙. G. Native of Mexico, at Chilapa. Flowers white, but with the keel rather violaceous.

Procumbent Dalea. Pl. procumbent.

39 D. MUCRONA'TA (D. C. prod. 2. p. 246.) plant erect, branched; axillary branches bearing a spike of flowers, and one leaf in the middle of each; leaves with 5 or 6 pairs of elliptic-oblong mucronate leaflets, which are acute at both ends; spikes of flowers dense, ovate; calyx quite smooth, with short teeth; bracteas subulate, rather longer than the calyx. ♃. S. Native of Mexico. Flowers small, white.

Mucronate-leafletted Dalea. Pl. 1 foot.

40 D. THOUI'NI (Schrank, hort. mon. t. 9.) plant erectish, glabrous; leaves with 3-5 pairs of obovate emarginate leaflets; spikes of flowers ovate, on short peduncles; bracteas ovate, acuminated, rather pilose, shorter than the calyx, which is rather hairy. ⊙. S. Native of South America. The spikes of flowers according to the figure are sessile, but according to the description pedunculate. Perhaps the same as *Petalostèmum séssile*, Moc. et Sesse, fl. mex. icon. ined. Perhaps a variety of *D. alopecuroìdes* only.

Thouin's Dalea. Fl. July, Aug. Clt. 1816. Pl. 1 foot.

41 D. PHYMATO'DES (Willd. spec. 3. p. 1338.) plant erect, shrubby, smooth; leaves with 7 or 8 pairs of obovate, somewhat mucronulate leaflets, which are dotted beneath; spikes of flowers capitate, on short peduncles; bracteas lanceolate-subulate, ciliated, shorter than the calyx; calycine lobes subulate, long, and very villous. ♄. S. Native of Caraccas. Psoràlea phymatòdes, Jacq. icon. rar. 3. p. 563. Psoràlea emphysòdes, Jacq. coll. 4. p. 144. Flowers at first white, but at length becoming violaceous.

Impostume-like Dalea. Fl. July, Aug. Shrub 2 to 3 feet.

42 D. DOMINGE'NSIS (D. C. prod. 2. p. 246.) erect, clothed with velvety pubescence; leaves with 6 or 7 pairs of obovate, obtuse, or emarginate leaflets, which are dotted beneath; spikes of flowers capitate, on short peduncles; bracteas ovate, acute, shorter than the calyx, which is villous; calycine lobes subulate. ♄. S. Native of St. Domingo. D. enneaphy̆lla, Bert. in herb. Balb. This species comes very near *D. phymatòdes*, but differs in the whole plant being clothed with velvety pubescence, not glabrous.

St. Domingo Dalea. Shrub 1 to 2 feet.

43 D. AYAVACE'NSIS (H. B. et Kunth, nov. gen. amer. 6. p. 486.) plant shrubby; branches villously-tomentose, and glandular; leaves with 7 or 8 pairs of oblong, somewhat mucronate leaflets, which are glabrous above, and pubescent beneath; spikes of flowers terminal, and opposite the leaves, oblong-cylindrical, pedunculate; calyx ornamented with rows of glands, with a hairy limb. ♄. S. Native of Peru, near Ayavaca. Flowers violaceous.

Ayavaca Dalea. Shrub 3 to 6 feet.

44 D. ENNEAPHY'LLA (Willd. spec. 3. p. 1338.) plant erect, shrubby, glabrous; leaves with 4 pairs of oblong obtuse leaflets, which are dotted beneath; spikes of flowers dense, on short peduncles, which are about equal in length to the leaves; lobes of calyx setaceous. ♄. S. Native of Carthagena, in bushy places. Psoràlea enneaphýlla, Lin. spec. 1076. P. Carthagenénsis, Jacq. amer. 206. exclusive of the synonyme of Pluk. P. enneaphýlla and P. Carthagenénsis, Poir. dict. 5. p. 560. Perhaps Jacquin's plant and that of Linnæus are distinct species. Flowers small, reddish.

Nine-leafletted Dalea. Fl. June, Aug. Clt. 1772. Shrub 2 to 4 feet.

45 D. ONOBRY'CHIS (D. C. prod. 2. p. 247.) plant erect, glabrous; leaves with 4-6 pairs of elliptic, somewhat mucronate leaflets, which are covered with dots beneath; peduncles opposite the leaves, and 4-times longer than them; spikes of flowers ovate-cylindrical, dense, villous; bracteas ovate, concave, ending in a bristle-like mucrone, rather longer than the calyx, which is villous. ♃.? S. Native of Peru. Flowers violaceous. Branches villous. Stipulas setaceous. Peduncles rather scabrous from a few tubercles.

Saintfoin-like Dalea. Pl. 1 to 2 feet.

46 D. MUTI'SII (Kunth, mim. 161. t. 47. nov. gen. amer. 6. p. 485.) plant erect, pubescent; leaves with 4-6 pairs of elliptic leaflets, which are beset with glandular dots and villi beneath, as well as the branchlets; spikes of flowers cylindrical, pedunculate, dense; bracteas ovate, ending in a long bristle point, longer than the flowers. ♄. S. Native of South America, at Santa Fe de Bogota. Galèga cærùlea, Lin. fil. suppl. 335. Tephròsia cærùlea, Pers. ench. 2. p. 329. Flowers blue.

Mutis's Dalea. Shrub 2 to 3 feet.

47 D. CYLI'NDRICA (Hook, bot. misc. 1. p. 213.) plant procumbent, smoothish; leaves with 6 pairs of obovate, somewhat mucronate leaflets, which are dotted beneath; peduncles opposite the leaves, and 3 times longer than them; spikes cylindrical, dense; bracteas ovate, concave, mucronate; calyx full of black dots, smooth, longer than the bractea; segments broad-awl-shaped, ciliated. ♄. S. Native of Peru, in the valley of Canta. Flowers blue.

Cylindrical-spiked Dalea. Shrub.

48 D. EXI'LIS (D. C. prod. 2. p. 247.) plant erect, glabrous; leaves with 5-7 pairs of oblong acute leaflets, small, beset by dots beneath; spikes of flowers pedunculate, nearly globose, dense; bracteas ovate, glabrous, obtuse, mucronate, or acuminated, length of the calyx, which is villous. ♃.? ♄.? S. Native of Peru. Flowers violaceous. Bracteas differing in shape even in the same head of flowers. Leaflets a line and a half long.

Lean Dalea. Pl. 1 to 2 feet.

49 D. MICROPHY'LLA (H. B. et Kunth, nov. gen. amer. 6. p. 482.) plant shrubby, procumbent; leaves with 9 or 10 pairs of glabrous, oblong, obtuse, thickish leaflets, beset with glandular dots beneath; spikes of flowers oblong-cylindrical; bracteas ending in a subulate acumen, beset with dots above, but silky beneath, length of calyx, which is clothed with glands and silky hairs. ♄. S. Native of Peru, on the mountains. Flowers yellow and red on the same plant according to Bonpland.

Small-leaved Dalea. Shrub procumbent.

50 D. OVALIFÒLIA; herbaceous, spreading, smooth; leaflets 5, elliptic, glandular beneath; stipulas minute; spike long and slender, few flowered; calyx hairy, ribbed, with long-pointed recurved teeth. ⊙. S. Native of Mexico. Plant much branched, spreading. Leaflets nearly an inch long. Spikes often a span long. Flowers white, stained with purple. (v. s. herb. Lamb.)

Oval-leafletted Dalea. Pl. 2 feet.

51 D. CORONÍLLA; herbaceous, upright, slightly villous; leaflets 7-9, obovate, mucronulate, glandular beneath; stipulas long, setaceous; spikes of flowers oblong; calyx truncate, fringed with obsolete teeth. ⊙. S. Native of Mexico. Flowers pale-purple. (v. s. herb. Lamb.)

Coronilla-like Dalea. Pl. 1 foot.

52 D. FRUTICO'SA; shrubby, minutely pubescent; leaves with many-pairs of oblong leaflets, which are rounded at both ends, minutely mucronulate, coriaceous and veiny; stipels prominent; spikes of flowers loose, with short blunt teeth. ♄. S. Native of Mexico. Spikes about 2 inches long, thinly flowered, somewhat corymbose. Flowers small, yellow? (v. s. herb. Lamb.)

Shrubby Dalea. Shrub.

Cult. All the species of this genus grow best in a mixture of loam and peat, and the shrubby and perennial kinds are easily increased by young cuttings planted in sand, with a hand-glass placed over them; those of the stove species in heat. The seeds of annual kinds should be sown in pots, which should be placed in a hot-bed, and the plants separated and planted into other pots singly when they have grown a sufficient size for that purpose, and some of them may be planted out into the open border in a warm sheltered situation, where they will probably ripen their seeds. None of the species are worth cultivating except in botanical gardens.

CI. GLYCYRHIZA (from γλυκυς, *glycys*, sweet, and ῥιζα, *rhiza*, a root; the sweetness of the root of liquorice is well known). Tourn. inst. 210. Lin. gen. 882. D. C. prod. 2. p. 247.—Glycyrhìza and Liquirítia, Mœnch. meth. 132 and 152. Pers. ench. 2. p. 313.

LIN. SYST. *Diadélphia, Decándria.* Calyx naked, tubular, 5-cleft, bilabiate; lobes, especially the 2 superior ones, joined together much farther than the others. Vexillum ovate-lanceolate, straight. Keel 2-edged or of 2 petals, straight, acute. Stamens diadelphous. Style filiform. Legume ovate or oblong, compressed, 1-celled, 1-4-seeded.—Perennial herbs, with long, perpendicular, sweet roots, impari-pinnate leaves, axillary racemes of blue, violaceous, or white flowers. This is the genus to which the various kinds of *liquorice* belong.

1 G. GLA'BRA (Lin. spec. 1046.) leaflets ovate, rather retuse, and somewhat clammy beneath, as well as the branches; stipulas wanting; spikes or racemes of flowers pedunculate, shorter than the leaves; flowers distant; legumes glabrous, 3-4-seeded. ♃. H. Native of the south of Europe, from Spain to Tauria, also of China, and cultivated in France, Italy, Germany, and England for the sake of its roots. Lam. ill. t. 625. f. 2. Wood. med. bot. 458. t. 167. G. læ'vis, Pall. itin. ed. gall. append. no. 364. Liquirítia officinàlis, Mœnch. l. c. Roots long, perpendicular. Stem only terete at the apex. Leaves usually with 5 pairs of leaflets. Flowers pale-blue. The name *liquorice*, according to Du Theis, is said to be a corruption of the French word *Reglisse*, which is itself a corruption of *Glycyrhìza*. It is more probable that the name *liquorice* has been given on account of the quantity of liquor the roots contain. *Liquorice* is much cultivated in Spain, and since Elizabeth's time has been grown in different parts of England. The soil most congenial to the growth of *liquorice* is a deep sandy loam, trenched by the spade or plough, or with the aid of both, to 2½ or 3 feet in depth, and manured if necessary. The plants are procured from old plantations, and consist of the side shoots which have eyes or buds. These may be taken off either in autumn, when a crop of *liquorice* is taken up for use, and laid in earth till spring, or taken from a growing plantation as wanted for planting. The planting season may be either October, or February, or March. In general the latter is preferred. The plants are dibbled in the rows 3 feet apart, and from 18 inches to 2 feet in the row, according to the richness or poverty of the soil. The after culture

consists of horse-hoeing, and deep-stirring in weeding, and in cutting down and carrying away the haulm every autumn, after it is completely withered. As the plants do not rise above a foot the first season after planting, a crop of onions is sometimes taken in the intervals. The plants must be three summers' growth, at the end of which the roots may be taken up by trenching over the ground. The roots are then either sold immediately to the brewers' druggists or to common druggists, or preserved like carrots or potatoes in sand, till wanted for use.

The roots of *liquorice* are externally brown, and internally yellow. Their taste is very sweet, combined with a slight degree of bitter when long kept in the mouth. The powder of *liquorice* usually sold is often mingled with flour, and perhaps also with substances not so wholesome. The best sort is of a brownish-yellow colour, the fine pale-yellow being generally sophisticated, and it is of a very rich sweet taste, much more agreeable than that of the fresh root.

Robiquet obtained from *liquorice-root*, 1. Amylaceous fecula. 2. A saccharine substance, having little resemblance to sugar. 3. A new crystalline substance. 4. A resinous oil, which is the cause of its acrimony in the decoctions. 5. Phosphate and malate of lime and magnesia. 6. Woody fibre.

The sweetness of *liquorice-root* depends upon a peculiar principle discovered by Robiquet, and called by him *glycyrhizin* and *glycion*. He prepared it by subjecting a strong cold infusion of the root to ebullition, which separated a coagulable matter. It was then filtered, and acetate acid added, which gradually threw down an abundant, transparent, gelatinous magma, which being washed with a little cold water to separate any adhering acid, he considered as pure *glycion*. Its taste is peculiar, and intensely sweet, and its smell is not perceptible unless thrown upon hot coal, when it is resinous.

The predominant constituents of *liquorice* being saccharine and mucilaginous matter, its only action is that of a mild demulcent, and as such it is frequently used in catarrh, and in some stomach complaints, which seem to arise from a deficiency of the natural mucus, which should defend the stomach against the acrimony of the food and the fluids secreted into it. On account of its bulk it is rarely exhibited in substance, but more frequently in infusion or decoction.

The extract of *liquorice* is never prepared by the apothecary, but is commonly imported from other countries. It is imported in cylindrical rolls, covered with bay leaves. It should be perfectly black, brittle when cold, and break with a smooth and glassy fracture, have a sweet taste without empyreume, and be almost entirely soluble in water. It is prepared from the fresh roots by expression, decoction, and inspissation. The best foreign extract of *liquorice* is prepared in Catalonia. The refined *liquorice* sold in the shops in small cylindrical pieces not thicker than a goose quill, is a composition with mucilage of glue. The extract possesses the same properties with the root, and is used for the formation of several kinds of troches.

Common or *Smooth* Liquorice. Fl. June, Sept. Clt. 1562. Pl. 3 to 4 feet.

2 G. GLANDULI'FERA (Waldst. et Kit. hung. 1. p. 20. t. 21.) leaflets oblong-lanceolate, clothed beneath with clammy pubescence, acute or emarginate; stipulas marcescent; spike of flowers pedunculate, shorter than the leaves; flowers distant; legumes 3-4-seeded, usually echinated with glands. ♃. H. Native of Hungary and of Caucasus, on the banks of the river Don. Stems angular at the apex. G. hirsùta, Pall. itin. append. no. 363. ex Bieb. fl. taur. suppl. 1431. Flowers blue.

Var. β; legumes smoothish. ♃. H. Native of Russia, on the banks of the Don. G. glàbra, Pall. itin.

Gland-bearing Liquorice. Fl. June, Aug. Clt. 1805. Pl. 2 to 4 feet.

3 G. LEPIDÒTA (Nutt. gen. amer. 2. p. 106.) leaflets oblong-lanceolate, acute, squamulose, under surface covered with glandular dots; stipulas linear-subulate; spikes of flowers pedunculate, shorter than the leaves, dense; legumes oblong, echinated by hooked bristles. ♃. H. Native of North America, abundant around St. Louis, and on the alluvial banks of the Missouri to the mountains, and is in all probability the *liquorice* mentioned by Sir A. Mackenzie as indigenous to the coasts of the North Pacific Ocean. Sims, bot. mag. 2150. Liquirìtia lepidòta, Nutt. in Fras. cat. 1813. Root flagelliform, creeping, possessing the taste of the common liquorice in a considerable degree.

Lepidoted Liquorice. Fl. July, Aug. Clt. 1811. Pl. 3 to 5 ft.

4 G. FŒ'TIDA (Desf. atl. 2. p. 170. t. 199.) leaflets oblong, mucronate, rather lepidoted, the odd one on a short petiole; stipulas subulate; spikes of flowers dense, pedunculate, about equal in length to the leaves; legumes oval, mucronate, 2-seeded, echinated by bristles. ♃. H. Native of Algiers and of Barbary, near Mayane. Leaflets 9-11. Root creeping. Flowers pale-yellow. The whole plant has a fetid scent when bruised.

Fetid Liquorice. Fl. July, Aug. Clt. 1817. Pl. 2 to 3 ft.

5 G. ASPE'RRIMA (Lin. fil. suppl. 330.) stems diffuse; leaflets obovate, retuse, or emarginate, usually mucronate, rather scabrous beneath, as well as the petioles and stems; stipulas lanceolate; legumes rather terete, torulose, 3-8-seeded, glabrous. ♃. H. Native of Siberia, on hills between the rivers Volga and Jaick, in the desert of Tartary, at the river Karaman, on the Ural mountains, and at Lake Inderskoi. G. áspera and G. hispida, Pall. itin. ed. gall. no. 365 and 366. t. 80 and t. 81. f. 1 and 2. Racemes axillary. Flowers pale-violet.

Very-rough Liquorice. Fl. July, Aug. Clt. 1795. Pl. 2 feet.

6 G. URALE'NSIS (Fisch. in litt. D. C. prod. 2. p. 248.) stem erect, covered with velvety pubescence; leaflets obovate, obtuse, almost glabrous; stipulas lanceolate; calyxes villous. ♃. H. Native of Siberia, on the Ural mountains. Fruit unknown. Very nearly allied to *G. aspérrima*. Flowers pale-violet.

Ural Liquorice. Fl. July, Aug. Pl. 2 feet.

7 G. ECHINA'TA (Lin. spec. 1046.) leaflets oval-lanceolate, mucronate, glabrous; stipulas oblong-lanceolate; spikes of flowers capitate, on very short peduncles; legumes oval, mucronate, 2-seeded, echinated by bristles. ♃. H. Native of Apulia, on mount Gardano, and in the northern provinces of China, and of Tartary. Jacq. hort. vind. t. 95. Sims, bot. mag. 252. Schkuhr, handb. 225. Racemes not half so long as the leaves. Flowers purple. The whole plant is glutinous to the touch. Roots horizontal, in taste like the common liquorice.

Echinated-podded Liquorice. Fl. Ju. July. Clt. 1596. Pl. 3 ft.

8 G. HIRSU'TA (Lin. spec. 1046.) leaflets oblong-lanceolate; legumes hairy. ♃. H. Native of the Levant. Tourn. cor. 26. Flowers purple.

Hairy-podded Liquorice. Fl. Ju. Sept. Clt. 1739. Pl. 2 to 3 ft.

9 G. UNDULA'TA (Ruiz et Pav. mss. in herb. Lamb.) leaves large, with 6 pairs of elliptic-oblong, undulated, acuminated, glabrous leaflets; panicles large, shorter than the leaves, spreading, composed of numerous racemes; rachis of flowers and calyxes pubescent; bracteas tomentose, 1-flowered. ♄. S. Native of Peru. Flowers purple.

Waved-leaved Liquorice. Shrub.

Cult. A deep light soil suits all the species of *Liquorice*, and they are easily increased by taking slips from the roots with eyes, and planting them in spring.

CII. GALE'GA (from γαλα, *gala*, milk; supposed to increase the milk in animals eating of the herb). Tourn. inst. t. 222. Lam. ill. t. 625. Pers. ench. 2. p. 328.—Galèga species of Lin. and others.

LIN. SYST. *Monadél[illegible]ia, Decándria*. Calyx with 5 subulate, equal teeth. Vexillum obovate-oblong. Keel obtuse. Stamens monadelphous, having the tenth one concrete, with the others one-half of its length. Style filiform, glabrous, crowned by a terminal dot-formed stigma. Legume rather terete, torulose, obliquely-striated. Seeds cylindrical.—Smooth, erect, perennial herbs, with impari-pinnate leaves, ovate or lanceolate, somewhat sagittate stipulas, and axillary, simple, many-flowered racemes. Flowers blue and white.

1 G. OFFICINA'LIS (Lin. spec. 1063.) leaflets lanceolate, mucronate, glabrous; stipulas broad-lanceolate; racemes longer than the leaves. ♃. H. Native of the south of Europe, in gravelly soils; also of Tauria and Barbary. Mill. fig. t. 137. G. vulgàris, Blackw. icon. t. 92.—Moris, hist. 2. p. 91. sect. 2. t. 7. f. 9. Flowers blue. *Goat's-rue* was formerly accounted cordial and sudorific; but is now out of repute. Mr. Boyle celebrated its virtues in pestilential and malignant fevers.

Var. β, albiflòra; flowers white.

Var. γ, Africàna (Mill. dict. no. 2.) leaflets broader and blunter; racemes longer.

Officinal Goat's-rue. Fl. Ju. Sept. Clt. 1568. Pl. 3 to 4 ft.

2 G. PE'RSICA (Pers. ench. 2. p. 328.) leaves usually with 5 pairs of ovate-oblong, rather retuse, mucronate, glaucescent leaflets; stem angular, flexuous; stipulas narrow-lanceolate, sagittate; bracteas linear-subulate, longer than the pedicels. ♃. H. Native of Persia. Sweet, fl. gard. 244. Flowers white.

Persian Goat's-rue. Fl. Ju. Sept. Clt. 1823. Pl. 2 to 3 ft.

3 G. BI'LOBA (Sweet, fl. gard. t. 159.) stem angularly striated, rather flexuous; leaves usually with 5-8 pairs of oblong, silky, pubescent leaflets, which are mucronate and 2-lobed at the apex; stipulas ovate-lanceolate, acute, acutely-serrated, sagittate; flowers crowded; bracteas subulate; twice the length of the pedicels. ♃. H. Native country unknown. Flowers bluish lilac.

Two-lobed-leaved Goat's-rue. Fl. June, Sept. Clt. 1823. Pl. 3 to 4 feet.

4 G. ORIENTA'LIS (Lam. dict. 2. p. 596.) leaflets ovate, acuminated, smooth; stipulas broad-ovate; racemes longer than the leaves; legumes pendulous; roots creeping. ♃. H. Native of Caucasus, and on all the oriental mountains. Sims, bot. mag. 2192. Ker. bot. reg. 326. G. montàna, Schultes, obs. 154. Flowers blue. The creeping roots and simple flexuous stems are sufficient to distinguish this species from all the others.

Oriental Goat's-rue. Fl. June, Aug. Clt. 1801. Pl. 2 to 4 ft.

Cult. All the species of this genus are very elegant, and well adapted for ornamenting flower borders. They are all easily increased by dividing the plants at the root in spring, or by seeds.

CIII. CALLO'TROPIS (from καλλος, *kallos*, beauty, and τροπη, *trope*, a keel; in reference to the keel being beautifully variegated). Galèga species, Hooker.

LIN. SYST. *Diadélphia, Decándria.* Calyx with 5 equal filiform teeth. Vexillum erect, ovate. Wings shorter than the keel. Keel incurved. Style incurved, tipped by a hairy stigma. Stamens diadelphous, joined ones incurved, the free one straight. Legume stipitate, compressed, rather terete, tapering to both ends, many-seeded.—A herb, clothed with pubescent pili, with impari-pinnate leaves, having 6-7 pairs of oblong-cuneated, pubescent, retuse, mucronulate leaflets, axillary racemes of drooping flowers, and lanceolate-subulate semisagittate stipulas.

1 C. TRI'COLOR. ♃. G. Native of New Holland, on the north coast. Galèga trícolor, Hook. exot. fl. t. 185. Flowers pale blue, with the base of the wings and vexillum white, the latter tipped with yellow.

Three-coloured-flowered Callotropis. Fl. June, Sept. Clt. 1823. Pl. 2 to 3 feet.

Cult. An elegant plant when in flower. For its culture and propagation see *Galèga*. It requires to be protected in winter.

CIV. TEPHRO'SIA (from τεφρος, *tephros*, ash-coloured; in allusion to the colour of the foliage of some of the species, as those of *T. cinèrea*, &c.) Pers. ench. 2. p. 328. Kunth, nov. gen. amer. 6. p. 458.—Crácca, Lin. fl. zeyl. 139. amœn. 3. p. 18.—Needhàmia, Scop. but not of R. Brown, nor Cass.

LIN. SYST. *Monadélphia* or *Diadélphia, Decándria.* Calyx bractless, nearly equal, 5-toothed (f. 37. *a.*). Vexillum large (f. 37. *b.*), roundish, silky or pubescent on the outside, spreadingly reflexed. Wings adhering to the keel, which is obtuse. Stamens variously connected, monadelphous or diadelphous. Style filiform. Stigma terminal. Legume usually sessile, compressed, linear (f. 37. *c.*), many-seeded, with the valves flat. Seeds compressed.—Shrubs or herbs, with usually impari-pinnate leaves, lanceolate or subulate stipulas, which are distinct from the petiole, not sagittate. In the true *Tephròsias* the leaves are impari-pinnate; in the spurious ones trifoliate or palmate. Racemes axillary, rarely opposite the leaves. Flowers white or purplish. This genus will hereafter probably be divided into several genera, when the characters are better known.

SECT. I. MUNDU'LIA (from *mundulus*, delicate, handsome; appearance of plants). D. C. leg. mem. vi. prod. 2. p. 249.—Robínia, Roxb. hort. beng. 56. but not of Lin. Leaves impari-pinnate. Racemes axillary, erect, usually panicled. Calyx truncate, or with 5 short teeth. Stamens monadelphous. Style glabrous, or as in *T. cándidum*, bearded.

1 T. SUBERO'SA (D. C. prod. 2. p. 249.) leaves with 7-10 pairs of elliptic-oblong mucronulate leaflets, which are glabrous above, and clothed with adpressed pubescence beneath; carina straightish; style glabrous; legume canescent, irregularly coarctate between the seeds. ♄. S. Native of Bengal. Robínia suberòsa, Roxb. l. c. Flowers rose-coloured. Vexillum hardly pubescent.

Corky-barked Tephrosia. Fl. Ju. Aug. Clt. 1818. Sh. 2 to 4 ft.

2 T. CHINE'NSIS (Lindl. hort. trans. 7. p. 38.) shrubby; leaves with 9-10 pairs of oblong, obtuse, pubescent leaflets; racemes axillary, horizontal, compressed, many-flowered; calyx bibracteolate; corolla pubescent; style glabrous; stigma capitate. ♄. G. Native of China. Stamens diadelphous. Flowers bright rose-coloured. Like *T. suberòsa.*

China Tephrosia. Fl. June. Clt. 1822. Shrub 2 to 3 feet.

3 T. FRUTICÒSA (D. C. prod. 2. p. 249.) leaves with 4 or 5 pairs of ovate-oblong, acute, glabrous leaflets, but are rather villous on the nerves beneath; petals and style glabrous; legume broadly oblong, compressed, velvety, drawn out downwards into a short acumen. ♄. ⌒. S. Native of the East Indies. Robínia fruticòsa, Roxb. l. c. Racemes panicled, short. Flowers small, red. Legume rusty.

Shrubby Tephrosia. Fl. June, Aug. Clt. 1816. Shrub cl.

4 T. SOPHOROI'DES (D. C in ann. sci. nat. 4. p. 99.) leaves with 3-5 pairs of elliptic-oblong, glabrous, acuminated leaflets; petals and style glabrous. ♄. G. Native of Nipaul. Flowers apparently white in a dry state, small.

Sophora-like Tephrosia. Shrub 2 to 4 feet.

5 T. BRACHYSTA'CHYA (D. C. l. c.) leaves with 7-8 pairs of elliptic, obtuse leaflets, the young ones clothed with adpressed silky pubescence on both surfaces, adult ones glabrous on the upper surface, but pubescent beneath; racemes panicled, shorter than the leafless part of the petiole; petals and style glabrous. ♄. G. Native of Nipaul. Flowers probably red.

Short-spiked Tephrosia. Shrub.

6 T. SERI'CEA (D. C. prod. 2. p. 249.) leaves with 6 pairs of oblong-lanceolate obtuse leaflets, which are glabrous above, but clothed with silky tomentum beneath; racemes nearly terminal. ♄. S. Native of Tranquebar. Cýtisus seríceus, Willd. nov.

act. nat. cur. berl. 4. 1803. p. 204. spec. 3. p. 1121. Flowers red. Legume 2 inches long, compressed, silky.

Silky Tephrosia. Fl. July, Aug. Clt. 1800. Shrub 2 to 4 ft.

7 T. CA'NDIDA (D. C. prod. 2. p. 249.) leaves with 8-11 pairs of elliptic-oblong mucronate leaflets, which are glabrous above, and pale and covered with silky pubescence beneath; legume linear, much compressed, clothed with adpressed pubescence, apiculated by the long style. ♄. S. Native of Bengal. Robinia cándida, Roxb. hort. beng. p. 56. Style curved into an angle, and the keel as if it were truncate. Vexillum silky on the outside. Flowers pale rose-coloured in a dried state.

White-leaved Tephrosia. Clt. 1816. Shrub 2 to 4 feet.

SECT. II. BRISSO'NIA (in honour of M. Brisson, a French ornithologist). Neck. elem. no. 1348. D. C. prod. 2. p. 249.—Erebínthus, Mich. gen. 210. Leaves impari-pinnate. Lobes of calyx broadest at the base, but ending in an elongated acumen. Stamens monadelphous. Style bearded laterally. Legumes more or less velvety, or hispid.

* *Flowers in fascicles, disposed in terminal racemes or panicles. Peduncles axillary.*

8 T. TOXICA'RIA (Pers. ench. 2. p. 328.) plant suffruticose, erect; leaves with 18 or 20 pairs of oblong-lanceolate, obtuse, somewhat mucronate leaflets, which are pubescent on the upper surface, but clothed with silvery-silky pubescence beneath; the down adpressed on both surfaces; legumes linear, rather terete, clothed with velvety villi, ending each in a short mucrone. ♄. S. Native of the West Indies and Cayenne, and said by Tussac to have been first imported from Africa.—Plum. icon. t. 135. Galèga toxicària, Swartz, fl. ind. occid. 1278. Tuss. ant. t. 20. Lam. dict. 2. p. 596. Galèga sinàpon, Buchoz, nat. hist. 10. dec. 10. t. 4. Flowers pale-red. The stamens, according to Swartz, are diadelphous, and the legume stipitate within the calyx, but in Plumier's specimen examined by De Candolle, the stamens are monadelphous, and the legume sessile; therefore, perhaps 2 distinct plants are here confused. The leaves and branches of this shrub well pounded, and thrown into a river or pond, very soon affects the water, and intoxicates the fish, so as to make them float on the surface as if dead; most of the large ones recover after a short time, but the greater part of the small fry perish on those occasions. It has been introduced to Jamaica and cultivated there on account of its intoxicating qualities.

Poison Tephrosia. Clt. 1791. Shrub 2 to 3 feet.

9 T. VIRGINIA'NA (Pers. ench. 2. p. 329.) plant herbaceous and erect; leaves with 8-11 pairs of oval-oblong acute leaflets, clothed beneath with white villi; calyxes woolly. ♃. F. Native from Canada to Florida, in dry sandy woods. Galèga Virginiàna, Lin. spec. 1062. but not of hort. Cliff.—Pluk. t. 23. f. 2. Flowers reddish, handsome. Plant covered with hoary villi. This species is considered in America as a powerful vermifuge.

Virginian Tephrosia. Fl. Ju. Aug. Clt. 1765. Pl. 1 to 3 ft.

* * *Peduncles opposite the leaves.*

10 T. HISPI'DULA (Pursh, fl. amer. sept. 2. p. 489.) plant herbaceous, trailing, slender, and pubescent; leaves having 6 or 7 pairs of oblong-oval, obtuse, mucronate leaflets; peduncles elongated. 3-5-flowered; legume oblong, falcate, rather hispid. ♃. F. Native from Virginia to Georgia, in pine woods, and on slate hills. Galèga hispídula, Michx. fl. bor. amer. 2. p. 68. G. spicàta, Walt. Flowers pale red, and yellowish white.

Hispid Tephrosia. Pl. trailing.

11 T. GRA'CILIS (Nutt. gen. amer. 2. p. 119.) plant herbaceous, erect, slender, smoothish, dichotomous; leaves with 6-7 pairs of oblong-elliptic, acute, mucronated leaflets, the lower pair approximating the stem; peduncles length of leaves, usually 3-flowered; legume linear, hairy, rather incurved. ♃. F. Native of Carolina and Georgia. Flowers pale red.

Slender Tephrosia. Pl. 1 foot.

12 T. PAUCIFO'LIA (Nutt. gen. amer. l. c.) plant herbaceous and erect, simple, velvety, and pilose; leaves with 6-9 pairs of remote, cuneate-oval, very obtuse leaflets, which are villous on both surfaces; peduncles length of leaves, usually 3-flowered. ♃. F. Native of Georgia and Florida. Flowers purple. The leaves are far apart upon the stem.

Few-leaved Tephrosia. Pl. 2 feet.

13 T. PROSTRA'TA (Nutt. l. c.) plant herbaceous, prostrate, pubescent; leaves with only 1 or 2 pairs of cuneate-obovate, coriaceous leaflets, which are glabrous above, but clothed with silky villi beneath, the lower ones approximating the stem; peduncles 3-flowered, longer than the leaves; legume linear, almost straight. ♃. F. Native of Georgia. Common about Savannah, in dry and sandy woods. Galèga villòsa, Michx. fl. bor. amer. 2. p. 67. T. chrysophýlla, Pursh, fl. amer. sept. 2. p. 489. Flowers purple.

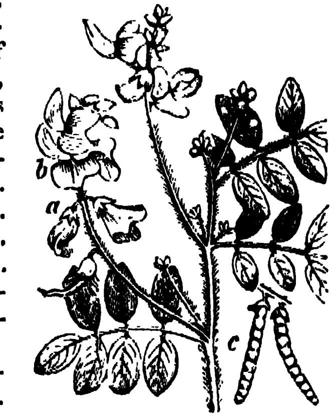
Prostrate Tephrosia. Pl. prostrate.

14 T. HI'SPIDA (D. C. prod. 2. p. 250.) plant herbaceous, erect, dichotomous; stem and petioles beset with stiff ferruginous hairs; leaves with 5 pairs of cuneate-obovate leaflets, which are villous on both surfaces; peduncles 7-10-flowered, much longer than the leaves; flowers spicate, lower ones distant; legume linear, straight, rather hispid. ♃. F. Native of Carolina. Flowers purplish?

Hispid Tephrosia. Pl. 1 to 2 feet.

SECT. III. CRACCOI'DES (*Cracca* and *idea*, similar; plants having the aspect of *Vicia crácca*). D. C. leg. mem. vi. prod. 2. p. 250. Leaves impari-pinnate. Lobes of calyx broadest at the base, ending in an elongated acumen. Stamens diadelphous. Style bearded. Disk in flower not manifest.

FIG. 37.



15 T. OCHROLEU'CA (Pers. ench. 2. p. 329.) plant suffruticose, erect, pubescently-villous; stipulas subulate; leaves with 2-3 pairs of ovate leaflets; peduncles axillary, longer than the leaves; flowers racemose; legume straight, quite smooth, and very narrow, containing from 14 to 18 seeds. ♄. S. Native of the Caribbee islands. Galèga ochroleùca, Jacq. icon. rar. t. 150. Galèga pubéscens, Lam. dict. 2. p. 597. Flowers cream-coloured, changing to reddish before fading. Legumes torulose.

Cream-coloured-flowered Tephrosia. Clt. 1799. Shrub 2 to 3 ft.

16 T. MÓLLIS (H. B. et Kunth, nov. gen. amer. 6. p. 462.) herbaceous, clothed with soft pubescence; leaves with 4-6 pairs of stipellate elliptic-oblong leaflets, which are rounded at the apex, and mucronate, clothed with adpressed pubescence above, and silky-silvery down beneath; racemes axillary. ♄. S. Native of New Andalusia. Flowers rose-coloured.

Soft Tephrosia. Shrub 2 to 3 feet.

17 T. ASTRAGALI'NA (H. B. et Kunth, l. c.) stem shrubby, tomentose; leaves with 8-9 pairs of stipellate, oblong, somewhat mucronate leaflets, which are rounded at both ends, and covered with adpressed pubescence above, but with canescent tomentum beneath, as well as the legumes; racemes axillary; flowers scattered. ♄. S. Native about Quito. Flowers white.

Milk-Vetch-like Tephrosia. Shrub 2 feet.

18 T.? OROBOI'DES (H. B. et Kunth, nov. gen. amer. 6. p. 462. t. 578.) plant erect, shrubby, branched; leaves with 4-6-

pairs of lanceolate-linear, acute, pilosely-pubescent leaflets; pedicels axillary, elongated, 1-2-flowered, 1-leaved at the apex; legume terete, puberulous. ♄. G. Native of Mexico, near Guanaxuato. Habit nearly of *T. stricta*.

Var. β, leiocárpa (D. C. prod. 2. p. 255.) young legumes glabrous; leaves with 4 pairs of lanceolate short leaflets.

Orobus-like Tephrosia. Shrub 2 to 3 feet.

Sect. IV. Reine'ria (in honour of Joseph Reiner Von Hohenwarth, author of Botanische reisa, 1 vol. 8vo. 1796). Mœnch. suppl. p. 44. D. C. prod. 2. p. 251. Leaves imparipinnate. Teeth of calyx linear-subulate. Stamens sometimes somewhat monadelphous, and sometimes diadelphous. The species contained in this section are disposed in an artificial manner, some with many pairs of leaflets and some with few.

19 T. Caribæ'a (D. C. prod. 2. p. 251.) shrubby, branched, smooth; leaves with 10-12 pairs of oval, awnedly-mucronate leaflets; peduncles axillary, rather longer than the leaves, few-flowered; legume linear, deflexed, glabrous, furrowed between the seeds. ♄. S. Native of the Caribbee Islands. Galèga Caribæ'a, Jacq. amer. 212. t. 125. Flowers scentless, variegated with white and red. Stamens diadelphous.

Caribbean Tephrosia. Fl. June, July. Clt. 1786. Sh. 3 ft.

20 T. emargina'ta (H. B. et Kunth, nov. gen. amer. 6. p. 461.) arborescent; branches tomentose; leaves with 14 pairs of linear-oblong leaflets, which are deeply emarginate at the apex, clothed with adpressed pubescence above, and silvery silky down beneath; racemes terminal; flowers in fascicles; legumes straightish, clothed with silky tomentum as well as the calyxes. ♄. S. Native of South America, in the missions of Orinoco. Stamens diadelphous. The root of this species is used to intoxicate fish, as *T. toxicària*, which see, no. 8.

Emarginate-leafletted Tephrosia. Shrub 2 to 4 feet.

21 T. grandiflòra (Pers. ench. 2. p. 329.) shrubby, erect, glabrous; leaves with 7-9 pairs of oblong, mucronate leaflets, which are pubescent beneath; stipulas ovate, acuminated; racemes opposite the leaves, and somewhat terminal, straight, bearing 4 flowers at the apex; bracteas ovate, concave, large, deciduous. ♄. G. Native of the Cape of Good Hope. Galèga grandiflòra, Vahl. symb. 2. p. 84. Ker. bot. reg. 769. Lher. stirp. 2. t. 44. Galèga ròsea, Lam. dict. 2. p. 599. Flowers rose-coloured, larger than those of any other species in the genus.

Great-flowered Tephrosia. Fl. May, Sept. Clt. 1774. Sh. 2 to 3 feet.

22 T. coccínea (Wall. pl. asiat. rar. vol. 1. t. 60.) suffruticose, erect; branches terete, flexuous, and are as well as under surface of the leaves clothed with white and adpressed wool; leaves sessile, with 3-4 pairs of cuneiform-obovate, retuse leaflets; racemes axillary, on long peduncles; teeth of calyx lanceolate, acuminated; stamens diadelphous; style villous beneath; legume linear, pendulous. ♄. S. Native of the East Indies, on the left bank of the Irawaddi, near Yenangheum. Flowers scarlet.

Scarlet-flowered Tephrosia. Shrub 2 to 3 feet.

23 T. villòsa (Pers. ench. 2. p. 329.) plant herbaceous, branched, pubescent; leaves with 7-9 pairs of obovate-cuneated, retuse leaflets, which are silky-villous beneath and pilose above; stipulas setaceous; racemes opposite the leaves, nearly terminal, many-flowered; legumes linear, mucronate, densely villous, 4-5-seeded. ♃. S. Native of the East Indies. Galèga villòsa, Lin. spec. 1063.—Pluk. alm. t. 59. f. 6.—Burm. zeyl. t. 33. Flowers white?

Villous Tephrosia. Fl. June, July. Clt. 1779. Pl. proc.

24 T. serícea (Hamilt. in Lin. trans. 13. p. 545.) leaves with 8-10 pairs of cuneated leaflets, silky beneath; racemes opposite the leaves, sessile; stipulas subulate; legumes pubescent, arched, recurved. ♄. S. Native of the south of India. Flowers red. Stamens diadelphous. Calyx 5-toothed.

Silky Tephrosia. Shrub 2 feet.

25 T. purpu'rea (Pers. ench. l. c.) plant herbaceous, branched; leaves with 7-9 pairs of oblong-cuneated, somewhat mucronate leaflets, hardly pubescent beneath; stipulas subulate; racemes opposite the leaves or terminal; legume linear, much compressed, 5-8-seeded, finely pubescent. ♃. S. Native of the East Indies, and Ceylon. Galèga purpùrea, Lin. amœn. 3. p. 19. Roxb. hort. beng. 57. Sieb. fl. maur. exsic. no. 156. Burm. zeyl. t. 32. but this differs from the plant of Linnæus in the legumes, which are said to be terete. Flowers purple. Stamens monadelphous. This plant is prescribed by Indian doctors in cases of dyspepsia, lienterig, and tympanitis.

Purple-flowered Tephrosia. Fl. Jul. Aug. Clt. 1768. Pl. 2 ft.

26 T. hi'rta (Hamilt. in Lin. trans. 13. p. 546.) suffruticose, erect, tomentose; branches somewhat tetragonal; leaves with 4-8 pairs of cuneate, emarginate leaflets, which are glabrous above, but beset with long, adpressed hairs beneath; stipulas broad from the base; racemes opposite the leaves, leafy, pedunculate; legume falcate, pendulous, hairy, 6-seeded. ♄. S. Native of the East Indies. Flowers bluish, but with the keel white. Stigma bearded.

Hairy Tephrosia. Shrub 1½ foot.

27 T. lanceæfòlia (Link, enum. 2. p. 252.) plant suffruticose; leaflets obversely lanceolate, emarginate, mucronate, clothed with close-pressed hairs beneath; stipulas subulate; racemes terminal; legumes terminal, straight, spreading. ♄. S. Native country unknown. This species is said to be very like *T. purpùrea*, but the flowers are cream-coloured, not purple. De Candolle has a specimen which was sent from the Calcutta Botanic Garden, under the name of *T. lanceæfòlia*, which is scarcely distinct from *T. purpùrea*.

Lance-leaved Tephrosia. Fl. July, Aug. Clt. 1820. Shrub 2 to 3 feet.

28 T. procu'mbens (Hamilt. in Lin. trans. 13. p. 547.) plant suffruticose, procumbent, filiform, pilose; leaves with 4-5 pairs of stalked, cuneiform, hairy, mucronate leaflets; stipulas setaceous; racemes opposite the leaves, leafy; legume straight, pilose, compressed, 9-seeded. ♄. S. Native of the East Indies. Calyx 5-cleft, with setaceous segments, length of corolla.

Procumbent Tephrosia. Pl. procumbent.

29 T. Domingе'nsis (Pers. ench. 5. p. 330.) plant herbaceous, branched, glabrous; leaves with 7-9 pairs of linear-cuneated, obtuse, mucronate leaflets, which are clothed with adpressed pubescence beneath; stipulas lanceolate-subulate; racemes axillary; legumes pendulous, minutely pubescent. ⊙. S. Native of St. Domingo, in sterile places. Galèga Domingénsis, Willd. spec. 3. p. 1249. Flowers small, pale red.

St. Domingo Tephrosia. Pl. 1 foot.

30 T. Perrinia'na (D. C. prod. 2. p. 251.) plant branched, hairy; leaflets linear-oblong, mucronate, ciliated, rather hairy; panicle hairy, terminal, cymose. Native of South America. Galèga Perriniàna, Spreng. neue. entd. 2. p. 161. Said to be like *T. Domingénsis*.

Perrin's Tephrosia. Pl. 1 foot.

31 T. mucrona'ta (D. C. prod. 2. p. 251.) shrubby, erectish, branched, pubescent; leaves with 8 pairs of ovate, mucronate, villous leaflets; peduncles axillary, longer than the leaves, 1-2-flowered; legume pubescent. ♄. G. Native of the Cape of Good Hope. Galèga mucronàta, Thunb. fl. cap. 609. Flowers probably red.

Mucronate-leafletted Tephrosia. Shrub.

32 T. leptosta'chya (D. C. prod. 2. p. 251.) plant herbaceous, erect, branched, hardly pubescent; leaves with 7 pairs

of oblong, rather cuneated, retuse, mucronate leaflets, the young ones silky beneath; stipulas subulate; racemes elongated, slender, opposite the leaves, or terminal; flowers distant, and are as well as the legumes erectish. ⊙. S. Native of Senegal. Flowers purple. Stamens monadelphous.

Slender-spiked Tephrosia. Pl. 1 foot.

33 T. MA'XIMA (Pers. ench. 2. p. 329.) glabrous; leaflets oval-lanceolate, obtuse, mucronate, striated beneath; stipulas lanceolate; racemes terminal, very long; pedicels tern, rising from the axils of the bracteas, which are ovate and acuminated; calyxes and legumes glabrous. ♄. S. Native of Ceylon. Galèga máxima, Lin. spec. 1063. exclusive of the synonyme of Burman, which is said to have short, 2-flowered pedicels and abruptly pinnate leaves.

Largest Tephrosia. Shrub 1 to 2 feet.

34 T. ARGE'NTEA (Pers. ench. 2. p. 329.) suffruticose, clothed with silvery tomentum; leaves with 7-8 pairs of oblong, obtuse leaflets, which are silky beneath; stipulas ovate, but subulate at the apex, nerved; racemes almost terminal; pedicels twin; calyxes villous. ♄. S. Native of the East Indies. Galèga argéntea, Lam. dict. 2. p. 599. Galèga bárba-jòvis, Burm. ind. 172.—Pluk. alm. t. 52. f. 1. Flowers purple.

Var. β, glabrúscula (D. C. prod. 2. p. 252.) branches and leaves sparingly pubescent. ♄. S. Native of the East Indies. Stipulas 3-nerved.

Silvery Tephrosia. Shrub 2 feet.

35 T. COLU'TEA (Pers. ench. 2. p. 329.) shrubby, branched, hoary-tomentose; leaflets 5-7 pairs, oblong-obovate, retuse; stipulas lanceolate, tomentose; peduncles axillary and terminal; legume straight, erect. ♄. S. Native of the East Indies. Galèga Colùtea, Burm. ind. 172.—Pluk. alm. t. 166. f. 3. Flowers purple. Stamens diadelphous.

Colutea-like Tephrosia. Shrub 2 feet.

36 T. VENU'STULA (H. B. et Kunth, nov. gen. amer. 6. p. 459.) shrubby; leaves with 5-7 pairs of lanceolate, obtuse, mucronate leaflets, and are as well as the calyxes clothed with adpressed canescent pubescence; stipulas ovate, acuminated; racemes opposite the leaves, furnished with one leaf at the base; flowers in fascicles; legume somewhat cultriform, pubescent. ♄. S. Native of Cumana, about Borbones. Flowers red.

Pretty Tephrosia. Shrub 1 to 2 feet.

37 T. PISCATO'RIA (Pers. ench. 2. p. 329.) shrubby; leaves with 5-6 pairs of oblong, obtuse leaflets, which are rather pilose beneath; stipulas subulate; peduncles 2-edged; legume straight, ascending, rather villous. ♄. S. Native of the East Indies, and in the islands of the Pacific ocean. Galèga littoràlis, Forst. prod. no. 277. G. piscatòria, Ait. hort. kew. 3. p. 71. Flowers purple. This species is used to intoxicate fish in the East Indies, as the *T. toxicària* is in the West Indies.

Fisher's Tephrosia. Fl. June, July. Clt. 1778. Pl. 2 feet.

38 T. REFLE'XA (D. C. prod. 2. p. 252.) shrubby, pubescent; branches rather triquetrous; leaves with 5 pairs of oblong leaflets, each ending in a reflexed mucrone; peduncles axillary, generally 1-flowered, longer than the leaves; legumes rather hairy. ♄. S. Native country unknown. Flowers red. Stamens monadelphous. Reinèria refléxa, Mœnch. suppl. 45.

Reflexed-pointed-leaved Tephrosia. Shrub 1 to 2 feet.

39 T. LEUCA'NTHA (H. B. et Kunth, nov. gen. amer. 6. p. 460. t. 577.) shrubby; leaves with 3-8 pairs of oblong-lanceolate, obtuse, mucronate leaflets, which are clothed with adpressed pubescence on both surfaces, but canescent beneath; racemes terminal, usually twin; flowers in fascicles; calyxes covered with silky strigæ; legume tomentose. ♄. S. Native of Mexico, near Guanaxuato. Said to be allied to *T. Virginiàna*. Flowers white.

White-flowered Tephrosia. Shrub 2 feet.

40 T. CORONILLÆFÒLIA (D. C. prod. 2. p. 252.) shrubby; clothed with cinereous pubescence; branches angular; leaves with 5 pairs of obòvate-cuneated, obtuse, mucronate leaflets; racemes axillary; legumes rather villous. ♄. S. Native of Bourbon. Galèga coronillæfòlia. Desf. cat. hort. par. 194. Poir. suppl. 2. p. 699. Brissònia coronillæfòlia, Desv. journ. 1814. vol. 1. p. 78. Perhaps distinct from *T. refléxa*.

Coronilla-leaved Tephrosia. Shrub 1 to 2 feet.

41 T. COLONI'LA (Hamilt. Lin. trans. 13. p. 545.) legumes glabrous, arcuately-recurved; leaves with 8-10 pairs of smooth leaflets; racemes opposite the leaves, sessile; stipulas subulate. ♄. S. Native of the East Indies. Stamens diadelphous. Calyx pilose, 5-toothed. Indigo is obtained from this plant in India, and it is cultivated for that purpose.

Colonil Tephrosia. Fl. June, July. Clt. 1818. Shrub 2 feet.

42 T. TINCTÒRIA (Pers. ench. 2. p. 329.) shrubby, glabrous; leaves with 5 pairs of oblong, obtuse, emarginate leaflets, silky and villous beneath; peduncles axillary, spicate, length of leaves; legumes straight, pendulous. ♄. S. Native of Ceylon, where it is called *Anil*. Crácca, no. 302. Lin. fl. zeyl. Galèga tinctòria, Lin. spec. 1063. Flowers purple or flesh-coloured. It is from this plant that the inhabitants of Ceylon prepare their indigo, which yields a die of a pale blue colour.

Dyers' Tephrosia or Ceylon Indigo. Shrub 1 to 3 feet.

43 T. CAPE'NSIS (Pers. ench. 2. p. 330.) plant suffruticose, decumbent, glabrous; leaves with 4-5 pairs of oblong, mucronate leaflets; stipulas lanceolate-subulate; peduncles opposite the leaves, very much elongated; flowers racemose, distant; legumes erect, pubescent. ♄. G. Native of the Cape of Good Hope. Galèga Capénsis, Thunb. fl. cap. 602. Jacq. icon. rar. t. 574. Flowers purple. Stamens monadelphous.

Cape Tephrosia. Fl. July, Aug. Clt. 1825. Sh. decumbent.

44 T. TOMENTÒSA (Pers. ench. 2. p. 329.) plant clothed with villous tomentum; leaves with 4-6 pairs of linear, obtuse, somewhat mucronate leaflets, which are glabrous above; stipulas subulate; racemes opposite the leaves; pedicels in threes; legume straight, ascending. ♄. G. Native of Arabia Felix. Galèga tomentòsa, Vahl. symb. 2. p. 84. Láthyrus tomentòsa, Forsk. descr. 135. but not of Cav. Flowers blue, with a white keel.

Tomentose Tephrosia. Shrub 1 to 2 feet.

45 T. CINE'REA (Pers. ench. 2. p. 328.) plant herbaceous, decumbent, clothed with cinereous, silky down; leaves with 4-6 pairs of linear, obtuse, mucronate leaflets, which are covered with silky villi beneath; stipulas lanceolate; racemes opposite the leaves; pedicels solitary; legumes straight, spreading. ⊙. S. Native of Jamaica and St. Domingo. Galèga cinèrea, Lin. amœn. 5. p. 403. Jacq. icon. rar. t. 575. Flowers violaceous.

Cinereous Tephrosia. Fl. June, July. Pl. decumbent.

46 T. LITTORA'LIS (Pers. ench. 2. p. 329.) plant herbaceous, decumbent, clothed with cinereous canescent down; leaves with 5 pairs of oblong-cuneated, emarginate or obtuse leaflets; stipulas subulate; racemes opposite the leaves, terminal, and 3 times longer than them; pedicels aggregate; legume straight, spreading, rather pubescent. ♃. S. Native of Carthagena and the Caribbee Islands. Galèga littoràlis, Lin. syst. 565. Vìcia littoràlis, Jacq. amer. t. 124. Flowers purple. Stamens monadelphous.

Shore Tephrosia. Fl. July, Aug. Clt. 1824. Pl. decumb.

47 T. BRACHYSTA'CHIA (D. C. prod. 2. p. 253.) plant suffruticose, erect, pubescent; leaves with 5 pairs of oblong-cuneated, emarginate leaflets, which are silky beneath, lower pairs approximating the stem; racemes axillary, shorter than the leaves; legume straight, spreadingly-pendulous, [illegible] 10-seeded. ♄. S. Native of the East Indies. Flowers purple. Stamens monadelphous. Legumes hardly pubescent even when young.

Short-spiked Tephrosia. Pl. 1 to 2 feet.

48 T. HYPARGY'REA (D. C. in ann. scienc. nat. 4. p. 99.) plant suffruticose, erect; stem angular, rather velvety; leaves with 2-4 pairs of leaflets, which are glabrous above but clothed beneath with silky-silvery down; the lower leaflets roundish and approximating the stem, superior ones oval-oblong, terminal one very large; peduncles axillary; legumes straight, secund, rather deflexed, 10-seeded, pubescent. ♄. S. Native of the East Indies. T. heterophýlla, Fisch. cat. hort. gor. This is a very beautiful and distinct species. The flowers are small and purple, and the stamens are monadelphous. Peduncles sometimes shorter, sometimes longer than the leaves.

Silvery-leaved Tephrosia. Fl. June, July. Clt. 1825. Shrub 1 to 2 feet.

49 T. MARIA'NA (D. C. prod. 2. p. 253.) plant suffruticose, erect; stem terete, villous; leaves with 4 pairs of oblong leaflets, which are glabrous above, and silky-silvery beneath, the lower ones approximating the stem; stipulas lanceolate, elongated, villous; flowers axillary, crowded, almost sessile, and disposed in a somewhat terminal raceme, legume straight, erect, velvety-villous, 10-12-seeded. ♄. S. Native of the Marianne Islands. Leaflets nearly 2 inches long.

Marianne Island Tephrosia. Shrub.

50 T. LAGASCA'NA (D. C. prod. 2. p. 253.) plant clothed with cinereous tomentum; branches terete; leaves with 4 pairs of obovate-oblong, obtuse, rather mucronate leaflets; lower pair approximating the stem; stipulas subulate; peduncles opposite the leaves, almost terminal, and longer than them; legume ascending, straight, velvety, 10-12-seeded. ♄. S. Native country unknown.

Lagasca's Tephrosia. Shrub 2 feet.

51 T. STRI'CTA (Pers. ench. 2. p. 329.) plant suffruticose, clothed with cinereous tomentum; branches terete; leaves with 4 pairs of oblong or cuneated leaflets, each ending in a recurved mucrone, lower leaflets approximating the stem; stipulas subulate; flowers few, almost sessile, axillary: legumes spreading, velvety, 6-8-seeded. ♃. G. Native of the Cape of Good Hope. Galèga stricta, Ait. hort. kew. 3. p. 70. Galèga mucronàta, Thunb. fl. cap. 601. G. pulchélla, Scop. insub. 1. t. 3. Indigófera stricta, Lin. fil. suppl. 334. ex Jacq. hort. schœnbr. t. 263. Flowers small, purplish. Stamens diadelphous.

Straight Tephrosia. Fl. May, June. Clt. 1774. Sh. 2 to 3 ft.

52 T. SE'NNA (H. B. et Kunth, nov. gen. amer. 6. p. 458.) branches rather angular, glabrous; leaves with 4 pairs of somewhat obovate-oblong, emarginate, mucronate, puberulous, rather glaucous leaflets; racemes opposite the leaves, furnished at the base with one leaf; flowers in fascicles; legumes erectish, and are as well as the calyxes covered with strigose pubescence. ♄. S. Native of Popayan, on the banks of the river Cauca, near Buga, where the leaves are used in place of senna by the inhabitants.

Buga *Senna*. Shrub.

53 T. LINEA'RIS (Pers. ench. 2. p. 330.) branches pubescent; leaves with 4-5 pairs of linear, narrow leaflets, which are silky beneath; stipulas filiform; racemes axillary, much elongated; flowers distant; bracteas conforming to the leaves; legume narrow, and is as well as the vexillum pubescent. ♄. S. Native of Guinea, among grass. Galèga lineàris, Willd. spec. 3. p. 1248. Indigófera angustifòlia, Perr. in litt. Stem flexuous. Flowers red.

Linear-leafletted Tephrosia. Fl. July, Aug. Clt. 1823. Shrub 1¼ foot.

54 T. FLEXUÒSA; stem suffruticose, erect, flexuous, branched, pubescent; leaves with 5 pairs of linear, emarginate, mucronate, soft, pilose leaflets; stipulas subulate; flowers somewhat spicate, terminal; legume compressed, clothed with soft pili. ♄. S. Native of the island of St. Thomas, in the Gulf of Guinea, among grass. Flowers flesh-coloured.

Flexuous-stemmed Tephrosia. Shrub 1 foot.

55 T. PA'LLENS (Pers. ench. 2. p. 329.) shrubby, pubescent; leaves with 4-5 pairs of oblong, acute leaflets, which are pubescent beneath; stipulas subulate; legume straight, spreading, ciliated. ♄. G. Native of the Cape of Good Hope. Galèga pállens, Ait. hort. kew. 3. p. 71. G. hùmilis, Thunb. fl. cap. 601. but the legume is said to be recurved. Flowers pink.

Pale-flowered Tephrosia. Fl. July, Aug. Clt. 1787. Sh. 2 to 3 feet.

56 T. SENTICÒSA (Pers. l. c. 330.) shrubby; leaves with 4 pairs of emarginate leaflets, clothed with fine silky down beneath; legumes twin, lateral, glabrous. ♄. S. Native of Ceylon. Galèga senticòsa, Lin. amœn. 3. p. 19. Crácca, no. 303. Lin. fl. zeyl. p. 141.

Brambly Tephrosia. Shrub.

57 T. PU'MILA (Pers. ench. 2. p. 330.) plant herbaceous, diffuse, rather pilose; leaves with 3-4 pairs of cuneiform, emarginate leaflets, villous beneath, and ending each in a recurved mucrone; stipulas subulate, villous; peduncles axillary, very short, 1-2-flowered; legume erect, villous. ⊙.? S. Native of Madagascar, at Fort Dauphin. Galèga pùmila, Lam. dict. 2. p. 599. Flowers purple.

Dwarf Tephrosia. Pl. diffuse.

58 T. APOLLÍNEA (D. C. prod. 2. p. 254.) suffruticose, diffuse, clothed with adpressed pubescence; leaves with 2-3 pairs of obovate-oblong, emarginate leaflets, which are silky beneath; racemes opposite the leaves, length of leaflets; legume erectly-spreading, 6-7-seeded, rather pubescent. ♄. G. Native of Egypt, in corn fields. G. Apollínea, Delil. fl. æg. p. 144. t. 53. f. 5. Flowers blue. Stamens diadelphous according to the figure.

Apollinean Tephrosia. Fl. Jul. Aug. Clt. 1816. Sh. 1 to 2 ft.

59 T. SPINÒSA (Pers. ench. 2. p. 330.) shrubby; branches canescent; stipulas spinose; leaves with 3 or 4 pairs of cuneated, emarginate, smoothish leaflets; flowers few, axillary, nearly sessile; legume falcate, 5-6-seeded, beset with adpressed very minute pubescence. ♄. S. Native of Coromandel, Timor, and Java, on the margins of fields. Galèga spinòsa, Lin. fil. suppl. 335. Stamens monadelphous.

Spiny Tephrosia. Shrub.

60 T. TIMORIE'NSIS (D.C. prod. 2. p. 254.) plant herbaceous, diffuse, clothed with canescent hairs; leaves with 3-4 pairs of obovate-oblong, obtuse leaflets, clothed with silky villi beneath, and each terminated in a straight mucrone; stipulas linear-subulate: peduncles 2-3, axillary, very short, 1-flowered; legume erect, straight, velvety, 8-10-seeded. ⊙. S. Native of the Island of Timor. Perhaps sufficiently distinct from *T. pùmila*.

Timor Tephrosia. Pl. diffuse.

61 T. PINNA'TA (Pers. ench. 2. p. 330.) plant herbaceous, decumbent, glabrous; leaves with 4 pairs of oblong, acute leaflets, which are dotted beneath; stipulas ovate; peduncles axillary; flowers umbellate; legumes ensiform, pubescent. ♄. G. Native of the Cape of Good Hope. Galèga pinnàta, Thunb fl. cab. 602. Flowers purple.

Pinnate-leaved Tephrosia. Shrub decumbent.

62 T. BIFLÒRA (D. C. prod. 2. p. 254.) plant shrubby, hardly pubescent; leaves with 2 or 3 pairs of oval-lanceolate, obtuse leaflets, which are silky beneath, lower ones smallest, terminal one very large; stipulas subulate, villous; flowers twin, almost sessile, axillary; legume pubescent; rather incurved at the apex. ♄. S. Native country unknown. Galèga biflòra, Poir. suppl. 2. p. 699. Flowers purple. Calyx very villous. Very like *T. hypargýrea*, and especially *T. nervosa*.

Two-flowered Tephrosia. Fl. Jul. Aug. Clt. 1816. Sh. 1 to 2 ft.

63 T. NERVÒSA (Pers. ench. 2. p. 328.) branches angular, pubescent; leaves with 1-2 pairs of elliptic-obtuse leaflets, which are narrowest at the base, quite glabrous above, and pinnately veined, but clothed with white tomentum beneath, the terminal leaflet largest; peduncles axillary, length of leaves, furnished with one leaf under the head of flowers; legumes linear, smoothish. ♄. S. Native of Madagascar.

Nerved-leaved Tephrosia. Shrub 2 to 3 feet.

† *Species not sufficiently known.*

* *Leaves impari-pinnate.*

64 T. STIPULA'RIS (D. C. prod. 2. p. 254.) shrubby, quite smooth: leaflets oblong-linear, acute; stipulas large, almost opposite, connate, acute, nerved; legume linear-lanceolate. ♄. S. Native of South America. Brissònia stipulàris, Desv. journ. bot. 1814. 1. p. 74.

Stipular Tephrosia. Shrub.

65 T. TRAPEZICA'RPA (D. C. prod. 2. p. 255.) stems elongated, decumbent, quite smooth; leaflets oblong, pilose beneath; pili stiff and few; legume compressed, pilose, trapeziform. ♄. ? S. Native of the East Indies. Brissònia trapezifórmis, Desv. l. c.

Trapezium-fruited Tephrosia. Shrub decumbent.

66 T. UNIFLÒRA (Pers. ench. 2. p. 329.) leaflets oblong, rather retuse, mucronate; calyx villous; legumes compressed, villous, a little arched, solitary, axillary. Native of Senegal.

One-flowered Tephrosia. Pl. 1 foot.

67 T. CAPITULA'TA (Link. enum. 2. p. 329.) leaflets obversely lanceolate, obtuse, emarginate, silky beneath; racemes terminal, short, furnished with a leaf; legumes hairy. ♃. S. Native of the Island of Owhyhee.

Headed Tephrosia. Pl. 1 foot.

68 T. STRIA'TA (Pers. ench. 2. p. 328.) herbaceous, erect, glabrous below, villous above; leaflets alternate, oblong, obtuse, mucronate, finely pubescent; racemes terminal, drooping. ⊙. ? G. Native of the Cape of Good Hope. Galèga striàta, Thunb. fl. cap. 602.

Striated Tephrosia. Pl. 1 to 2 feet.

69 T. MYRTIFÒLIA (D. C. prod. 2. p. 255.) plant herbaceous, flexuous, glabrous; leaves with 3 pairs of elliptic-oblong, obtuse, somewhat mucronate, striated leaflets; stipulas subulate; racemes opposite the leaves; legumes linear, glabrous, spreading. ⊙. G. Native of the Cape of Good Hope. Coronílla myrtifòlia, Burm. cap. 22.

Myrtle-leaved Tephrosia. Pl. 1 foot.

70 T. RHE'EDII (D. C. prod. 2. p. 255.) suffruticose, branched, diffuse; leaves with 4-5-pairs of oblong, somewhat obovate, obtuse, mucronate leaflets; peduncles longer than the leaves, few-flowered. ♄. S. Native of Malabar, in sandy places. Man-Todda-vaddi, Rheed, mal. 9. t. 22. Rochèa, Scop. introd. 296. no. 1340. Flowers apparently with only 3 petals, in consequence of the carina being very short, pale yellow.

Rheede's Tephrosia. Sh. 1 foot.

* * *Thermoìdeæ* (from θερμος, *thermos*, a lupine, and ιδεα, *idea*, like; plants resembling the lupine in having palmate leaves). *Leaves palmately 5-foliate, having 2 little stipulas at the top of the petiole. Stipulas and stipels becoming hard and spinescent. Leaflets complicate, margined with a nerve. Flowers unknown. Perhaps a proper genus.*

71 T. LUPINIFÒLIA (D. C. prod. 2. p. 255.) plant shrubby, pubescent; stipulas lanceolate, spreading; leaflets 5, oblong, cuneated, obtuse, clothed beneath with adpressed silky down. ♄. G. Native of the Cape of Good Hope. Galèga lupinifòlia, Burch. cat. afr. austr. no. 2488.

Lupine-leaved Tephrosia. Shrub 1 to 2 feet.

72 T. DIGITA'TA (D. C. prod. 2. p. 255.) plant suffruticose with hispid slender branches; stipulas lanceolate, spreading; leaflets 5, oblong-linear, acuminated at both ends, sparingly pubescent beneath: racemes axillary, and are as well as the petioles very long. ♄. S. Native of Senegal. Petioles 5 inches long. Flowers distant, usually twin. Calyx permanent, with acuminated segments. Corolla and stamens unknown. Legume linear, compressed, pubescent, 5-6-seeded.

Digitate-leaved Tephrosia. Shrub 1 foot.

* * * *Glycinoìdeæ* (from *glycine* and *idea*, similar; the plants contained in this division agree with *Glycìne* in having trifoliate leaves). *Leaves either pinnately or palmately trifoliate.*

73 T. TÓTTA (Pers. ench. 2. p. 328.) plant herbaceous, clothed with hairs like tomentum, ascending; leaflets oblong, mucronate, longer than the petiole; stipulas ovate, opposite the leaves; flowers terminal, tern, somewhat umbellate. ⊙. G. Native of the Cape of Good Hope. Galèga Tótta, Thunb. fl. cap. 601.

Hottentot Tephrosia. Pl. ascending.

74 T. SERÍCEA (Pers. ench. 2. p. 328.) stem suffruticose, very short; branches tomentose, as well as the leaflets, which are ovate; flowers axillary, solitary; legumes lanceolate, villous. ♄. G. Native of the Cape of Good Hope. Galèga serícea, Thunb. fl. cap. 603. but not of Lam.

Silky Tephrosia. Shrub ½ foot.

75 T. FALCA'TA (Pers. ench. 2. p. 328.) plant herbaceous, erect, hairy; branches filiform; leaflets sessile, oblong, acute; flowers terminal, solitary; legumes falcate, erect, silky. ⊙.? G. Native of the Cape of Good Hope. Galèga falcàta, Thunb. fl. cap. 602.

Falcate-podded Tephrosia. Pl. 1 foot.

76 T. PUSÍLLA (Pers. l. c.) plant herbaceous, erect, pubescent; leaflets sessile, ovate, mucronate, silky beneath, longer than the petiole; flowers lateral, pedunculate, solitary; legume elliptic. ⊙. ? G. Native of the Cape of Good Hope. Galèga pusílla, Thunb. fl. cap. 602.

Small Tephrosia. Pl. ½ foot?

77 T. TRIFOLIA'TA (D. C. prod. 2. p. 256.) plant frutescent, erectish, pubescent; leaflets sessile, ovate, silky, convolute; calyx, corolla, and legume tomentose; flowers terminal, on very short peduncles. ♄. G. Native of the Cape of Good Hope. Sophòra trifoliàta, Thunb. prod. p. 79. Galèga trifoliàta, Thunb. fl. cap. 600. Stamens diadelphous.

Trifoliate Tephrosia. Shrub.

78 T. TERNA'TA (D. C. prod. 2. p. 256.) shrubby, erect; branches villous; leaflets sessile, lanceolate, silky; flowers axillary, sessile; calyxes and corollas tomentose. ♄. G. Native of the Cape of Good Hope. Sophòra ternàta, Thunb. prod. 79. Galèga ternàta, Thunb. fl. cap. 601. Stamens monadelphous.

Ternate-leaved Tephrosia. Shrub 1 to 3 feet.

79 T. FILIFÒLIA (Pers. ench. 2. p. 328.) plant herbaceous, erectish, glabrous below; leaflets filiform, glabrous; flowers 2-3 in an umbel, terminal; calyx hairy. ♃. ? G. Native of the Cape of Good Hope. Galèga filifòlia, Thunb. fl. cap. 602.

Thread-leaved Tephrosia. Pl. 1 foot.

80 T. ULIGINÒSA (Spreng. syst. 3. p. 232.) shrubby, climbing; leaflets oblong, acuminated, glabrous; flowers racemose; peduncles 3-flowered. ♄. ◡. S. Native of the East Indies. Robinea uliginòsa, Roxb. and Willd.

Bog Tephrosia. Shrub cl.

81 T. VELUTÌNA (Spreng. syst. 3. p. 232.) shrubby, twining; leaflets oblong, obtuse, villous on both surfaces; racemes few-flowered; legumes lanceolate, pubescent. ♄. ⌒. S. Native of St. Domingo.

Velvety Tephrosia. Shrub tw.

82 T. LONGIFÒLIA (Pers. ench. 2. p. 328.) plant shrubby, twining; leaflets lanceolate, obtuse; racemes few-flowered;

legumes villous. ♄ . ⌒. S. Native of South America. Galèga longifòlia, Jacq. icon. rar. 3. t. 572. Flowers purple. Legume linear. Racemes few-flowered.

Long-leaved Tephrosia. Clt.? Shrub tw.

* * * * *Mimosoideæ* (from *Mimosa* and *idea*, like; the plants resemble some species of *Mimòsa* in having abruptly-pinnate leaves). *Leaves abruptly pinnate.*

83? T. MIMOSOÌDES (Pers. ench. 2. p. 330.) plant suffruticose, scandent; leaves with 12 pairs of linear, obtuse, mucronate leaflets, beset with adpressed pili on both surfaces; racemes axillary, pedunculate; legumes pendulous, compressed. ♄ . ◡. S. Native of the East Indies. Galèga mimosoìdes, Willd. spec. 3. p. 1249. Flowers probably red.

Mimosa-like Tephrosia. Shrub ck.

* * * * * *Simplicifòliæ* (from *simplex*, simple, and *folium*, a leaf; the leaves are simple). *Leaves simple.*

84 T. FRUTE'SCENS (D. C. prod. 2. p. 256.) stem shrubby; leaves ovate-roundish; flowers lateral, panicled. ♄ . S. Native of Campeachy. Galèga frutéscens, Mill. dict. no. 3. Flowers scarlet.

Frutescent Tephrosia. Shrub.

Cult. All the species of this genus grow best in a mixture of loam and peat, and are easily propagated by seeds, or by young cuttings planted in sand, with a bell-glass placed over them; those of the stove species in heat.

CV. AMO'RPHA (from *α*, priv. and *μορφη*, *morphe*, form; in reference to the deformity of the corolla, from the want of the vexillum and keel). Lin. gen. 369. Lam. ill. t. 621. D. C. prod. 2. p. 256.—Bonafídia, Neck. elem. no. 1364.

LIN. SYST. *Monadélphia, Decándria.* Calyx 5-toothed, obconically campanulate. Vexillum ovate, concave. Wings and keel wanting. Style filiform, straight, glabrous. Stamens exserted, monadelphous at the very base. Legume compressed, ovate, or lunulate, 1-celled, 1-2-seeded.—North American shrubs, with impari-pinnate leaves, many pairs of leaflets, which are full of pellucid dots, and usually furnished with stipels at the base. Stipulas of the stem deciduous. Racemes spicate, elongated, usually in fascicles at the tops of the branches. Flowers blue or violet, or bluish-violet.

1 A. FRUTICÒSA (Lin. spec. 1003.) shrub glabrous, or a little villous; leaflets elliptic-oblong, lower ones distant from the stem; calyx rather villous, with 4 of the teeth obtuse, and 1 acuminated; vexillum glandless; legume few-seeded. ♄ . H. Native of North America, in Carolina and Florida, on the banks of rivers. Schkuhr, handb. t. 197. Mill. icon. t. 27. Ker. bot. reg. 427. There are varieties of this plant with mucronate, emarginate or narrower leaflets. This species was once used in Carolina as an indigo plant, but is now neglected.

Shrubby Bastard Indigo. Fl. Ju. Jul. Clt. 1724. Sh. 6 ft.

2 A. GLA'BRA (Desf. cat. hort. par. 192.) shrub glabrous; leaflets elliptic-oblong, lower ones distant from the stem; calyx glabrous, with 4 of the teeth obtuse, and 1 acuminated; vexillum glandular on the outside; legume few-seeded. ♄ . H. Native of North America.

Glabrous Bastard Indigo. Fl. July, Aug. Clt. 1810. Sh. 3 to 6 feet.

3 A. NA'NA (Nutt. in Fras. cat. 1813. nov. gen. amer. 2. p. 91.) a smoothish dwarf shrub; leaflets elliptic, mucronate; calyx glabrous, with all the teeth setaceously acuminated; legume 1-seeded. ♄ . H. Native on grassy hills, near the river Missouri. A. microphýlla, Pursh, fl. bor. amer. 2. p. 466.

Dwarf Bastard Indigo. Fl. Jul. Aug. Clt. 1811. Sh. ½ to 1 ft.

4 A. HERBA'CEA (Walt. car. 179. Nutt. gen. amer. 2. p. 91.) plant dwarf, herbaceous, pubescent; leaflets elliptic, mucronate, lower ones approximating the stem; calyx pubescent, with all the teeth acute and short; legume 1-seeded. ♃ . F. Native of Carolina, Georgia, and Florida, in dry sandy pine woods. A. pùmila, Michx. fl. bor. amer. 2. p. 64. A. pubéscens, Willd. spec. 3. p. 970. Lodd. bot. cab. 689. Spike a foot long.

Herbaceous Bastard Indigo. Fl. June, July. Clt. 1803. Pl. 2 to 3 feet.

5 A. FRA'GRANS (Sweet, fl. gard. 241.) shrubby, pubescent; leaves with 6-8 pairs of elliptic-oblong, mucronate leaflets, obtuse at both ends, young ones pubescent; calyx pubescent, pedicellate, superior teeth obtuse, lower one acute; style hairy. ♄ . F. Native of North America. A. nàna, Sims, bot. mag. 2112. but not of others. Flowers dark purple.

Fragrant Bastard Indigo. Fl. June, July. Clt. 1800. Sh. 7 to 8 feet.

6 A. CRÒCEO-LANA'TA (Wats. dend. brit. t. 139.) plant clothed with tawny pubescence; racemes branched; leaves with 6-8 pairs of oblong-elliptic, mucronulate, downy leaflets; the 3 upper teeth of calyx ovate, acute, the 2 lower ones very short and rounded. ♄ . H. Native of North America. Flowers bluish-purple.

Copper-woolled Bastard Indigo. Fl. July, Aug. Clt. 1820. Shrub 3 to 5 feet.

7 A. CANE'SCENS (Nutt. in Fras. cat. 1813. gen. amer. 2. p. 92.) plant suffruticose, humble, every part clothed with hoary villi; leaflets ovate-elliptic, mucronate, lower ones approximating the stem; calyx tomentose, with the teeth ovate, acute, and equal; ovary containing 2-ovula; legume 1-seeded. ♄ . H. Native on the banks of the Missouri and Mississippi.

Canescent Bastard Indigo. Fl. Jul. Aug. Clt. 1812. Sh. 3 ft.

Cult. *Amórpha* is a genus of elegant flowering shrubs, and are well adapted for small shrubberies, or the front of large ones. They thrive well in common garden soil. They may be increased by layers, or cuttings taken off at a joint, and planted in a sheltered situation early in autumn will strike root. Some of the species are rather tender, and require protection in severe weather.

CVI. EYSENHA'RDTIA (in honour of Charles William Eysenhardt, M.D. a professor in the University of Konigsberg, in Prussia). H. B. et Kunth, nov. gen. amer. 6. p. 489. t. 592. D. C. prod. 2. p. 257.

LIN. SYST. *Diadélphia, Decándria.* Calyx obconically-campanulate, 5-toothed, upper teeth rather remote, lower one longest. Petals 5, disposed in a papilionaceous manner. Vexillum oblong, and the two keel petals distinct. Stamens diadelphous. Ovary biovulate. Style filiform, hooked at the apex. Legume unknown.—An unarmed tree, with impari-pinnate leaves, composed of many pairs of stipellate leaflets, and are, as well as the calyxes beset with glands. Racemes terminal, cylindrical. Flowers white. This genus comes very near *Amórpha*.

1 E. AMORPHOÌDES (H. B. et Kunth, l. c.). ♄ . G. Native of Mexico, near St. Augustin de las Guevas and Guanaxuato. Dalbérgia amorphoìdes, Spreng. syst. app. 268.

Amorpha-like Eysenhardtia. Tree 12 to 20 feet.

Cult. A mixture of loam and peat will suit this shrub, and young cuttings will strike root in sand, under a bell-glass, in heat.

CVII. NISSO'LIA (in honour of William Nissole, an industrious French botanist. He was a member of the Academy of Montpelier, and author of some papers in its Transactions: he was born in 1647 and died in 1735.). Jacq. amer. 198. Lin. gen. no. 853. Lam. ill. t. 600. D. C. prod. 2. p. 257. but not of Tourn.

LIN. SYST. *Monadélphia, Decándria.* Calyx campanulate, 5-toothed. Corolla papilionaceous. Stamens 10, monadelphous, with a dorsal fissure or diadelphous. Legume stipitate, 1 or few-seeded, 1-celled, or transversely few-celled, ending in a leafy, membranous wing, which is either ligulate or cultriform.—Usually climbing shrubs, with impari-pinnate leaves. Perhaps this genus is more nearly allied to *Hedysàreæ* or *Dalbérgieæ*.

SECT. I. NISSOLIA'RIA (an alteration from the generic name). D. C. prod. 2. p. 257. Nissòlia, Gærtn. fruct. 2. p. 309. t. 145. Pers. ench. 2. p. 276. Calyx 5-toothed, naked on the outside, the teeth acute. Petals of keel connected. Stamens monadelphous, with a dorsal fissure. Legume, according to Gærtner, terete below the wing, separating transversely into 2 or 3 1-seeded cells, but according to Jacquin the legume is 1-celled and 1-seeded. Pedicels 1-flowered, in fascicles.

1 N. FRUTICÒSA (Jacq. amer. 198. t. 145. f. 44. hort. vind. 167.) stems twining, and are smoothish as well as the petioles; leaflets oval, mucronate, smoothish; pedicels 3-4, aggregate, axillary; teeth of calyx setaceous. ♄. ⌒. S. Native of Carthagena in woods, and in the plains of Mexico, near Queretaro. ex H. B. et Kunth, nov. gen. amer. 6. p. 504. Flowers yellow.

Shrubby Nissolia. Fl. July, Nov. Clt. 1766. Sh. cl.

2 N. HIRSU'TA (D. C. prod. 2. p. 257.) stems twining, and are as well as the petioles hairy; leaflets oval, mucronate, rather hairy beneath and on the margins; pedicels 15-20, aggregate, axillary; teeth of calyx setaceous, very short. ♄. ⌒. S. Native of Mexico, near Guanaxuato.

Hairy Nissolia. Shrub tw.

3 N. RACEMÒSA (D. C. prod. 2. p. 257.) stems twining, and are as well as the leaves smoothish; leaflets oval-oblong, acute, tapering to the base; pedicels numerous, in fascicles; fascicles disposed in elongated racemes; teeth of calyx almost wanting; ♄. ⌒. S. Native of St. Martha. Racemes numerous, axillary, and terminal. Nissòlia polyspérma, Bert. ined. Flowers white.

Racemose-flowered Nissolia. Fl. Ju. Aug. Clt. 1800. Sh. tw.

SECT. II. GOME'ZIUM (in honour of Juan Gomez, a Portuguese botanist). Calyx naked on the outside, with 5 rounded lobes. Petals of keel connected at the apex only. Stamens diadelphous. Legume indehiscent, 1-seeded. Perhaps a proper genus.

4 N. ARBÒREA (Jacq. amer. 199. t. 174. f. 48.) stem arboreous, erect, leaflets 1-2 pairs with the odd one oblong and acuminated, rather pubescent beneath; flowers sessile. ♄. S. Native of Carthagena and Martinico in woods. Segments of the calyx roundish. Flowers white?

Arboreous Nissolia. Shrub 12 feet.

5 N. GLABRA'TA (Link. enum. 2. p. 221.) stem erect; leaflets 1-2 pairs, with an odd one, oval, acuminated, quite smooth; flowers pedicellate, racemose. ♄. S. Native country unknown. Flowers white. Nearly allied to *N. arbòrea*.

Smoothish Nissolia. Clt. 1823. Shrub 6 to 12 feet.

SECT. III. MACHÆ'RIUM (an alteration from the Guiana name of *N. ferrugìnea*.) Pers. ench. 2. p. 276. D. C. prod. 2. p. 258. Calyx with 5 rounded lobes, girded by 2 concave, roundish bracteoles at the base. Petals of keel connected a little at the apex. Stamens monadelphous with a fissure on the upper side, or diadelphous. Legume indehiscent, 1-seeded. Perhaps a proper genus.

6 N. DIADE'LPHA (D. C. prod. 2. p. 258.) leaflets 5-7, somewhat alternate, oval-oblong, mucronate, clothed beneath with rusty velvety down; flowers panicled, diadelphous; legume somewhat incurved, rather velvety. ♄. ⌒. S. Native of Cayenne. Legume 3-4 inches long and 5 lines broad, standing on a stipe 3 or 4 lines long.

Diadelphous Nissolia. Shrub tw.

7 N. FERRUGÌNEA (Willd. spec. 3. p. 900.) leaflets 7-11, alternate, oblong, mucronate, clothed with rusty velvety down beneath; flowers panicled; monadelphous; legume straightish, rather velvety. ♄. ⌒. S. Native of Guiana, on the banks of rivers. N. quinàta, Aubl. guian. 2. p. 743. t. 297. Lam. ill. t. 600. f. 4. Flowers violaceous.

Rusty Nissolia. Shrub tw.

8 N. ACUMINA'TA (D. C. prod. 2. p. 258.) leaflets 5, alternate, oblong, ending each in a very long acumen, membranous, glabrous; legume rather cultriform, falcate below. ♄. ⌒. S. Native of the province of Caraccas, near Hacienda del Tuy, between San Pedro and La Vittoria. Machæ'rium acuminàtum, H. B. et Kunth, nov. gen. amer. 6. p. 391.

Acuminated Nissolia. Shrub tw.

9 N. LEIOPHY'LLA (D. C. prod. 2. p. 258.) leaflets 7, nearly opposite, oval-lanceolate, acuminated, glabrous on both surfaces; petioles, panicles, and calyxes clothed with rusty velvety down; flowers monadelphous; legumes quite smooth, straightish. ♄. S. Native of Guiana. A very distinct species.

Smooth-leaved Nissolia. Shrub.

10 N. ROBINIÆFÒLIA (D. C. prod. 2. p. 258.) leaflets 19-21, oblong, obtuse, glabrous; flowers panicled; legume pubescent, incurved at the base. ♄. S. Native of the Island of St. Vincent. Flowers unknown.

Robinia-leaved Nissolia. Clt. 1824. Shrub.

11 N. POLYPHY'LLA (Poir. suppl. 4. p. 98.) leaflets 23-25, elliptic-oval, obtuse, tomentose beneath, lower ones smallest; flowers panicled; legumes pubescent at the base and at the sutures, rather cut at the base of the wing. ♄. S. Native of French Guiana. Bracteas velvety. Calyx glabrous. Seeds elongated. Flowers probably white.

Many-leaved Nissolia. Shrub.

12 N. MICRÓPTERA (Poir. suppl. 4. p. 98.) leaflets usually 5, ovate, obtuse, clothed beneath with cinereous pubescence, almost sessile; legume glabrous, bicarinated on the back, ending in a short wing. ♄. G. Cultivated in the gardens of Teneriffe. Flowers white?

Small-winged-podded Nissolia. Clt. 1820. Sh.

† *Species not sufficiently known.*

13 N. STIPITA'TA (D. C. in ann. sc. nat. 4. p. 99.) leaves unknown; legumes oblong, incurved, obtuse, quite smooth, standing on a stipe, which is as large and as broad as the pod. ♄. S. Native of Brazil at Rio Janeiro, where it is called *Arasseiro*, not in Madagascar. Nissòlia punctàta, Lam. ill. t. 600. f. 1. Poir. dict. 4. p. 492. Machæ'rium punctàtum, Pers. ench. 2. p. 276. Flowers probably white.

Stipitate-fruited Nissolia. Shrub sarmentose.

14 N. RETICULA'TA (Lam. ill. t. 600. f. 2. dict. 4. p. 492.) leaflets obtuse; legumes on short stipes, rather cut at the base of the wing. ♄. ⌒. S. Native of Madagascar. Machæ'rium reticulàtum, Pers. ench. 2. p. 276. Flowers unknown.

Reticulated Nissolia. Shrub tw.

15 N. ACULEA'TA (D. C. prod. 2. p. 258.) petioles furnished with 2 rather hooked prickles at the base of each; leaflets 31-33, alternate; flowers racemose; legumes hairy. ♄. ⌒. S. Native of Brazil, on hills by the sea-side, at Rio Janeiro. Machæ'rium aculeàtum, Raddi, pl. bras. add. p. 19.

Prickly Nissolia. Clt. 1824. Shrub tw.

16 N. DU'BIA (Poir. suppl. 4. p. 99.) leaflets 5, almost glabrous, lanceolate, acute at both ends; flowers racemose; pedicels in fascicles, pubescent; legume hardly stipitate. ♄. S. Native of Cayenne.

Doubtful Nissolia. Shrub.

17 N. RETU'SA (Willd. enum. 742.) leaflets glabrous on both surfaces, ovate-oblong, emarginate, lower ones roundish. ♄. ⌒. S. Native of South America.

Retuse-leafletted Nissolia. Clt. 1819. Shrub tw.

18 N. SCA'NDENS (König. ex Spreng. syst. 3. p. 191.) shrubby, scandent; leaves with 2 pairs of ovate-oblong, acute, rather coriaceous, smooth leaflets; flowers panicled. ♄. ◡. S. Native of the East Indies.

Climbing Nissolia. Shrub cl.

Cult. For culture and propagation see *Eysenhárdtia*, p. 234.

CVIII. MULLE'RA (in honour of Otto Frederick Muller, a Danish botanist, and one of the editors of Flora Danica). Lin. fil. suppl. 53. D. C. prod. 2. p. 259.

LIN. SYST. *Monadélphia, Decándria.* Calyx campanulate, 5-toothed, apparently cut round about at the base after the teeth have fallen. Petals 5, papilionaceous, caducous. Stamens 8-10, monadelphous, having the tube compressed, falling off along with the calyx. Ovary sessile. Style filiform. Legume moniliform, having 1-5 1-celled 1-seeded, indehiscent, distinct joints. Seeds compressed, reniform. Flowers almost like those of a species of *Robinia*, but the stamens are monadelphous, the fruit almost like that of *Sophòra*, and the habit of *Pterocárpus.*

1 M. MONILIFÓRMIS (Lin. fil. l. c.) leaves impari-pinnate; joints of legume smooth. ♄. S. Native of Surinam and of French Guiana. Goublándia frutéscens, Aubl. guian. 4. p. 937. t. 356. Leaves with 2 pairs of ovate, acute, glabrous, petiolulate leaflets. Racemes axillary, simple. Bracteas subulate, small, caducous. Flowers pale-yellow.

Necklace-formed-podded Mullera. Clt. 1782. Sh. 6 to 7 ft.

Cult. See *Eysenhárdtia*, p. 234. for culture and propagation.

CIX. LONCHOCA'RPUS (from λογχη, *lonche*, a lance, and καρπος, *karpos*, a fruit; in reference to the lance shape of the pods). H. B. et Kunth, nov. gen. amer. 6. p. 383. D. C. prod. 2. p. 259.

LIN. SYST. *Mona-Diadélphia, Decándria.* Calyx campanulately-urceolate, obsoletely 5-toothed. Corolla papilionaceous. Vexillum somewhat orbicular, spreadingly-reflexed. Wings, vexillum, and keel about equal in length. Stamens diadelphous and monadelphous. Legume on a short stipe, oblong-lanceolate, straight, flat, membranous, 2-4-8-seeded. Seeds compressed, reniform. Radicle uncinately inflexed.—Unarmed trees, from the West Indies and South America, with impari-pinnate leaves, opposite, exstipellate, stalked leaflets, and purplish flowers. This genus is not sufficiently defined. Perhaps the diadelphous species should be separated from the monadelphous ones, but the habit of both are very similar.

1 L. PUNCTA'TUS (H. B. et Kunth, nov. gen. amer. 6. p. 383.) leaves with 5-7 oblong, obtuse, glabrous leaflets, full of pellucid dots, shining above, having the middle nerve rather prominent below; calyx glabrous; lower peduncles of raceme 2-flowered. ♄. S. Native of South America, near Cumana. Dalbérgia punctàta, Spreng. syst. app. 3. p. 268. Legumes unknown.

Dotted-leaved Lonchocarpus. Tree 20 feet.

2 L. MACROPHY'LLUS (H. B. et Kunth, l. c.) leaves with 9 elliptic-oblong, acuminated, dotless, glabrous leaflets, shining above, having the middle nerve and primary veins rather prominent; calyx clothed with brownish tomentum. ♄. S. Native of South America, near Angostura de Carara, on the banks of the river Magdalena. Dalbérgia macrophýlla, Spreng. syst. app. 268. This species is nearly allied to *L. Domingénsis.*

Long-leaved Lonchocarpus. Clt. 1818. Tree 40 feet.

3 L. DOMINGE'NSIS (D. C. prod. 2. p. 259.) leaves with 11 oval, acuminated, glabrous, petiolate leaflets; racemes axillary, shorter than the leaves; calyx somewhat truncate, bibracteate at the base, and are as well as the legumes pubescent. ♄. S. Native of St. Domingo. Dalbérgia Domingénsis, Pers. ench. 2. p. 276. L. Turpìnii, Kunth, l. c. Stamens monadelphous. Legume 1-2-seeded. Flowers red.

St. Domingo Lonchocarpus. Clt. 1820. Tree 20 feet.

4 L. VIOLA'CEUS (H. B. et Kunth, l. c. in a note) leaves with from 7-11 ovate, obtuse, rather emarginate, glabrous leaflets, full of pellucid dots, membranous, with the middle nerve rather prominent; calyxes glabrous; peduncles of racemes 2-flowered. ♄. S. Native of Carthagena and Guadaloupe, in bushy places. Robínia violàcea, Jacq. amer. 210. t. 177. f. 49. pict. 103. t. 262. f. 61. Flowers diadelphous, violaceous, large, having the scent of violets. Stamens somewhat monadelphous, the tenth one only free at the base.

Violaceous-flowered Lonchocarpus. Clt. 1799. Tr. 12 ft.

5 L. PENTAPHY'LLUS (H. B. et Kunth, l. c. in a note) leaves with 5-7 nerved, bluntly acuminated, quite glabrous leaflets; racemes shorter than the leaves; legumes lanceolate, glabrous, 1-3-seeded. ♄. S. Native of Porto-Rico. Dalbérgia pentaphýlla, Poir. suppl. 2. p. 445. Flowers unknown.

Five-leafletted Lonchocarpus. Tree 20 feet.

6 L. HEPTAPHY'LLUS (D. C. prod. 2. p. 259.) leaves with 7 lanceolate, obtusely mucronate, glabrous leaflets, pale beneath, and with the nerve and lateral veins rather prominent; racemes a little longer than the leaves; calyx 5-toothed; legumes oblong, narrow at the base, slender, glabrous, 2-3-seeded. ♄. S. Native of St. Domingo. Dalbérgia heptaphýlla, Poir. l. c. suppl. 2. p. 446. Perhaps sufficiently distinct from *L. pentaphýllus* and *L. violàceus.* Flowers purple.

Seven-leafletted Lonchocarpus. Tree 20 feet.

7 L. LEONE'NSIS; an erect, branched tree; leaflets oblong, mucronate, undulated, entire; racemes axillary and terminal; flowers on short pedicels. ♄. S. Native of Sierra Leone. Corolla violaceous.

Sierra Leone Lonchocarpus. Tree 20 feet.

8 L. ALBIFLÒRUS; leaflets 7, ovate, acuminated, glabrous, entire; flowers on long peduncles or racemose, axillary; legume flat, pubescent. ♄. S. Native of the Island of St. Thomas, in the Gulf of Guinea. Flowers white.

White-flowered Lonchocarpus. Fl. Oct. Tree 50 feet.

9 L. FORMOSIA'NUS (D. C. prod. 2. p. 260.) leaflets 7, coriaceous, glabrous, oval, obtusely acuminated, having the nerve and lateral veins rather prominent; racemes panicled; pedicels usually 2-flowered; calyx truncate, and is as well as the petals and legumes clothed with silky pubescence. ♄. S. Native of Africa, on the banks of the river Formosa. Robínia violàcea, Beauv. fl. d'ow. 2. p. 28. t. 76. Dalbérgia Guineénsis, Spreng. syst. app. 3. p. 266. Stamens monadelphous. Flowers violet.

Formosa Lonchocarpus. Tree 20 feet.

10 L. SERÍCEUS (H. B. et Kunth, l. c.) leaflets 7-11, oval, acuminated, coriaceous, glabrous above, but clothed with rufous, silky pubescence beneath, as well as the calyxes, pedicels, and branches; racemes erect, length of leaves; pedicels very short, usually twin or 2-flowered; petals clothed with silky-silvery pubescence on the outside. ♄. S. Native of the Islands of Montserrat, St. Christopher, and Trinidad. Robínea serícea, Poir. dict. 6. p. 226. R. móllis, Vahl. in herb. Puer. Calyx truncate. Legume unknown. Stamens monadelphous.

Silky Lonchocarpus. Clt. 1826. Tree 20 feet.

11 L. PYXIDA'RIUS (D. C. prod. 2. p. 260.) leaflets 7, ovate, acuminated, glabrous above, but clothed with adpressed villous-pubescence beneath; petioles, peduncles, and calyxes clothed with short velvety down; racemes erect, shorter than the leaves; vexillum clothed with adpressed silky down on the outside. ♄. S. Native of Cuba, where it is called *Palo de Caja* or box-wood. Stamens monadelphous. This species comes very near to *L. sericeus.*

Box Lonchocarpus. Clt. 1820. Tree 20 feet.

12 L. LATIFÒLIUS (H. B. et Kunth, l. c.) leaflets 7, ovate, short-acuminated, glabrous, pale beneath, having the nerve, and lateral veins rather prominent; racemes axillary, much longer

than the leaves, and are, as well as the pedicels and calyxes, pubescent; corolla glabrous. ♄. S. Native of Porto-Rico. Amerímnum latifòlium, Willd. spec. 4. p. 611. exclusive of the synonyme, and therefore the same as Pterocárpus latifòlius of Poir. dict. 4. p. 611. Calyx 5-toothed. Flowers of a purplish-violet colour. Stamens monadelphous. Ovary pubescent, linear, tapering to both ends.

Broad-leaved Lonchocarpus. Clt. 1808. Tree 12 to 20 ft.

13 L. PUBE'SCENS (D. C. prod. 2. p. 260.) leaflets 11-13, ovate-lanceolate, acuminated, glabrous, pubescent beneath; racemes axillary, filiform, length of leaves. ♄. S. Native of Caraccas. Amerímnum pubéscens, Willd. spec. 3. p. 909. Pterocárpus pubéscens, Poir. dict. 5. p. 740. The legume is said to be 2-valved and many-seeded, and the stamens monadelphous. Flowers small, violet.

Pubescent Lonchocarpus. Clt. 1824. Tree 20 to 30 feet.

14 L. RÒSEUS (D. C. prod. 2. p. 260.) leaflets 13-15, lanceolate, acuminated, glabrous, shining above, but rather pale beneath; racemes erect; pedicels 1-flowered; calyx truncate; young legumes clothed with rufous-velvety down. ♄. S. Native of South America. Pseudo-acàcia latifòlia, Plum. spec. 19. Robínia ròsea, Mill. dict. no. 4. but not of Ell. Robínia latifòlia, Poir. dict. 6. p. 224. but not of Mill. Flowers large, showy, rose-coloured, ex Plum. Legume oblong, acute, 1-4-seeded, tapering to the base.

Rose-coloured-flowered Lonchocarpus. Clt. 1700. Tree 20 to 30 feet.

15 L.? PTEROCA'RPUS (D. C. prod. 2. p. 260.) leaflets 5, oval-oblong, acuminated, quite smooth, shining above, but glaucescent beneath; racemes axillary, length of leaves; legume oblong, acuminated at both ends, winged on the upper suture. ♄. S. Native of French Guiana. Flowers unknown. Legume 2 or 3 inches long, and 1-2-seeded from abortion.

Wing-fruited Lonchocarpus. Tree 20 to 30 feet.

16 L. SE'PIUM (D. C. prod. 2. p. 260.) leaflets 11-15, ovate, bluntly acuminated, membranous, rather puberulous above, but glabrous and pale beneath; racemes shorter than the leaves; pedicels 1-flowered: calyx truncate; legumes glabrous, oblong-obtuse, compressed, callous at the sutures. ♄. S. Native of St. Martha, and at Carthagena, where it is used for hedges to gardens. Robínia sèpium, Jacq. amer. 211. t. 129. f. 101. Flowers rose-coloured. Stamens diadelphous. Legume about 4 inches long, 4-seeded.

Hedge Lonchocarpus. Clt. 1821. Tree 30 feet.

17 L. MACULA'TUS (D. C. prod. 2. p. 260.) leaflets 17, oblong, obtuse, beset with adpressed pili above, but glaucescent and spotted with black beneath; calyx campanulately urceolate, nearly entire, puberulous; legume linear, compressed, with thickened margins. ♄. S. Native about Campeachy. Robínia maculàta, H. B. et Kunth, nov. gen. amer. 6. p. 394. This plant, along with the preceding species, may form a distinct genus, which may be called *Glyciridia.*

Spotted-leaved Lonchocarpus. Tree 30 feet.

18 L. SWA'RTZII (D. C. prod. 2. p. 261.) leaflets 5-7, oval, bluntly acuminated, glabrous, pale beneath; racemes shorter than the leaves; pedicels 2-flowered; calyx truncate; legumes glabrous, elliptic-oblong, compressed, few-seeded, rather callous at the sutures. ♄. S. Native of St. Domingo. Robínia sèpium, Swartz, prod. 106. Flowers rose-coloured. This species differs from *L. sèpium* in the flowers being smaller and monadelphous, not diadelphous.

Swartz's Lonchocarpus. Tree 20 feet.

19 L. NICO'U (D. C. prod. 2. p. 261.) leaflets 7, ovate, acuminated, glabrous; branches sarmentose, rather climbing; racemes spike-formed; pedicels 1-flowered; calyx 5-toothed; legume elongated, glabrous, 4-seeded, rather callous at the sutures. ♄. ◡. S. Native of French Guiana, in bushy places. Robínia Nicóu, Aubl. guian. 2. p. 771. t. 308. R. scándens, Willd. spec. 3. p. 1134. Flowers purple, diadelphous. There is a plant native of Cayenne which differs from the plant of Aublet in the leaflets being silky-pubescent beneath, and in the spikes being longer than the leaves. The twigs are cut and thrown into ponds and rivers for the purpose of intoxicating fish, in order to take them, as those of *Tephròsia toxicària,* see p. 229. *Nicou* is the Caribbee name of the tree.

Nicou Lonchocarpus. Shrub cl.

20 L. OXYCA'RPUS (D. C. prod. 2. p. 261.) leaflets 7, oval, abruptly, acutely, and mucronately acuminated, glabrous, palish beneath; racemes shorter than the leaves; pedicels 2-3-flowered; calyx usually 5-toothed; legume oblong, acuminated at both ends, compressed, few-seeded, not tumid at the sutures. ♄. S. Native of Guadaloupe. Flowers purple, monadelphous.

Sharp-fruited Lonchocarpus. Tree 12 to 20 feet.

21 L.? AMERI'MNUM (D. C. prod. 2. p. 261.) leaflets 7, ovate, acuminated on long petioles, glabrous; racemes simple, loose, shorter than the leaves; calyx 5-toothed. ♄. S. Native about Carthagena, in woods. Amerímnum pinnàtum, Jacq. amer. 200. t. 177. f. 50. Flowers yellow, monadelphous.

Amerimnum-like Lonchocarpus. Tree 14 feet.

Cult. For culture and propagation see *Eysenhárdtia,* p. 231.

CX. ROBI'NIA (in honour of Jean Robin, a French botanist, once herbalist to Henry IV. of France, author of Histoire des Plantes, 12mo. Paris, 1620. printed also with the second edition of Lonicier's History of Plants. His son Vespasian was subdemonstrator at the Jardin du Roi, and was the first person who cultivated the *Pseudacàcia* in Europe). D. C. mem. leg. vi. prod. 2. p. 261.—Pseudacàcia, Tourn. inst. t. 417. Mœnch. meth. 145.—Robínia species of Lin. and others.

LIN. SYST. *Diadélphia, Decándria.* Teeth of calyx 5, lanceolate, 2 upper ones shorter and approximate. Corolla papilionaceous. Vexillum large. Keel obtuse. Stamens diadelphous, deciduous. Ovary 16-20-ovulate. Style bearded in front. Legume compressed, almost sessile, many-seeded, with the valves thin and flat, margined at the seminiferous suture.—North American trees, usually furnished with stipular spines. Leaves impari-pinnate; leaflets petiolulate, and furnished with stipels at the base. Flowers white or rose-coloured, disposed in axillary, usually nodding racemes.

1 R. PSEUDACA'CIA (Lin. spec. 1043.) spines stipular; branches twiggy; racemes loose, pendulous, and are, as well as the legumes smooth; leaflets ovate. ♄. H. Native of North America, from Canada to Carolina. Lam. ill. t. 666. f. 1. Duham. arbr. ed. nov. 2. t. 16. Æschynómene pseudacàcia, Roxb. Pseudacàcia odoràta, Mœnch. l. c. Flowers white, sweet-scented. Roots creeping, the fibres sometimes bearing tubercles. The *Common, False,* or *Bastard Acacia,* called *Locust-tree* in America, grows very fast whilst young, so that in a few years from seed the plants rise to 8 or 10 feet high, and it is not uncommon to see shoots of this tree 6 or 8 feet long in one summer. The branches are armed with stipular hooked prickles. The leaves have 8 or 10 pairs of bright green leaflets. The flowers come out from the sides of the branches in pretty long bunches, hanging down like those of Laburnum, white, and smelling very sweet; they appear in June, and when the trees are full of flowers they make a very fine appearance, and perfume the air round them, but they seldom continue more than one week. The wood is valued in North America for its durability. Most of the houses which were built at Boston in New England on the first settling of the English, were constructed of this timber. The tree being very liable to be broken by high winds, and the leaves not appearing till late in the summer, and

falling off early in the autumn, makes it less valuable for ornamental plantations. The wood when green is of a soft texture, but becomes very hard when dry, of a close grain, and finely veined, and is more valued in America by cabinet-makers than any other native timber whatever. It is as durable as the best white oak, and is esteemed preferable for axletrees of carriages, treenails for ships, and many other mechanical purposes. It has been employed with success in Virginia for ship-building, and found to be far superior to American oak, elm, ash, &c. for that purpose. Posts for rail-fencing made of this tree stand wet and dry in the ground better than any other in common use, almost as well as posts of the swamp-cedar. It makes excellent fuel, and its shade is less injurious to grass than that of most other trees. The leaves afford wholesome food for cattle. A gentleman in New England sowed several acres of it for that purpose. Being very apt to throw out suckers from the running roots, and as it stolls freely, it seems peculiarly calculated for coppice woods. A *locust-tree* in New England 40 years old was in 1782 60 feet high and 4 feet 10 inches in girth at 3 feet from the ground. A cubic foot of *Acàcia* in a dry state weighs from 48 to 53 pounds avoirdupoise. If we compare its toughness in an unseasoned condition with that of oak, it will not be more than 8-100 less. Its stiffness is equal to 99-100 of oak, and its strength nearly 96-100, but were it properly seasoned, it might possibly be found much superior to oak in strength, toughness, and stiffness. A piece of unseasoned *acàcia* 2 feet 6 inches long, and an inch square in the vertical section, broke when loaded with a weight of 247 pounds avoirdupoise. Its medium cohesive force is about 11,500 pounds. (Dict. of Archi.)

Var. β, *inérmis* (D. C. prod. 2. p. 261.) spines wanting or nearly obsolete; leaflets flat. D. C. cat. hort. monsp. 136. R. spectábilis, Dum. Cours. bot. cult. 6. p. 140.

Var. γ, *crispa* (D. C. l. c.) spines wanting; leaflets all or for the most part undulately curled.

Var. δ, *umbraculífera* (D. C. cat. hort. monsp. 157.) spines wanting; branches much crowded, smooth; leaflets ovate. This plant is common in gardens, but has not yet flowered. Robínia inérmis, Dum. Cours. 6. p. 140. Commonly called *Parasol Acacia.* This variety is said to have been raised from the seed of *R. pseudacàcia*, but it is more of a shrub than a tree.

Var. ε, *tortuòsa* (D. C. prod. 2. p. 261.) branches much crowded, and twisted. ♄. H. R. pseudacàcia tortuòsa, D. C. cat. hort. monsp. 136. Racemes similar to those of *R. pseudacàcia*, but are smaller and fewer flowered.

Bastard Acacia, *False Acacia*, or American Locust-tree. Fl. May, June. Clt. 1640. Tree 30 to 60 feet.

2 R. du'bia (Fouc. in Desv. journ. bot. 4. p. 204. but not of Poir.) spines very short; branches, petioles, peduncles, and calyxes furnished with a few glands, rarely clammy; leaflets ovate; racemes loose, pendulous; bracteas concave, caducous, ending each in a long bristle. ♄. H. Said to be a hybrid between *R. pseudacàcia* and *R. viscòsa*. R. hýbrida, Audib. R. ambígua, Poir. suppl. 4. p. 690. and perhaps R. echinàta, Mill. dict. no. 2. Flowers sweet-scented, pale rose-coloured. The pods, according to Miller, are thickly beset with short prickles.

Doubtful, Bastard, or False Acacia. Fl. May, Ju. Tree 60 ft.

3 R. viscòsa (Vent. hort. cels. t. 4.) spines very short; leaflets ovate; branches and legumes glandular and clammy; racemes crowded, erect; bracteas concave, deciduous, each ending in a long bristle; the 3 lower teeth of calyx acuminated. ♄. H. Native of North America, on the mountains of Georgia and Carolina, near rivers. Duh. arbr. ed. nov. 2. t. 17. R. glutinòsa, Curt. bot. mag. 560. Flowers pale red mixed with white, scentless. Roots creeping.

Clammy False Acacia. Fl. June, Aug. Clt. 1797. Tree 30 to 40 feet.

4 R. hi'spida (Lin mant. 101.) spines wanting; leaflets obovate; branches hispid; racemes loose, hispid; the 3 lower teeth of calyx acuminated; legumes hispid. ♄. H. Native of Virginia and Carolina, on high mountains. Mill. fig. t. 244. Curt. bot. mag. 311. R. ròsea, Duh. l. c. t. 18. R. montàna, Bartr. voy. 2. p. 128. Æschynómene híspida, Roxb. Flowers large, rose-coloured, shewy, scentless. Perhaps many species are confused under the name of *R. hispida.* This is one of the most elegant of the species when in flower, it is usually grafted on the common sort, and flowers even when it is about 2 or 3 feet high, which renders it a very valuable plant for ornamental shrubberies, but it requires to be grown in a sheltered situation, otherwise the branches are very liable to be shattered or blown off by high winds. In young trees grafted above ground, the fracture commonly takes place at the graft, so that a good preventive is to graft on a root, a little below the surface. Grafts in this manner are also much more certain of success.

Var. β, *nàna* (D. C. prod. 2. p. 262.) plant hardly a foot high. Native of Carolina, in pine woods.

Hispid Bastard or Rose Acacia. Fl. May, Sept. Clt. 1743. Shrub 3 to 6 feet.

5 R. ròsea (Ell. sketch. 2. p. 213.) spines wanting; leaflets obovate, alternate; branches and racemes smoothish. ♄. H. Native of Georgia, in pine woods. R. híspida var. β ròsea, Pursh. fl. sept. amer. 2. p. 488. Flowers large, rose-coloured, scentless. The 3 lower teeth of calyx acuminated.

Upright *Rose* or Bastard Acacia. Fl. May, Sept. Sh. 6 feet.

6 R. macrophy'lla (Schrad. in litt.) spines wanting; leaflets ovate-roundish; branches and peduncles glabrous, the 3 lower teeth of calyx acuminated. ♄. H. Native of North America. Flowers large, rose-coloured, scentless. R. híspida var. γ macrophýlla, D. C. prod. 2. p. 262.

Long-leaved Rose or Bastard Acacia. Fl. May, June. Shrub 6 to 10 feet.

† *Trees and shrubs referred to Robinia by authors, which appear not to belong to the genus, and ought to be referred to some other genera; but they are not so sufficiently known as to enable us to refer them to their proper genera.*

7 R. ama'ra (Lour. coch. p. 455.) unarmed; leaves impari-pinnate, usually with 5 pairs of ovate-oblong leaflets, which are white beneath; racemes long, erect; pedicels tern; legume almost terete, acuminated, glabrous. ♄. G. Native of Cochinchina and China. Flowers violaceous. Root very bitter, of a yellowish brown-colour.

Bitter-rooted Robinia. Shrub 4 feet.

8 R. glycyphy'lla (Poir. dict. 6. p. 227.) unarmed; leaves impari-pinnate, with 6-9 pairs of glabrous, ovate, obtuse, discoloured leaflets; stipulas subulate, stiff; racemes elongated; calyx tubular; legume linear, compressed, obtuse, stipitate. ♄. S. Native of Martinique. Flowers small, white. Perhaps a species of *Lonchocárpus.*

Sweet-leaved Robinia. Tree 20 feet?

9 R. Guinee'nsis (Willd. ex Steud. D. C. prod. 2. p. 262.) unarmed; leaves impari-pinnate, with 5-6 pairs of elliptic, mucronate, glabrous leaflets; stipulas linear-subulate; racemes 5-6-flowered; branchlets and calyxes hispid. ♄. S. Native of Guinea. Cýtisus híspidus, Willd. spec. 3. p. 1121.

Guinea Robinia. Clt. 1822. Tree 40 feet.

10 R. latifòlia (Mill. dict. no. 9. but not of Poir.) unarmed; leaves impari-pinnate, with 6-7 pairs of oblong acuminated leaflets, which are shining above, and pale beneath; racemes elongated; legumes 1-2-seeded, oblong-ovate. ♄. S. Native of Campeachy. Flowers rose-coloured. Perhaps a species of *Lonchocárpus.*

Broad-leaved Robinia. Tree 20 to 30 feet.

11 R. GLA'BRA (Mill. dict. no. 5.) unarmed; leaves impari-pinnate; leaflets oblong-obovate, obtuse, glabrous; peduncles racemose, crowded. ♄. S. Native of Campeachy. Flowers small, yellowish-red. Perhaps a species of *Lonchocárpus*.

Glabrous Robinia. Tree.

12 R. PE'NDULA (Ort. dec. p. 26.) unarmed; leaves impari-pinnate, with 6-8 pairs of oval mucronulate leaflets; stipulas subulate; racemes twice the length of the leaves; pedicels twin, 1-flowered. ♄. S. Native of Peru, at the town called Huariaca. Flowers pale violet-coloured.

Pendulous-flowered Robinia. Tree.

13 R. PURPU'REA (Link. enum. 2. p. 242,) petioles somewhat spinescent; leaves impari-pinnate; leaflets lanceolate, mucronate, pubescent; pedicels 1-flowered. ♄. S. Native country unknown. Flowers purple.

Purple-flowered Robinia. Fl. July, Aug. Clt. 1810. Tree.

14 R. RUBIGINÒSA (Mart. et Nees, nov. act. bonn. 12. p. 31. exclusive of the synonyme of Poir.) shrub unarmed, diffuse; leaves impari-pinnate; leaflets 19-21, elliptic, obtuse, somewhat emarginate, pubescent beneath; racemes axillary, compound, and are, as well as the branches, clothed with rusty villi. ♄. S. Native of Brazil, about Tamburil and Valos. Flowers small, violaceous. Ovary crenulated.

Rusty Robinia. Shrub 10 to 12 feet.

15 R. CUBE'NSIS (H. B. et Kunth, nov. gen. amer. 6. p. 392.) arboreous; leaflets 9, ovate-oblong, obliquely falcate, glabrous; racemes in fascicles, pendulous; calyx urceolate, 5-toothed, pubescent. ♄. S. Native of Cuba, near Batabana. Flowers pale rose-coloured. Fruit unknown.

Cuba Robinia. Tree 40 feet.

16 R. FERRUGI'NEA (H. B. et Kunth, nov. gen. amer. 6. p. 395.) arboreous; branches glabrous, unarmed; racemes rising before the leaves; calyx urceolate, 5-lobed, somewhat bilabiate, clothed with rusty tomentum. ♄. S. Native of Caraccas. Flowers rose-coloured or white.

Ferruginous Robinia. Tree 20 feet.

17 R. FLA'VA (Lour. coch. 456.) unarmed; leaves abruptly pinnate, usually with 8 pairs of oblong acutish leaflets; peduncles 3 together, each bearing 3 flowers. ♄. G. Native of the north of China. Root yellow, bitter. Flowers white. Perhaps a species of *Caragàna*. The roots in decoction are febrifugal.

Yellow-rooted Robinia. Shrub 1 to 2 feet.

18 R. PYRAMIDA'TA (Mill. dict. no. 7.) unarmed; leaves bipinnate; leaflets ovate, sessile, shining above, but pale beneath: panicles spicately pyramidal, erect. ♄. S. Native of Campeachy. Flowers red. Perhaps a species of *Cæsalpinia*.

Pyramidal-flowered Robinia. Tree.

Cult. All the true species of *Robínia* are very handsome when in flower, and are very proper plants for ornamental shrubberies; the taller species to be placed at the back, and the shorter ones in front; they are either propagated by layers or by grafting the rarer on the commoner sorts, most commonly on the *R. pseudacàcia*. Most of the species may be raised from seeds, which in some kinds ripen in plenty. The stove and greenhouse kinds, which are certainly very doubtful species of the genus, should be treated in the same manner as the genus *Sabínea*.

CXI. POITÆ'A (in honour of — Poiteau, a French botanist and traveller in South America, author of Flore Parisienne, in conjunction with Turpin, and author of many botanical memoirs in the Annales du Museum). D. C. prod. 2. p. 263.—Poitèa, Vent. choix. t. 36.

LIN. SYST. *Diadélphia, Decándria.* Calyx obliquely truncate, 5-toothed; teeth very short, especially the 2 upper ones. Petals 5, disposed in a papilionaceous manner, conniving, oblong; vexillum retuse, shorter than the wings. Keel longer than the wings. Stamens somewhat exserted, diadelphous. Style filiform, glabrous. Stigma terminal. Legume stipitate, linear, compressed, many-seeded, mucronulate; valves flat. Seeds lenticular.—Shrubs, natives of St. Domingo, with the habit of *Galèga* and *Robínia*. Stipulas setaceous. Leaves impari-pinnate; leaflets exstipellate. Flowers white or rose-coloured, disposed in axillary racemes. Legumes glabrous.

1 P. GALEGOI'DES (Vent. choix. t. 36.) petioles wingless; leaflets 12-15 pairs, oblong, mucronate, and are, as well as the branches, clothed with adpressed pubescence; flowers and legumes nodding. ♄. S. Native of St. Domingo. Galèga Bertèrii, Spreng. in herb. Balb. P. galegifórmis, Spreng. syst. 3. p. 272. Leaflets 3 lines long, and a line and a half broad. Flowers of a rose-purple colour.

Goat's-rue-like Poitæa. Shrub

2 P. VICIÆFÒLIA (D. C. in ann. sc. nat. 4. p. 99.) petiole with a very narrow wing; leaves with 16-18 pairs of oblong mucronate leaflets, which are clothed with hairy pubescence, as well as the branchlets; flowers and legumes erect. ♄. S. Native of St. Domingo. Robínia viciæfòlia, Bert. in herb. Balb. Flowers of a rose-purple colour. Leaflets an inch long, and about 3 or 4 lines broad.

Vetch-leaved Poitæa. Shrub.

3 P. CAMPANI'LLA (D. C. prod. 2. p. 263.) petiole terete, filiform; leaves with 4 pairs of distant, ovate-oblong, rather mucronulate leaflets, which are glaucous beneath, but smooth on both surfaces, as well as the branches and petioles. ♄. S. Native of St. Domingo, where it is called *Campanilla*. Robínia latifòlia, Bertero in herb. Balb. Flowers white or pale rose-coloured. Leaflets an inch long, and half an inch broad, on long petiolules.

Campanilla Poitæa. Shrub.

Cult. See *Sabínea* for culture and propagation.

CXII. SABI'NEA (named by De Candolle, in honour of Joseph Sabine, F.R.S. F.L.S. &c. who was a long time Secretary of the Horticultural Society of London). D. C. in ann. sc. nat. 4. jan. 1825. p. 92. prod. 2. p. 263.

LIN. SYST. *Diadélphia, Decándria.* Calyx cup-shaped, campanulate, with a truncate, nearly entire border. Corolla papilionaceous. Keel obtuse, rather shorter than the vexillum. Stamens diadelphous, the free one and 4 others shorter than the rest. Style filiform, glabrous, circinnately incurved, as well as the stamens. Legume stipitate, compressed, linear, elongated, many-seeded, mucronate by the style.—Unarmed Caribbean shrubs, with abruptly-pinnate leaves, glabrous mucronate leaflets, axillary fascicles of 1-flowered pedicels, and purplish flowers.

1 S. FLO'RIDA (D. C. l. c.) leaflets 8-9 pairs, elliptic-oblong; flowers rising before the leaves. ♄. S. Native of the American Islands, in St. John, Krabben Island, and St. Thomas. Robínia flórida, Vahl. symb. 3. p. 89. t. 70.

Flowery Sabinea. Shrub 2 to 4 feet.

2 S. DU'BIA (D. C. l. c.) leaflets 10-12 pairs, elliptic-oblong; flowers rising after the leaves. ♄. S. Native of Martinique and Porto-Rico. Robínia dùbia, Lam. ill. t. 606. f. 2. Poir. dict. 6. p. 227. but not of Fouc. Robínia Martinicénsis, Pers. ench. 2. p. 312. Perhaps sufficiently distinct from the preceding.

Doubtful Sabinea. Shrub 2 feet.

Cult. A mixture of loam, peat, and sand will answer the species of *Sabínea*, and young cuttings will root if planted in a pot of sand with a hand-glass placed over them in heat.

CXIII. COURSE'TIA (in honour of Dumont de Courset, author of the Botaniste Cultivateur, 5 vols. in 8vo. Paris, 1802. and one of the editors of the Bon Jardinier). D. C, in ann. sc. nat. 4. jan. 1825. p. 92. prod. 2. p. 264.

LIN. SYST. *Diadélphia, Decándria.* Calyx 5-cleft, with nearly equal acute segments, 2 superior ones rather the shortest, and joined together a little higher up than the rest. Vexillum obcordate, shorter than broad. Keel obtuse, shorter than the wings. Stamens diadelphous. Style incurved, thick at the base and glabrous, but filiform at the apex and bearded with villi on all sides. Stigma capitate, terminal, smoothish. Legume compressed, 1-celled, 5-8-seeded, tapering to the apex, and mucronate by the style.—Tomentose shrubs, with subulate stipulas, abruptly-pinnate leaves, with many pairs of ovate small leaflets, the common petiole sometimes terminating in a bristle, but rarely in an odd leaflet. Flowers yellow. This genus is allied to *Robínia* and *Caragàna*, not to *Láthyrus* or *Æschynómene.*

1 C. TOMENTO'SA (D. C. l. c.) the whole plant clothed with velvety tomentum; leaves with from 30-35-pairs of leaflets; racemes 2-3-flowered, shorter than the leaves; calyx 5-cleft. ♄. S. Native of Peru. Láthyrus fruticòsus, Cav. icon. t. 84. O'robus tomentòsus, Desf. cat. hort. par. ed. 1. p. 195. Vicia fruticòsa, Willd. spec. 3. p. 1102. O'robus fruticòsus, Pers. Flowers yellow.

Tomentose Coursetia. Shrub 2 feet.

2 C.? DU'BIA (D. C. prod. 2. p. 264.) branches clothed with white villi; leaflets elliptic, acutish, usually about 30 pairs, puberulous above, and villously tomentose beneath, and canescent; racemes 15-20-flowered, length of leaves; calyx 5-toothed. ♄. S. Native on the Andes about Pasto, near the river Guaritaria. Sesbània dùbia, H. B. et Kunth, nov. gen. amer. 7. p. 268. t. 660. Hymenóspron Pastoénsis, Spreng. Flowers rose-coloured.

Doubtful Coursetia. Shrub 3 to 6 feet.

3 C. VIRGA'TA (D. C. l. c.) plant smoothish; leaflets 10-15 pairs; racemes 8-10-flowered; calyx 5-toothed. ♄. S. Native of New Spain. Æschynómene virgàta, Cav. icon. t. 293. Agàti virgàta, Desv. journ. bot. 3. p. 120. Legume glabrous, compressed, somewhat torulose, not articulated, apiculated by the thick style. Calyx not bipartite. Stamens not equally diadelphous. Perhaps a proper species of *Coursètia.* Corolla yellow.

Twiggy Coursetia. Shrub 2 feet.

Cult. See *Subínca* for culture and propagation, p. 239.

CXIV. SESBA'NIA (*Sesban* is the Arabic name of the first species). Pers. ench. 2. p. 316. Desv. journ. bot. 3. p. 120. t. 4. f. 5.—Sésban, Poir. dict. 7. p. 127.—Sesbàna, R. Br. in hort. kew. 4. p. 330.—Æschynómene species of Lin. and others.—Coronílla species of Willd.

LIN. SYST. *Diadélphia, Decándria.* Calyx 5-cleft or 5-toothed (f. 38. *a.*) with the lobes nearly equal. Vexillum roundish, complicated, larger than the keel (f. 38. *b.*). Keel obtuse, 2-edged at the base. Stamens diadelphous, having the tube or sheath rather auricled at the base. Legume elongated, slender (f. 38. *c.*), compressed, or somewhat cylindrical; the sutures thickened, not truly articulated, but rather torulose.—Shrubs or herbs, having the cauline stipulas lanceolate. Leaves abruptly pinnate, with many pairs of leaflets, having the petioles drawn out into a bristle at the apex instead of an odd leaflet. Peduncles axillary. Flowers racemose, usually yellow. Perhaps this genus, with the three following, ought to have been referred to Tribe *Hedysàreæ.*

1 S. ÆGYPTI'ACA (Pers. ench. 2. p. 316.) shrubby, glabrous; leaflets 10 pairs, oblong-linear, obtuse, and rather mucronate; racemes many-flowered; legumes compressed, and rather terete, torulose, twice the length of the petiole. ♄. S. Native of Senegal, Egypt, and the East Indies. Sésban, P. Alp. 82. with a figure. Æschynómene Sésban, Lin. spec. 1061. Coronílla Sésban, Willd. spec. 3. p. 1147. Æ. Sésban and Æ. I'ndica, Burm. fl. ind. 169 and 170. Vexillum roundish and dotless. Flowers yellow.

Ægyptian Sesban. Fl. July, Aug. Clt. 1680. Shrub 5 feet.

2 S. OCCIDENTA'LIS (Pers. ench. 2. p. 316.) shrubby, glabrous; leaves with 12-15 pairs of elliptic leaflets; racemes few-flowered; legumes terete, straight, 3-times longer than the petioles. ♄. S. Native of South America or the Caribbee Islands. Coronílla occidentàlis, Willd. spec. 3. p. 1147.—Plum. ed Burm. t. 125. f. 1. Corolla hairy according to Plumier, yellow.

Occidental Sesban. Fl. July, Aug. Clt. 1816. Shrub 4 feet.

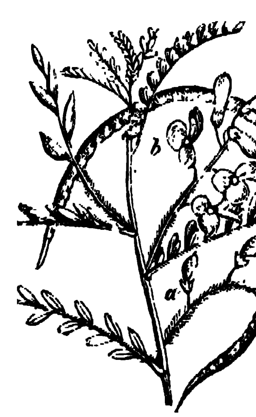
3 S. CASSIOI'DES; shrubby, smooth; leaves with from 20-35 pairs of lanceolate, obtuse, mucronate leaflets; stipulas subulate; peduncles axillary, 2-3-4-flowered; legumes long-linear, terete, longer than the leaves. ♄. S. Native of Guaiaquil. Æchynómene cassioìdes, Ruiz et Pav. in herb. Lamb.

Cassia-like Sesban. Shrub 2 to 3 feet.

4 S. EXASPERA'TA (H. B. et Kunth, nov. gen. amer. 6. p. 534.) shrubby; branches angular, and are, as well as the rachis, prickly; leaves with about 30 pairs of linear, mucronate, rather falcate, glabrous leaflets, but with the nerves and margins beset with adpressed down; peduncles usually 3-flowered, one-half shorter than the leaves. ♄. S. Native of South America, in sand at the river Apures, and near La Laguna de Valencia. Corolla glabrous, yellow. Legume very long and cylindrical.

Rough Sesban. Shrub 3 to 4 feet.

FIG. 38.



5 S. ACULEA'TA (Pers. ench. 2. p. 316.) plant herbaceous and glabrous; rachis of leaves rather prickly; leaves having about 25 pairs of linear, obtuse, rather mucronulate leaflets; racemes few-flowered; legumes filiform, one-half shorter than the petioles. ⊙. S. Native of Malabar. Æschynómene Sesban, Jacq. coll. 2. p. 283. Æ. bispinòsa, Jacq. icon. rar. t. 564. Coronílla aculeàta, Willd. l. c.—Rheed. mal. 9. t. 27. Burm. zeyl. t. 41. There is a variety of this plant having only 12-15 pairs of leaflets. Flowers orange.

Prickly Sesban. Fl. July, Aug. Clt. 1690. Pl. 5 to 6 feet.

6 S. PERUVIA'NA; shrubby, smooth; leaves with 4-6 pairs of obovate, obtuse, mucronate leaflets, which are glaucous beneath; racemes short, few-flowered; stipulas ovate, subulate at the apex; petioles prickly; legumes longer than the leaves, elongated, terete. ♄. S. Native of Peru. Æschynómene spec. nov. Ruiz et Pav. in herb. Lamb.

Peruvian Sesban. Shrub 3 to 4 feet.

7 S. CANNA'BINA (Pers. l. c.) plant herbaceous, glabrous; rachis of leaves smooth; peduncles 1-flowered, twin; legume filiform, compressed. ⊙. S. Native of Malabar. Æschynómene cannábina, Retz. obs. 5. p. 26. Coronílla cannábina, Willd. spec. 3. p. 1148. Flowers small, yellow. This plant, if treated as hemp, may be used for the same purposes.

Hemp Sesban. Fl. July, Aug. Clt. 1800. Pl. 2 to 4 feet.

8 S. AFFI'NIS (Schrad. sem. hort. goett. 1819.) plant herbaceous, smoothish; leaflets 12-18 pairs, oblong-linear, very blunt, mucronulate; rachis of leaves smooth; racemes few-flowered; legumes compressed, pendulous, length of rachis. ⊙. S. Native of the East Indies. Æschynómene cannábina, Hortul. Flowers yellow.

Allied Sesban. Fl. July, Aug. Clt. 1800. Pl. 2 to 4 feet.

9 S. PUNCTA'TA (D. C. prod. 2. p. 264.) plant herbaceous,

glabrous; leaves having 10-30 pairs of oblong-linear, very blunt, mucronate leaflets; petioles pubescent above; racemes many-flowered; corolla 6-times longer than the calyx; legumes compressed, somewhat torulose, 3 or 4 times the length of the petiole. ⊙. ? S. Native of Senegal. Flowers yellow, 8-9 lines long, having the vexillum spotted with purple on the outside.

Spotted-flowered Sesban. Fl. July, Aug. Clt. 1825. Pl. 2 to 3 feet.

10 S. PACHYCA′RPA (D. C. prod. 2. p. 265.) plant herbaceous, glabrous; leaflets oblong-linear, very blunt, and rather mucronate; petioles smooth; racemes 4-6-flowered, somewhat corymbose; corolla 3-times longer than the calyx; legumes rather terete, thick, 3-times the length of the rachis. ⊙. ? S. Native of Senegal. Flowers yellow, but with the vexillum variegated with purple spots. Legume acuminated, 6-8 inches long.

Thick-fruited Sesban. Pl. 2 to 3 feet.

11 S. PI′CTA (Pers. ench. 2. p. 316.) plant herbaceous, glabrous; leaves with 12-16 pairs of oblong-linear obtuse leaflets; racemes many-flowered, nodding; corolla 3-times the length of the calyx; legumes filiform, when young terete, but at length becoming compressed, torulose, twice the length of the petioles. ♂. S. Native of New Spain. Æschynómene pícta, Cav. icon. 4. p. 7. t. 314. Coronílla pícta, Willd. l. c. Corolla yellow, having the vexillum variegated with black dotted lines. There is a variety of this plant with 1-flowered peduncles, but this is very rare.

Painted-flowered Sesban. Fl. July, Aug. Clt. 1823. Pl. 4 to 6 feet.

12 S. MACROCA′RPA (Muhl. ex Ell. sketch. 2. p. 221.) plant herbaceous, glabrous; leaflets elliptic, glaucescent beneath, many-pairs; racemes axillary, few-flowered; legumes rather terete, elongated. ⊙. H. Native of Louisiana, and in the island of Paris. Flowers yellowish. Racemes shorter than the leaves.

Long-fruited Sesban. Fl. July, Aug. Clt. 1820. Pl. 3 ft.

13 S. PUBE′SCENS (D. C. prod. 2. p. 265.) plant herbaceous, clothed with adpressed villous pubescence; leaflets oblong-linear, obtuse, mucronate, about 20 pairs; racemes 7-8-flowered; legumes filiform, shorter than the petiole. ⊙. S. Native of Guinea. Æschynómene pubéscens, Vahl. ined. Flowers yellow.

Pubescent Sesban. Pl. 2 to 3 feet?

14 S. PALUDÒSA (Jacq. hort. vind. ex sem. miss. D. C. pl. rar. jard. gen. prod. 2. p. 265.) plant herbaceous, glabrous; leaflets elliptic-linear, obtuse, mucronate, 10-20 pairs; racemes usually 2-flowered; legume terete, rather compressed, and somewhat torulose, length of rachis. ⊙. S. Native of the East Indies. Corolla yellow, but with the vexillum rather brownish, and the top of the keel purplish. Perhaps the same as Æschynómene paludòsa of Roxb.

Marsh Sesban. Fl. July, Aug. Clt. 1816. Pl. 2 to 4 feet.

15 S. GRA′CILIS (Schrad. cat. sem. gœtt. 1819. D. C. prod. 2. p. 265.) plant glabrous; leaves with 12-15 pairs of oblong-linear, obtuse, mucronulate leaflets; rachis of leaves smooth; racemes few-flowered; legumes compressed, rather torulose, erect, twice the length of the rachis, apiculated by the style, which is twice the length of the ultimate joint. ⊙. S. Native country unknown. Very nearly allied to the following species.

Slender Sesban. Fl. July, Aug. Clt. 1820. Pl. 2 to 3 feet.

16 S. LEPTOCA′RPA (D. C. prod. 2. p. 265.) plant herbaceous, glabrous; leaves with about 20 pairs of linear, obtuse, mucronate leaflets; racemes few-flowered, erect; legumes filiform, terete, torulose, twice the length of the rachis; style shorter than the ultimate joint of the pod. ⊙. ? S. Native of Senegal. Flowers yellow, but with the vexillum dotted with black, as in *S. picta*.

Slender-fruited Sesban. Pl. 2 to 3 feet.

17 S. LONGIFÒLIA (D. C. prod. 2. p. 265.) plant shrubby, glabrous; leaves with from 7-18 pairs of ovate-lanceolate, mucronulate, glaucous leaflets; racemes many-flowered; legumes linear, torulose, acute. ♄. S. Native of New Spain. Æschynómene longifòlia, Ort. dec. 9. p. 70. Flowers yellow. Stems and fruit purplish.

Long-leaved Sesban. Shrub 4 to 6 feet.

18 S. SERI′CEA (D. C. prod. 2. p. 266.) plant herbaceous; leaflets lanceolate, acute, mucronate, narrowest at the base, silky beneath. ⊙. S. Native country unknown. Coronílla serícea, Willd. enum. 773. Said to be nearly allied to *S. cannábina*.

Silky Sesban. Fl. July, Aug. Clt. 1818. Pl. 2 to 3 feet.

19 S. COCHIN-CHINE′NSIS (D. C. prod. 2. p. 266.) stem suffruticose; leaves with 15 pairs of oblong, obtuse, mucronulate leaflets; peduncles 3-flowered; legumes filiform, torulose, erect. ♄. S. Native of Cochin-china. Coronílla Cochin-chinénsis, Lour. coch. p. 452. Flowers yellow.

Cochin-China Sesban. Shrub 4 feet.

Cult. All the species of this genus require a heat of 70 degrees of Fahrenheit, or they will not thrive. The shrubby kinds are increased by cuttings, and the annual species by seeds, which sometimes ripen in this country.

CXV. AGA′TI (*Touri* or *Agati* is the name of *A. grandiflòra* in the Sanscrit language). Rheed. hort. mal. t. 51. Adans. fam. 2. p. 326. Desf. journ. bot. 3. p. 120. t. 4. f. 6.

LIN. SYST. *Diadélphia, Decándria.* Calyx campanulate, truncate, obtusely 5-toothed, repand. Vexillum oval-oblong, shorter than the wings. Wings oblong. Keel large, straightish, with its petals free at the base and apex. Stamens diadelphous, somewhat exserted, with the sheath furnished with large auricles above the base. Style filiform, straightish. Legume tapering into a stipe, compressed, linear, 2-valved, transversely many-celled inside, but with the upper suture prominent and truncate, not truly articulated. Seeds ovate, solitary in the cells.—Indian trees, with lanceolate stipulas, abruptly-pinnate leaves, having many pairs of leaflets; large flowers; few-flowered racemes, and with legumes a foot and a half long.

1 A. GRANDIFLO′RA (Desv. l. c.) leaflets glabrous; legumes evidently compressed. ♄. S. Native of the East Indies, where it is called *Tauri* or *Agati*.—Rheed. mal. 1. p. 95. t. 51. Rumph. amb. 1. t. 76. Æschynómene grandiflòra, Lin. spec. 1050. Coronílla grandiflòra, Willd. spec. 3. p. 1145. Sesbània grandiflòra, Poir. dict. 7. p. 127. Dólichos arbòreus, Forsk. descr. 134. Flowers of a rusty-yellow colour according to Forsk, but according to Roxb. they are white or rose-red. The seeds are agreeable to domestic birds. The bark is bitter and tonic.

Great-flowered Agati. Fl. July, Aug. Clt. 1768. Tree 14 to 26 feet.

2 A. COCCI′NEA (Desv. l. c.) leaflets powdery; legumes rather terete. ♄. S. Native of the East Indies and the Society Islands. Æschynómene coccínea, Lin. fil. suppl. 330. Coronílla coccínea, Willd. l. c. Sesbània coccínea, Poir. l. c.—Rumph. amb. 1. t. 77. Flowers red, rather smaller than those of the other species, but similar.

Scarlet-flowered Agati. Fl. July, Aug. Clt. 1768. Tree 20 to 30 feet.

Cult. See *Sabinea* for culture and propagation, p. 239.

CXVI. GLOTTI′DIUM (from γλωσσα or γλωττα, *glotta*, a tongue; in reference to the valves of the legume separating into two membranes each, which has been compared to the superior opening of the larynx). Desv. journ. bot. 3. p. 119. t. 1. D. C. prod. 2. p. 266.

LIN. SYST. *Diadélphia, Decándria.* Calyx 5-toothed, somewhat bilabiate, lower teeth rather the longest. Vexillum reniform, very short, and broad. Stamens diadelphous. Legumes on long stipes, compressed, flat, 2-valved, 2-seeded, 1-celled; the valves separating into 2 membranes when mature, outer membrane coriaceous, inner one membranous and covering the seeds. Seeds compressed, transversely oblong.—Annual smooth herbs, having the primordial leaves ovate and simple, and the rest abruptly-pinnate, of many-pairs of leaflets. Racemes axillary, pedunculate. Flowers few, loose, yellow.

1 G. FLORIDA'NUM (D. C. prod. 2. p. 266.) ⊙. F. Native of Florida and Carolina. Robínia vesicària, Jacq. icon. rar. 1. t. 148. Phàca Floridàna, Willd. spec. 3. p. 1252. Sesbània platycárpa, Michx. Sesbània dispérma, Pursh. fl. amer. sept. 2. p. 485. Dalbérgia polyphýlla, Poir. suppl. 2. p. 446. Peduncles 4-5-flowered.

Florida Glottidium. Fl. July, Aug. Clt. 1816. Pl. 5 to 7 ft.

Cult. The seeds of this plant require to be sown in a pot filled with peat and sand, and placed in a hot-bed, and when the plants have grown 2 or 3 inches high, they should be planted into separate pots in the same kind of soil, and shifted into larger pots as they grow.

CXVII. PISCI'DIA (from *piscis*, a fish, and *cædo*, to kill or destroy; the leaves, bark, and twigs bruised are thrown into ponds or rivulets for the purpose of intoxicating fish, by which means they are easily taken). Lin. gen. 856. D. C. prod. 2. p. 267.—Piscípula, Lœfl. itin. 275.—Ichthyomèthia, P. Browne, jam. 276.

LIN. SYST. *Monadélphia, Decándria.* Calyx campanulate, 5-cleft. Corolla papilionaceous. Keel obtuse. Stamens monadelphous, the tenth one free from the rest at the base. Style filiform, glabrous. Legume pedicellate, linear, furnished with 4 membranous wings; the seeds separated by spongy substance. Seeds ovate, compressed, having a lateral hylum. Embryo curved, with elliptic-oblong thickish cotyledons, and a hooked radicle.—West Indian trees, with broad impari-pinnate leaves, and terminal panicles of white and blood-coloured flowers mixed.

1 P. ERYTHRI'NA (Lin. spec. 993. Jacq. amer. 206.) leaflets ovate; legume standing on a stipe, which is thrice the length of the calyx; wings interrupted. ♄. S. Native of New Spain and Jamaica on the mountains, where it is called *Dog-wood* by the English. Swartz, obs. 277. Lunan. hort. jam. 1. p. 269. Kunth. nov. gen. amer. 6. p. 382. Erythrìna piscípula, Lin. spec. ed. 1. p. 107. Sloane, jam. 2. t. 176. f. 4 and 5. Lam. ill. t. 605. f. A. Leaves rather coriaceous, adult ones smooth. Flowers rising before the leaves, of a dirty-white colour. The bark of the root (leaves and twigs, Jacq.) is used with the same effects as the leaves and branches of Surinam poison. It is pounded and mixed with the water in some deep and convenient part of a river or creek, whence it may spread itself; in a few minutes the fish that lie hidden under the rocks or banks rise to the surface, where they float as if they were dead; most of the larger ones recover after a time, but the smaller fry are destroyed. Jacquin observes that this quality of intoxicating fish is found in many other South American plants. The tree is considered in Jamaica as a good timber tree; the wood is hard and resinous, and lasts almost equally in or out of water. It is of a light-brown colour, coarse, cross-grained, and heavy. It makes excellent piles for wharfs. The stakes soon form a good living fence. The bark of the trunk is very restringent; a decoction of it is said to stop the immoderate discharge of ulcers, especially when it is combined with the mangrove bark; it is said to cure the mange in dogs, and it would probably answer well for tanning leather.

Red Piscidia or Jamaica Dog-wood. Fl. May, June. Clt. 1690. Tree 30 feet.

2 P. CARTHAGENE'NSIS (Jacq. amer. 210. Lin. spec. 993.) leaflets obovate; stipe of legume hardly longer than the calyx; wings continuous. ♄. S. Native of Jamaica, Guadaloupe, and Carthagena, on the mountains. Piscídia erythrìna of Ait. hort. kew, according to a specimen in the herbarium of L. Heritier, which has the underside of the leaves villous, and the young leaves very villous, and the lower leaflets ovate, but the terminal one is obovate.—Plum. ed. Burm. t. 133. f. 2. Lam. ill. t. 605. f. B and C. Flowers dirty-white, rising after the leaves. Lunan, hort. jam. 1. p. 270.

Carthagena Piscidia. Fl. May, June. Clt. 1690. Tree 30 ft.

Cult. Sandy loam suits these trees best, and cuttings may be rooted in sand under a hand-glass in heat.

CXVIII. DAUBENTO'NIA (in honour of M. Daubenton, a celebrated naturalist). D. C. legum. mem. vi. prod. 2. p. 267. —Piscídia species, Willd.

LIN. SYST. *Diadélphia, Decándria.* Calyx campanulate, rather truncate, with 5 small teeth. Corolla papilionaceous. Keel very blunt. Vexillum roundish, stipitate. Stamens diadelphous, having the free filament, as well as the staminiferous sheath, as if they were jointed at the base. Style filiform, glabrous. Legume on a long pedicel, oblong, compressed, coriaceous, ornamented with 4 wings rising near the margins of the sutures, and furnished with spongy substance between the seeds. Seeds ovate. —Mexican shrubs, with oblong stipulas, abruptly-pinnate leaves, and simple racemes of flowers. This genus is nearly allied to *Piscídia*, but the stamens are diadelphous, and the leaves are abruptly, not impari-pinnate. Perhaps this genus is allied to *Coursètia.*

1 D. PUNI'CEA (D. C. prod. 2. p. 267.) leaves with 8-10 pairs of oblong obtuse leaflets; racemes almost 3-times shorter than the leaves. ♄. S. Native of New Spain. Flowers scarlet. Piscídia punícea, Cav. icon. 4. t. 316. Æschynómene miniàta, Ort. dec. p. 28.

Scarlet-flowered Daubentonia. Fl. July, Aug. Clt. 1820. Shrub 2 to 3 feet.

2 D. LONGIFÒLIA (D. C. prod. 2. p. 267.) leaves having 11-12 pairs of lanceolate acute leaflets; racemes a little shorter than the leaves. ♄. S. Native of New Spain. Flowers yellow. Æschynómene longifòlia, Cav. icon. 4. t. 315. Piscídia longifòlia, Willd. spec. 3. p. 920.

Long-leaved Daubentonia. Fl. June, Aug. Clt. 1820. Sh. 6 ft.

Cult. To be propagated and cultivated in the same manner as that recommended for *Piscídia.*

CXIX. CORYNE'LLA (a diminutive of κορυνη, *koryne*, a club; in reference to the club-shaped style). D. C. in ann. sc. nat. 4. jan. 1825. p. 93. prod. 2. p. 267.

LIN. SYST. *Diadélphia, Decándria.* Calyx bilabiate, 5-toothed; teeth spreading, linear, subulate, 2 superior ones hardly shorter than the rest. Corolla papilionaceous; all the petals on very short claws. Keel obtuse. Stamens diadelphous, about equal in length to each other. Style glabrous, club-formed. Legume lanceolate, compressed, marginate, many-seeded.—St. Domingo shrubs, with abruptly-pinnate leaves, having the petioles and stipulas ending in spiny mucrones, and the leaflets exstipellate. Young branches pubescent. Pedicels 1-flowered, in fascicles. Flowers purplish.

1 C. POLYA'NTHA (D. C. l. c.) leaves with 5-7 pairs of oblong leaflets, which are glabrous above, and clothed with hoary hairs beneath. ♄. S. Native of St. Domingo among bushes, on the mountains. Robínia polyántha, Swartz, fl. ind. occid. 2. p. 1260. Corynìtis polyántha, Spreng. syst. append. 280.

Many-flowered Corynella. Shrub 5 to 6 feet.

2 C. paucifòlia (D. C. l. c.) leaves with 2-3 pairs of elliptic leaflets, which are glabrous above, but puberulous on the nerves beneath. ♄. S. Native of St. Domingo. Robínia Domingénsis, Spreng. in herb. Balb. Corynìtis Domingénsis, Spreng. syst. append. 280. Perhaps sufficiently distinct from the preceding.

Few-leaved Corynella. Shrub 5 to 6 feet.

Cult. See *Sabinea* for the culture and propagation, p. 239.

CXX. CARAGA'NA

(*Caragan* is the name of *R. arborèscens* among the Monguls). Lam. dict. 1. p. 611. ill. t. 607. f. 1-2. D. C. prod. 2. p. 268.

Lin. syst. *Diadélphia, Decándria.* Calyx short, tubular, 5-toothed. Corolla obtuse, straight; the wings and vexillum about equal in length. Stamens diadelphous. Style glabrous. Stigma terminal, truncate. Legume sessile, young ones compressed, at length somewhat cylindrical and many-seeded, mucronate by the style. Seeds somewhat globose.—Trees or shrubs, natives of Siberia and the East, with abruptly-pinnate leaves, mucronate leaflets, having the common petiole ending in a bristle or a spine, and axillary 1-flowered pedicels, which are usually in fascicles. Flowers usually yellow, perhaps in all except *C. jubàta*, which are white and reddish. The stipulas usually spinescent.

1 C. Altaga'na (Poir. suppl. 2. p. 89.) leaves having 6 or 8 pairs of glabrous, obovate-roundish, retuse leaflets; petiole unarmed; stipulas spinescent; pedicels solitary; legumes rather compressed. ♄. H. Native of Dahuria, in sandy places. Robínia Altagàna, Pall. fl. ross. t. 42. exclusive of the variety. Lher. stirp. t. 76. Caragàna microphýlla, Lam. dict. 1. p. 615. Flowers yellow. *Altagana* is the vernacular name of the shrub. Root with somewhat of the smell and taste of liquorice.

Altagana Caragana. Fl. April, July. Clt. 1789. Shrub 2 to 3 feet.

2 C. microphy'lla (D. C. prod. 2. p. 268.) leaves with 6-7 pairs of hoary retuse leaflets; petioles and stipulas rather spinescent at the apex; root creeping. ♄. H. Native of Siberia, in the desert of Baraba, and in the tract of the river Selenga. Robínia microphýlla, Pall. fl. ross. t. 42. f. 1-2. Caragàna Altagàna var. Poir. suppl. 2. p. 89. Flowers yellow.

Small-leaved Caragana. Fl. April, June. Clt. 1819. Shrub 2 to 3 feet.

3 C. arbore'scens (Lam. dict. 1. p. 615.) leaves with 4-6 pairs of oval-oblong villous leaflets; petiole unarmed; stipulas spinescent; pedicels in fascicles. ♄. H. Native of Siberia. Robínia Caragàna, Lin. spec. 1044. Duham. arb. ed. nov. 2. t. 19. Pall. ross. 1. t. 42. middle figure. Flowers yellow. The wood of this tree is hard and compact, very tough, yellow on the outside, but waved and striped with bay and red within. The leaves are said to be good food for cattle, and it is suggested that they contain a blue colouring matter like indigo. The seeds are good for poultry. The bark is tough, and fit for tyeing; the twigs may also be used as withes.

Arborescent Caragana. Fl. April, May. Clt. 1752. Tree 15 to 20 feet.

4 C. Chamla'gu (Lam. dict. 1. p. 616.) leaves with 2 pairs of distant, oval, or obovate, glabrous leaflets; stipulas spreading, and are as well as the petioles spinose; pedicels solitary; flowers pendulous. ♄. H. Native of China. Robínia Chamlàgu, Lher. stirp. t. 77. Duham. arb. ed. nov. 2. t. 21. Flowers large, yellow, at length becoming reddish. Root smelling like liquorice. *Chamlagu* is the Chinese name of the shrub.

Chamlagu or Chinese Caragana. Fl. May, June. Clt. 1773. Shrub 2 to 4 feet.

5 C. frute'scens (D. C. prod. 2. p. 268.) leaves having 2 pairs of leaflets, approximating the top of the petiole, they are obovate-cuneated; stipulas membranous; petiole furnished with a short spine at the apex; pedicels solitary, twice the length of the calyx. ♄. H. Native of Siberia, on the banks of the Volga, as well as of Tartary, and Tauria. Sweet, fl. gard. t. 227. Robínia frutéscens, Lin. spec. 1044. Pall. fl. ross. t. 43. C. digitàta, Lam. dict. 1. p. 616. Flowers yellow, resupinate. Leaves with a yellow hue.

Var. α, latifòlia (D. C. prod. 2. p. 268.) leaflets glabrous, broadly obovate. Frequent in gardens. There is a variety of this with 2-flowered peduncles.

Var. β, angustifòlia (D. C. prod. 2. p. 268.) leaflets oblong-cuneated, glabrous. Native about Odessa.

Shrubby Caragana. Fl. April, May. Clt. 1752. Sh. 2 to 3 ft.

6 C. móllis (Bess. enum. pl. volh. p. 29.) leaves with 2 pairs of oblong-cuneated leaflets, approximating the top of the petiole, clothed with soft villi; petiole ending in a short spine; pedicels solitary. ♄. H. Native of Tauria and Podolia. Robínia móllis, Bieb. fl. taur. suppl. 477. Robínia tomentòsa, Fisch. hort. gor. 1812. Flowers yellow.

Soft Caragana. Fl. April, May. Clt. 1818. Sh. 2 to 3 ft.

7 C. grandiflòra (D. C. prod. 2. p. 268.) leaves with 2 pairs of oblong-cuneated leaflets, approximating near to the top of the petiole, which is very short; stipulas and petioles spinose; pedicels solitary, almost the length of the calyx, which is gibbous at the base. ♄. H. Native of the south of Iberia, near Tiflis. Robínia grandiflòra, Bieb. fl. taur. 1. p. 168. Young leaves pubescent, adult ones hoary, ex. Bieb., but according to a specimen sent by Steven to De Candolle, the adult leaves are pale and glabrous. Legume terete, acute, brown, glabrous. Flowers an inch long, yellow.

Great-flowered Caragana. Fl. June, July. Clt. 1823. Sh.

8 C. pygmæ'a (D. C. prod. 2. p. 268.) leaves with 2 pairs of linear, glabrous leaflets, approximating at the top of the petiole, which is very short; stipulas and petioles spinescent; pedicels solitary, nearly the length of the calyx; calyx nearly equal at the base. ♄. H. Native of Siberia, on the Altaian mountains, and of Dahuria. Robínia pygmæ'a, Lin. spec. 1044. Pall. ross. 1. t. 45. Amm. ruth. t. 35. Leaflets acute, crowded, usually in the axils of trifid spines. Flowers yellow.

Var. β, arenària (Fisch. in litt.) leaflets linear-cuneate; pedicels rather longer than the calyx. ♄. H. Native of Siberia, on the banks of the river Tschuia.

Pygmy Caragana. Fl. April, May. Clt. 1751. Sh. 1 to 2 ft.

9 C. arena'ria (Donn, hort. cant. Sims, bot. mag. 1886.) leaves with usually 4 pairs of obcordate leaflets; pedicels usually twin, shorter than the flowers; stipulas subulate. ♄. H. Native of Siberia. Flowers yellow.

Sand Caragana. Fl. April, May. Clt. 1802. Sh. 1 to 2 ft.

10 C. Redówski (D. C. legum. t. 11. f. 45.) leaves with 2 pairs of ovate, acute, smooth leaflets; stipulas spinose. ♄. H. Native of Siberia. Flowers yellow. This plant has not been seen by us unless in a seedling state.

Redowski's Caragana. Fl. April, May. Clt. 1827. Shrub.

11 C. spinòsa (D. C. prod. 2. p. 269.) leaves with 2-4 pairs of cuneate-linear, glabrous leaflets; stipulas small, spinose; adult petioles permanent, strong, and spinose, twice the length of the leaflets; flowers solitary, almost sessile. ♄. H. Native of Siberia, near the Selenga and Kiacha in dry sandy places on mountains. Lindl. bot. reg. 1021. Robínia spinòsa, Lin. mant. 269. Robínia fèrox, Pall. ross. 1. t. 44. itin. t. E. e. f. 2. and 3. Robínia spinosíssima, Laxm. nov. act. pet. 15. t. 30. f. 4. C. fèrox, Lam. dict. 1. p. 315. Flowers yellow. Legume rather compressed. This shrub is well adapted to make impenetrable hedges, on account of its long branches and strong thorns. It is

said also to be a native of China, about Pekin, where they stick the bushes in clay on the tops of their walls, to prevent persons from getting or looking over them.

Spinose Caragana. Fl. April, May. Clt. 1775. Sh. 4 to 6 ft.

12 C. TRAGACANTHOÌDES (Poir. suppl. 2. p. 90.) leaves with 2-4 pairs of oblong-lanceolate, silky leaflets, each ending in a little spine; stipulas spiny; adult petioles permanent, strong, and spinose, twice the length of the leaflets; pedicels solitary, short, legume hoary-villous. ♄. H. Native of Siberia, among granite rocks beyond the Baikal. Robínia tragacanthoides, Pall. nov. act. petr. 10. t. 7. astr. 115. t. 86. Robínia macracántha, Lodd. cat. Flowers yellow, drooping.

Goats'-thorn-like Caragana. Fl. April, May. Clt. 1816. Sh.

13 C. JUBA'TA (Poir. suppl. 2. p. 89.) leaves with 4 or 5 pairs of oblong-lanceolate, lanuginously-ciliated leaflets; stipulas setaceous; petioles somewhat spinose, adult ones deflexed, filiform, permanent; pedicels solitary, very short; legume glabrous. ♄. H. Native of Siberia, at Lake Baikal. Robínia jubàta, Pall. in act. petr. 10. t. 6. astr. p. 113. t. 85. Lodd. bot. cab. 522. Flowers white, few, suffused with red.

Maned-leafletted Caragana. Fl. April, May. Clt. 1796. Shrub 1 to 2 feet.

† *A species not sufficiently known.*

14 C. FRUTICÒSA (Bess. cat. hort. crem. p. 116.) said to be allied to *C. arboréscens*, but differs in the flowers being larger and solitary, and in the young legumes being red. ♄. S. Native of the Russian empire. Perhaps Robínia Mongólica of Fisch. and R. speciòsa of Swartz ex Besser.

Shrubby Caragana. Shrub 2 to 3 feet.

Cult. All the species of this genus are well adapted for shrubberies. They are usually propagated by layers ana by seeds. The species are all deciduous.

CXXI. HALIMODE'NDRON (ἁλιμος, *halimos*, maritime, and δενδρον, *dendron*, a tree; in reference to the shrub, which grows in dry naked salt fields by the river Irtis, in Siberia). Fisch. in litt. D. C. legum. mem. vi. prod. 2. p. 269. Halodéndron, D. C. mem. ined. in soc. phys. gen. march, 1824. but not of Petit Thouars.

Lin. syst. *Diadélphia, Decándria.* Calyx urceolately-campanulate, with 5 short teeth. Keel obtuse, straightish. Wings very acute and auricled. Stamens diadelphous, about equal in length. Style filiform, glabrous. Stigma terminal. Legume stipitate, inflated, bladdery, hard, ovate, and few-seeded, depressed at the seminiferous suture. Seeds oval, somewhat compressed, small, and smooth.—Siberian shrubs, with the habit of *Caragàna*. Leaves abruptly pinnate, with 2 pairs of leaflets. Petioles and stipulas spinose. Peduncles 2-3-flowered. Flowers purplish. The shrubs are deciduous.

1 H. ARGE'NTEUM (D. C. prod. 2. p. 269.) leaves hoary; peduncles 2-flowered. ♄. H. Native of Siberia, in dry salt fields at the river Irtis, and of Iberia. Robínia halodéndron, Lin. fil. suppl. 330. Pall. fl. ross. t. 36. itin. 2. t. W. ed gall. append. no. 360. t. 83. f. 1. Caragàna argéntea, Lam. in Pall. ed gall. l. c. This is an elegant silky shrub, it thrives well in the gardens, but seldom or never flowers, probably from the want of the saline principle in which it naturally grows.

Var. α, vulgàre (D. C. prod. 2. p. 269.) leaves between hoary and silvery; vexillum length of keel. Sims, bot. mag. 1016.

Var. β, brachysèma (D. C. l. c.) leaves hoary and silvery; vexillum one half shorter than the wings and keel; style short. Perhaps only a monster raised in gardens.

Silvery Salt-tree. Fl. May, Jul. Clt. 1779. Sh. 4 to 6 ft.

2 H. SUBVIRE'SCENS; leaves greenish; vexillum length of carina; pedicels 3-flowered. ♄. H. Native of Siberia, in salt fields. Robínia triflòra, Lher. stirp. nov. 162. H. argénteum β, subvirèscens, D. C. prod. 2. p. 169.

Greenish Salt-tree. Fl. May, Ju. Clt. 1779. Sh. 4 to 6 ft.

Cult. See last genus for culture and propagation. They are elegant deciduous shrubs, and deserve to be cultivated in gardens.

CXXII. DIPHY'SA (from δις, *dis*, twice, and φυσα, *physa*, a bladder; in reference to the legume, which is furnished with a large membranous bladder on each side of the legume, rising from the sutures). Jacq. amer. 208. Schreb. gen. no. 1104. Lam. ill. t. 605. D. C. prod. 2. p. 269.

Lin. syst. *Diadélphia, Decándria.* Calyx 5-cleft, 2 superior lobes roundish, 3 lower ones acute. Vexillum obovate-oblong, reflexed; wings flat. Keel sickle-shaped. Stamens diadelphous. Legume linear, compressed, furnished on both sides with a large membranous bladder, which rises from the sutures, and are therefore opposite each other, 1-celled, 5-6-seeded.—A small unarmed tree, with impari-pinnate leaves, composed of 5 pairs of leaflets and an odd one, axillary 2-3-flowered peduncles, and yellow flowers. The place which this genus should occupy in the order is very doubtful, in consequence of the structure of the legume being imperfectly known.

1 D. CARTHAGENE'NSIS (Jacq. amer. 208. t. 180. f. 51.) ♄. S. Native of Carthagena, in bushy places, where it is called *Vivasca*.

Carthagena Diphysa. Clt. 1827. Shrub 6 to 10 feet.

Cult. For the culture and propagation of this shrub see *Sabínea*, p. 239.

CXXIII. CALO'PHACA (from καλος, *kalos*, beautiful, and φακη, *phake*, a lentil; in allusion to the beauty of the plant). Fisch. ined. D. C. prod. 2. p. 270.

Lin. syst. *Diadélphia, Decándria.* Calyx 5-cleft, the lobes acuminated. Keel obtuse. Stamens diadelphous. Style villous and straight at the base, but glabrous incurved at the apex. Stigma terminal. Legume sessile, oblong, somewhat cylindrical, mucronate, 1-celled; valves concave, beset with soft hairs, as well as with stiff, glandular bristles, mixed.—A deciduous shrub, with lanceolate stipulas, impari-pinnate leaves, and axillary pedunculate racemes of yellow flowers. This genus differs from *Cýtisus* in the stamens being diadelphous, and in the pinnate leaves.

1 C. WOLGA'RICA (Fisch. in litt.). ♄. H. Native of Siberia, on dry hills, and in arid places about the Volga. Cýtisus nígricans, Pall. itin. 3. p. 764. t. G. g. f. 3. ed gall. append. no. 358. t. 101. f. 1. Cýtisus pinnàtus, Pall. fl. ross. 1. t. 47. Cýtisus Wolgáricus, Lin. fil. suppl. 327. Duham. arb. ed. nov. t. 48. Colùtea Wolgárica, Lam. Adenocárpus Wolgénsis, Spreng. syst. 3. p. 226. Leaflets 6 or 7 pairs, orbicular, velvety beneath as well as the calyxes.

Volga Calophaca. Fl. May, June. Clt. 1786. Sh. 2 to 3 ft.

Cult. This shrub is well adapted for the front of shrubberies, and is increased by layers or by seeds. Being rather tender it should be protected by a mat in winter.

CXXIV. COLU'TEA (said to be from κολουω, *koluo*, to amputate; the shrubs are said to die if the branches are lopped off. Κολουτεα is also the name of a plant in Theophrastus). R. Br. in hort. kew. ed. 2. vol. 4. p. 325. Colùtea species of Lin. and others.

Lin. syst. *Diadélphia, Decándria.* Calyx 5-toothed. Vexillum flat, bicallous, larger than the keel, which is obtuse. Stamens diadelphous. Stigma lateral, hooked under the top of the style. Style bearded longitudinally behind. Legume stipitate, ovate, boat-formed, inflated, scarious.—Deciduous shrubs, with small stipulas, impari-pinnate leaves, and axillary few-flowered racemes, which are a little shorter than the leaves.

1 C. ARBORE′SCENS (Lin. spec. 1045.) leaflets elliptic, retuse; peduncles usually bearing about 6 flowers; gibbosities on the vexillum short; legume closed. ♄. H. Native of middle and south Europe, in hedges and bushy places, on Mount Vesuvius, even in the ascent to the crater, where hardly any other vegetable is to be found. D. C. astr. no. 1. Duham. arbr. ed. nov. 1. t. 22. Curt. bot. mag. t. 81. C. hirsùta, Roth. fl. germ. 1. p. 305. Flowers yellow. The *C. arboréscens* of Burm. fl. cap. 22. is probably a species of *Tephròsia*. The leaves are recommended as answering all the purposes of senna, and Allioni gives particular directions for the preparation of them. A larger dose seems to be required to produce the same effect. The seeds to the quantity of a drachm or two excite vomiting.

Arborescent Bladder-Senna. Fl. June, Aug. Clt. 1568. Shrub 6 to 10 feet.

2 C. CRUE′NTA (Ait. hort. kew. 3. p. 55.) leaflets obovate, emarginate, glaucous; peduncles 4 or 5-flowered; vexillum with small, obtuse gibbosities; legume gaping at the apex. ♄. H. Native of the islands in the Archipelago, Iberia, and the Levant. D. C. astr. no. 3. Lher. stirp. nov. 2. t. 41. C. orientàlis, Lam. dict. 1. p. 353. ill. 624. f. 3. Duham. ed. nov. 1. t. 23. C. sanguínea, Pall. C. áptera, Schmidt, arb. t. 119. C. hùmilis, Scop. Flowers of a reddish-copper colour, but with the vexillum having a yellow spot at the base. This species differs from the foregoing in the smaller different coloured flowers, in the wings being shorter than the keel, and in the pod being open at the apex.

Bloody-flowered or Oriental Bladder-Senna. Fl. June, July. Clt. 1731. Shrub 4 to 8 feet.

3 C. HALE′PPICA (Lam. dict. 1. p. 353. ill. t. 624. f. 2.) leaflets roundish-elliptic, very obtuse, mucronate; peduncles 3-flowered; gibbosities of vexillum elongated and ascending; legumes closed. ♄. H. Native of fields about Aleppo. D.C. astr. no. 2. C. Pocóckii, Ait. hort. kew. 3. p. 55. Schmidt, arb. t. 129. C. I′stria, Mill. dict. no. 2. t. 100. C. procúmbens, Lher. stirp. nov. 2. t. 42. Flowers yellow. A smaller shrub than *C. arboréscens*.

Aleppo Bladder-Senna. Fl. Ma. Oct. Clt. 1752. Sh. 3 to 6 ft.

4 C. ME′DIA (Willd. enum. 771.) leaflets obcordate, glaucescent; peduncles usually 6-flowered; legumes closed at the apex. ♄. H. Native of Europe. Wats. dend. brit. 110. Flowers orange-coloured.

Intermediate Bladder-Senna. Fl. June, Aug. Sh. 6 to 8 feet.

5 C. NIPAULE′NSIS (Hook, bot. mag. 2622.) leaflets roundish-elliptic, retuse; racemes drooping, few-flowered; callosities of vexillum papillæform; legumes rather coriaceous, pubescent. ♄. H. Native of Nipaul. Flowers yellow.

Nipaul Bladder-Senna. Fl. Aug. Sept. Clt. 1822. Shrub 5 to 10 feet.

† *Species not sufficiently known.*

6 C.? ÆSCHINOMENOÌDES (Scop. insub. 3. p. 22. t. 12.) plant herbaceous; leaflets lanceolate, obtuse, glabrous, acuminated by the nerve. ♃.? G. Native of the Bahama Islands. Perhaps a species of *Pictètia*.

Æschinomene-like Bladder-Senna. Pl. 2 feet.

7 C. AMERICA′NA (Mill. dict. no. 5.) shrubby; leaves with 3 pairs of oval leaflets; peduncles 2-3-flowered; legumes compressed. ♄. S. Native of Vera Cruz. Perhaps a species of *Cæsalpinia*. Flowers yellow.—Pluk. alm. 111. t. 165. f. 3.

American Bladder-Senna. Shrub 6 to 8 feet.

Cult. The species of *Bladder-Senna* are proper for shrubberies, as they flower in great profusion, and continue in flower the most of the season. They thrive in any common soil, and are increased by seeds, which ripen in abundance, or by cuttings, planted in the autumn. The two last species require to be sheltered in a greenhouse.

CXXV. SPHÆROPHY′SA (from *σφαιρα*, *sphaira*, a sphere, and *φυσα*, *physa*, a bladder; in reference to the shape of the legumes, which are spherical and bladdery). D. C. legum. mem. vi. prod. 2. p. 270.—Phàca species of Pallas.

LIN. SYST. *Diadélphia, Decándria.* Calyx 5-toothed. Vexillum flat. Carina obtuse. Stamens diadelphous. Style bearded lengthwise. Legume stipitate, inflated, spherical, hardish, 1-celled, mucronated by the style.—Oriental perennial herbs, with impari-pinnate leaves, small stipulas, and axillary, elongated racemes of red flowers.

1 S. SA′LSULA (D. C. prod. 2. p. 271.) stem erect, rather hoary; leaves with 6 or 7 pairs of oblong, ovate leaflets, which are glabrous above, but rather hoary beneath from adpressed bristly hairs. ♃. H. Native of Dahuria, in salt fields, about Lake Tarei. Phàca sálsula, Pall. itin. 4. t. 9. f. 1 and 2. ed. gall. append. no. 387. t. 88. f. 1 and 2. Lin. fil. suppl. 336. Colùtea Dahùrica, Spreng. syst. 3. p. 242. Flowers very red, almost like those of a species of *Láthyrus*.

Salt Sphærophysa. Pl. $\frac{1}{2}$ to 1 foot.

2 S. CA′SPICA (D. C. prod. 2. p. 271.) stems erect, and are as well as the leaves clothed with adpressed pubescence; leaves with 8 pairs of oval, obtuse, mucronate leaflets. ♃. H. Native of the plains between Caucasus and the Caspian Sea. Colùtea Cáspica, Bieb. fl. taur. suppl. 1429. Phàca sálsula, Bieb. casp. 210. Flowers of a dirty pale-purple colour, and marked with more obscure veins. Perhaps only a variety of the first, according to Steven in litt.

Caspian Sphærophysa. Fl. Jul. Aug. Clt. 1818. Pl. $1\frac{1}{2}$ ft.

Cult. The species of this genus succeed in common garden soil, or in pots in a mixture of loam and peat; they are very difficult to preserve in gardens on account of the want of that saline principle in which they grow in the places of their natural growth; and in order to preserve them in the gardens, they require to be watered with salted water occasionally. They are increased by seeds, which occasionally ripen in this country.

CXXVI. SWAINSO′NIA (in honour of Isaac Swainson, F.R.S. F.L.S. who was a great cultivator of plants about the end of the last century. His garden was at Twickenham in Middlesex. The present superintendant of the Cambridge Botanical Garden, Mr. Biggs, was gardener to Mr. Swainson for many years). Salisb. par. no. 28. R. Br. in hort. kew. ed. 2. vol. 4. p. 326. D. C. prod. 2. p. 271. Loxídium, Vent.

LIN. SYST. *Diadélphia, Decándria.* Calyx bicallous at the base, 5-toothed. Vexillum flat, large. Stamens diadelphous, Carina obtuse, rather longer than the wings. Stigma terminal. Style bearded longitudinally behind but beardless in front. Legume turgid.—Suffruticose plants, natives of New Holland, having the habit of *Lessértia*, with impari-pinnate leaves, and elongated, axillary racemes of purple or scarlet flowers.

1 S. GALEGIFÒLIA (R. Br. in hort. kew. ed. 2. vol. 4. p. 326.) suffruticose, erect; leaves with 9 pairs of oval, somewhat emarginate leaflets; pedicel of legume evidently longer than the permanent filaments. ♄. G. Native of New South Wales. Vìcia galegifòlia, Andr. bot. rep. t. 319. Colùtea galegifòlia, Sims, bot. mag. t. 792. Flowers red.

Galega-leaved Swainsonia. Fl. June, Aug. Clt. 1800. Sh. 1 to 3 feet.

2 S. ALBIFLÒRA; stem shrubby, erect; leaves with 5-11 pairs of oval obtuse leaflets; racemes longer than the leaves. ♄. G.

Native of New Holland. S. galegifòlia, var. albiflòra, Lindl. bot. reg. 994. Flowers white.

White-flowered Swainsonia. Fl. July, Aug. Clt. 1826. Sh. 1 to 3 feet.

3 S. CORONILLÆFÒLIA (Salisb. par. no. 28.) suffruticose, erect; leaves with 9-11 pairs of obovate, emarginate leaflets; pedicel of legume a little shorter than the permanent filaments. ♄. G. Native of New South Wales. Sims, bot. mag. 1725. Leaves smaller than those of the other species. Flowers of a violaceous purple colour.

Coronilla-leaved Swainsonia. Fl. June, Aug. Clt. 1802. Shrub 1 to 3 feet.

4 S. LESSERTIÆFÒLIA (D. C. in ann. sc. nat. 4. p. 99.) stems rather herbaceous, erect; leaves with 6-7 pairs of elliptic-oblong, rather obtuse leaflets; pedicel of legume very short. ♄. G. Native of New Holland, on the southern coast. S. astragalifòlia, Hortul. Peduncles 2 or 3 times longer than the leaves. Stipulas ovate, obtuse. Younger leaves clothed with hoary pubescence, adult ones almost glabrous. Flowers red, smaller than those of the other species.

Lessertia-leaved Swainsonia. Fl. July, Aug. Clt. 1824. Sh. 1 to 2 feet.

Cult. All the species are elegant, delicate shrubs, which deserve to be cultivated in every greenhouse. They grow freely in a mixture of loam, peat, and sand, and young cuttings root readily if planted in a pot of sand, with a bell-glass placed over them, or they may be raised from seeds, which are often produced in gardens.

CXXVII. LESSE'RTIA (in honour of Benjamin Delessert, of Paris, a great promoter of botany, author of Icones, in 2 vols. folio, Paris, 1823). D. C. astrag. p. 37. prod. 2. p. 271. R. Br. in hort. kew. ed. 2. vol. 4. p. 327.—Sulitra, Medic and Mœnch.

LIN. SYST. *Diadélphia, Decándria.* Calyx half 5-cleft. Vexillum flat. Keel obtuse. Stamens diadelphous. Stigma capitate. Style bearded transversely in front at the apex, but beardless behind. Legume scarious, indehiscent, compressed, or inflated, the uppermost side the shortest.—Herbs, rarely subshrubs, natives of the Cape of Good Hope, with impari-pinnate leaves, and axillary peduncles bearing racemes of purplish nodding flowers.

1 L. A'NNUA (D. C. l. c. prod. 2. p. 271.) leaves with 8-10 pairs of leaflets, which are glabrous above, the lower ones oblong and emarginate and the upper ones linear; racemes longer than the leaves; calyxes bibracteate, beset with black hairs. ⊙. G. Hook, exot. fl. t. 84. Colùtea herbàcea, Lin. spec. 1045. Colùtea ánnua, Murr. comm. goet. 5. p. 40. t. 7. f. 12 and 13.—Comm. hort. amst. 2. t. 44. Flowers red.

Annual Lessertia. Fl. June, July. Clt. 1731. Pl. 1 foot.

2 L. DIFFU'SA (R. Br. in hort. kew. ed. 2. vol. 4. p. 327.) stems diffuse, herbaceous; leaves with 8-10 pairs of elliptic-linear, rather emarginate leaflets, which are rather hairy on both surfaces; racemes pedunculate, longer than the leaves; calyxes bractless, beset with black hairs. ⊙. G. Galèga dùbia, Jacq. icon. rar. 3. p. 576. Flowers purple.

Diffuse Lessertia. Fl. July, Aug. Clt. 1792. Pl. prostrate.

3 L. PERE'NNANS (D. C. astrag. p. 37.) stem herbaceous, erect; leaflets oval, silky beneath, pubescent above; calyxes bractless; racemes longer than the leaves, loose, elongated, pedunculate; flowers numerous, drooping. ♃. G. Colùtea perénnans, Jacq. hort. vind. 3. t. 3. Murr. comm. goet. nov. 5. p. 38. t. 7. Colùtea fistulòsa, Hortul. Legume stipitate, compressed. Corolla with a pale base and red or purple apex.

Perennial Lessertia. Fl. Aug. Clt. 1776. Pl. 1 foot.

4 L. PU'LCHRA (Sims, bot. mag, 2064.) stem erect, suffrutescent; leaves with 7 pairs of ovate, acute, smoothish leaflets; racemes pedunculate, somewhat capitate, longer than the leaves; flowers secund. ♄. G. Flowers red or purplish. Legume unknown.

Fair Lessertia. Fl. May, July. Clt. 1817. Shrub 1½ foot.

5 L. MACROSTA'CHYA (D. C. in ann. sc. nat. 4. p. 100.) stem erectish, suffruticose at the base; leaves with 4-6 pairs of elliptic-oblong, obtuse leaflets, which are rather pubescent on both surfaces, the terminal leaflet is longest; racemes pedunculate, loose-flowered, 2 or 3 times longer than the leaves. ♄. G. Burch. cat. geogr. afr. aust. 2356. Flowers red or purple. Young legumes compressed, pendulous, few-seeded.

Long-spiked Lessertia. Shrub 1 to 2 feet.

6 L. BRACHYSTA'CHYA (D. C. legum. mem. vi. prod. 2. p. 272.) stem erect, suffruticose at the base; leaves with 6-8 pairs of linear-oblong, obtuse leaflets, which are rather pubescent beneath, the terminal leaflet longer than the others; racemes much shorter than the leaves; legumes oblong, straight, pendulous, 10-seeded. ♄. G. Burch. cat. geogr. afr. austr. no. 3353. Flowers red or purplish. Legumes secund, membranous, pubescent, about an inch long, each standing on a short stipe.

Short-spiked Lessertia. Fl. June, Aug. Clt. 1826. Sh. 1 ft.

7 L. FALCIFÒRMIS (D. C. legum. mem. vi. t. 46.) stem erect; leaves with 8 pairs of elliptic-oblong, obtuse leaflets, which are pubescent beneath; racemes 3-4-flowered, one half shorter than the leaves; legume oblong, falcately curved, 10-seeded. ♄. ? G. Flowers purple or red. Legumes like those of the preceding species, but falcate, therefore the species is intermediate between *L. brachystàchya* and *L. annulàris.*

Falciform-podded Lessertia. Fl. June, Aug. Clt. 1826. Shrub 1 foot.

8 L. FRUTICÒSA (Lindl. bot. reg. 970.) stem erect, suffruticose; leaves with 5-6 pairs of linear obtuse leaflets; stem, petioles, and peduncles, as well as the branches, pilose; racemes erect, loose-flowered, a little longer than the leaves; legumes oblong, sessile, 4-seeded. ♄. G. Flowers purple.

Shrubby Lessertia. Fl. Jul. Aug. Clt. 1826. Sh. 1 to 3 ft.

† *Species not sufficiently known.*

9 L. ANNULA'RIS (Burch. cat. no. 1597. voy. 1. p. 304.) stem erect, a span high; legume flat, contracted into the form of a ring. ⊙. ? G. Flowers red or purple.

Ring-podded Lessertia. Fl. June, Aug. Clt. 1816. Pl. ½ ft.

10 L. RÍGIDA (D. C. prod. 2. p. 272.) stem shrubby, erect; leaves with 5-6 pairs of lanceolate, acute, glabrous leaflets; racemes very long. ♄. G. Colùtea rígida, Thunb. fl. cap. edit. Schult. p. 603. Legume ovate, compressed, tumid, glabrous. Flowers yellowish. Compare it with *L. macrostàchya.*

Stiff Lessertia. Shrub 1½ foot.

11 L. PUBE'SCENS (D. C. prod. 2. p. 272.) stem herbaceous, erect, pubescent; leaves with many pairs of lanceolate, villous leaflets; racemes oblong; calyxes hairy. ⊙. ? G. Colùtea pubéscens, Thunb. l. c. Legume oblong, glabrous, hardly an inch long. Corolla rufescent.

Pubescent Lessertia. Pl. 1 foot.

12 L. PROSTRA'TA (D. C. prod. 2. p. 272.) stem herbaceous, diffuse, pubescent; leaves with many pairs of lanceolate, acute, villous leaflets; peduncles usually 2-flowered. ⊙. ? G. Colùtea prostràta, Thunb. l. c. Legume ovate, pubescent, hardly stipitate.

Prostrate Lessertia. Pl. prostrate.

13 L. EXCÌSA (D. C. prod. l. c.) stem herbaceous, decumbent, pubescent; leaves with many pairs of obovate, cut leaflets; racemes usually terminal. ⊙. ? G. Colùtea excìsa,

Thunb. l. c. Corolla blood-coloured. Legume ovate-acinaciform, slightly pubescent.

Cut-leafletted Lessertia. Pl. decumbent.

14 L. OBTUSA'TA (D. C. l. c.) stem frutescent, erect; leaves with many pairs of linear, obtuse, hairy leaflets; racemes nearly terminal. ♄. G. Calyxes clothed with cinereous pubescence. Legume glabrous. Colùtea obtusàta, Thunb. l. c.

Obtuse-leafletted Lessertia. Shrub 1 to 2 feet.

15 L. LINEA'RIS (D. C. l. c.) stem herbaceous, erect, glabrous; leaves with many pairs of linear, acute leaflets; racemes elongated. ⊙.? G. Colùtea lineàris, Thunb. l. c. Legume ovate, glabrous, not half an inch long.

Linear-leafletted Lessertia. Pl. 1 ft.

16 L. VESICA'RIA (D. C. l. c.) stem herbaceous, decumbent, villous: leaves with many pairs of ovate, mucronate leaflets; legumes globose, bladdery, dehiscent at the apex. ⊙.? G. Colùtea versicària, Thunb. l. c.

Bladdery-podded Lessertia. Pl. decumbent.

17 L. TOMENTÒSA (D. C. l. c.) stem herbaceous, very short, and tomentose; leaves with 6-7 pairs of ovate, hoary leaflets; racemes ovate; calyxes hairy. ⊙.? G. Colùtea tomentòsa, Thunb. l. c. Legume ovate, inflated, hairy.

Tomentose Lessertia. Pl. ½ foot.

18 L. PROCU'MBENS (D. C. l. c.) stem suffrutescent, procumbent; leaves with 12-14 pairs of ovate-linear, tomentose leaflets; peduncles very long, 3-4-flowered. ♃. G. Flowers purple. Legume compressed, falcate. Colùtea procùmbens, Thunb. l. c.

Procumbent Lessertia. Fl. June, July. Clt. 1753. Pl. proc.

Cult. This is a genus of delicate little shrubs and herbs. Their culture and propagation is the same as for *Swainsònia.* The seeds of the annual kinds should be sown in pots early in the spring, and placed in the greenhouse, where the plants will soon rise, and when they have grown 2 inches high, they should be planted separately in small pots, and shifted into larger ones as they grow.

CXXVIII. SUTHERLA'NDIA (in honour of James Sutherland, one of the first superintendants of the Royal Botanical Garden at Edinburgh, and author of a catalogue of the plants grown in that garden in his time). R. Br. hort. kew. ed. 2. vol. 4. p. 327. D. C. prod. 2. p. 273.

LIN. SYST. *Diadélphia, Decándria.* Calyx 5-toothed, nearly equal. Vexillum with replicate sides, short. Keel oblong. Wings very short. Stamens diadelphous. Stigma terminal. Style bearded lengthwise behind and transversely at the apex. Legume inflated, scarious.—Cape shrubs, with impari-pinnate leaves and axillary racemes of large scarlet flowers.

1 S. FRUTE'SCENS (R. Br. l. c.) leaflets elliptic-oblong, and are as well as the calyxes and branches canescent from adpressed pubescence; peduncles few-flowered. ♄. F. Colùtea frutéscens, Lin. spec. 1045. Curt. bot. mag. 181. Burm. cap. prod. 22. Mill. fig. t. 99. A hoary shrub, with large elegant shewy scarlet flowers.

Frutescent Sutherlandia. Fl. June, Aug. Clt. 1683. Sh. 2 to 4 feet.

2 S. MICROPHY'LLA (Burch. cat. pl. afr. austr. no. 1510. ined. D. C. prod. 2. p. 273.) leaflets oblong-linear, and are, as well as the branches and calyxes, pubescent; peduncles 2-3-flowered. ♄. G. Flowers purple or scarlet.

Small-leaved Sutherlandia. Shrub 2 to 3 feet.

Cult. The species of *Sutherlándia* are very shewy when in flower, being profusely clothed with large scarlet pea blossoms. A mixture of loam and peat is the best soil for them, and they may be propagated by young cuttings in sand under a bell-glass, but the easiest and best method is by seeds, which ripen plentifully in the gardens. The *S. frutéscens* will stand the winter if planted in a sheltered situation, protected by a mat in severe weather.

SUBTRIBE V. ASTRAGA'LEÆ (plants agreeing with *Astrágalus*, in the legumes being transversely 2-celled, in consequence of the upper suture being bent in so much). Adans. fam. l. c. D. C. prod. 2. p. 273. Legume (f. 39. *c.* f. 40. *c.*) longitudinally 2-celled or half 2-celled, in consequence of the upper suture being bent in so much. Stamens diadelphous, with 9 joined and one free. Stems herbaceous or suffrutescent. Leaves pinnate; primordial ones alternate.

CXXIX. PHA'CA (from φαγω, *phago*, to eat, or φακη, *phace*, a lentil; a name adopted from Dioscorides for this genus). Lin. gen. no. 891. D. C. astrag. no. 111. R. Br. in hort. kew. ed. 2. vol. 4. p. 358. D. C. prod. 2. p. 273.

LIN. SYST. *Diadélphia, Decándria.* Calyx 5-toothed (f. 39. *a.*), 2 superior teeth more remote than the others. Carina obtuse (f. 39. *b.*). Stamens diadelphous. Style beardless. Stigma capitate. Legume rather turgid (f. 39. *c.*), 1-celled, having the superior suture tumid.—Herbs, with impari-pinnate leaves, axillary pedunculate racemes of flowers. The mature legume usually resupinate.

* *Flowers white or cream-coloured.*

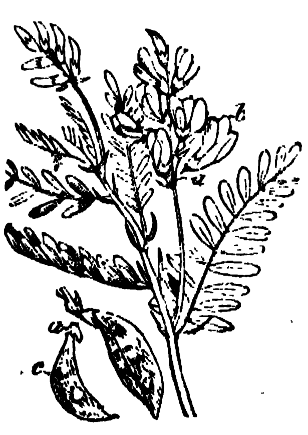
1 P. BÆ'TICA (Lin. spec. 1064.) stem erect, pilose; stipulas lanceolate; leaves with 7-10 pairs of ovate mucronate leaflets, which are villous beneath; keel longer than the vexillum; legume oblong, boat-formed, compressed. ♃. H. Native of Spain, Portugal, and Mauritania. D. C. astr. no. 1. Astrágalus Lusitánicus, Lam. dict. 1. p. 312.—Moris. oxon. sect. 2. t. 8. f. 1. Flowers white, about the size and shape of those of *Sutherlándia.* The seeds are roasted and ground, and used as a substitute for coffee in Hungary.

Bætic Bastard-Vetch. Fl. Sept. Clt. 1640. Pl. 1 to 2 feet.

2 P. FRI'GIDA (Lin. fl. suec. 2. p. 657.) stem erect, glabrous, almost undivided; stipulas ovate-oblong, large, leafy; leaves with 4-6 pairs of ovate-oblong, rather ciliated leaflets; legumes stipitate, oblong, inflated, rather hairy. ♃. H. Native of Siberia, Altai, Lapland, Norway, Sweden, Austria, Switzerland, and Savoy, on the frigid parts of mountains. P. alpìna, Lin. spec. 1064. Oed. fl. dan. t. 856. Jacq. aust. 166. P. ochreàta, Crantz. austr. 419. t. 2. f. 2. Flowers cream-coloured.

Frigid Bastard-Vetch. Fl. July. Clt. 1795. Pl. 1 foot.

FIG. 39.



3 P. ALPI'NA (Jacq. icon. rar. 1. t. 151.) stem erect, branched, pubescent; stipulas linear-lanceolate; leaves with 9-12 pairs of oblong, obtuse, pubescent leaflets; legumes compressed, half ovate, acute, smoothish. ♃. H. Native of the Alps of Europe, the Pyrenees, and of Siberia. D. C. astr. no. 3.—Gmel. sib. 4. t. 14. Astrágalus penduliflòrus, Lam. fl. fr. Flowers yellow.

Var. β, *Dahùrica* (Fisch. in litt. 1825.) plant more firm and more erect, and the legume is harder. ♃. H. Native of Dahuria. P. membranàcea, Fisch. in litt. 1822.

Alpine Bastard-Vetch. Fl. July. Clt. 1759. Pl. 1 foot.

4 P. TRIFLÒRA (D. C. astr. no. 7. t. 1.) stem almost erect, pubescent; stipulas acuminated, rather concrete at the base; leaves with 5-6 pairs of ovate, obtuse, pubescent leaflets; peduncles rather shorter than the leaves, few-flowered; legumes

semi-elliptic-oblong, turgid, depressed, pubescent. ⊙. H. Native of Peru. Flowers 3-6 in a raceme, yellowish. P. Candolleàna, H. B. et Kunth, nov. gen. amer. 6. p. 495. t. 586.

Three-flowered Bastard-Vetch. Pl. ½ to 1 foot.

5 P. villòsa (Nutt. gen. amer. 2. p. 97.) plant almost stemless, hairy; leaflets oblong-oval, glabrous above; peduncles shorter than the leaves, or equal in length to them; spike few-flowered, somewhat capitate; legume clothed with canescent villi, terete, and cymbiform. ♃. H. Native of Carolina and Georgia, in sandy pine-woods, and on hills about the Missouri, as well as of China. Astrágalus villòsus, Michx. fl. bor. amer. 2. p. 67. Flowers cream-coloured.

Villous Bastard-Vetch. Pl. ½ foot.

6 P. cæspitòsa (Nutt. gen. amer. 2. p. 98.) stemless, tufted, and clothed with canescent villi; leaves with 3-5 leaflets, which are disposed in a digitate manner, and are acute at both ends; flowers aggregate, without a scape; stipulas membranous, without any regular or decided form; legume pubescent, sub-cylindrical. ♃. H. Native of North America, on hills at the confluence of the rivers Sawanee and Missouri. Astrágalus triphýllus, Pursh. fl. amer. sept. 2. p. 740. but not of Pall. Flowers cream-coloured. Leaflets lanceolate.

Tufted Bastard-Vetch. Pl. ¼ to ½ foot.

7 P. arena'ria (Pall. it. 4. t. 19. f. 3-4. ed. gall. append. no. 388. t. 91. f. 3-4.) stems spreading, ascending, glabrous; stipulas membranous, concrete; leaves with 5-6 pairs of linear-lanceolate acute leaflets, having the terminal one sessile; peduncles about the length of the leaves; legumes inflated, glabrous. Native of Siberia, about the Uda Selenga and the Baikal. Flowers cream-coloured. Pallas's plate exhibits 2 plants under this name, the one with ovate, and the other with globose legumes; the first belongs to *Phàca*, but the second is referrible to *Sphærosphýsa*.

Sand Bastard-Vetch. Fl. July, Aug. Clt. 1796. Pl. ascending.

* * *Flowers purplish, sometimes painted with white and violet.*

8 P. móllis (H. B. et Kunth, nov. gen. amer. 6. p. 496. t. 585.) stems short, diffuse, clothed with soft tomentum; leaves with 7-8 pairs of oblong, obtuse, silky, tomentose leaflets; racemes on long peduncles, of a cylindrical-oblong form, dense, and many-flowered; calyxes soft and silky. ♃. G. Native of Mexico, in valleys near Casave. Flowers purplish. The legume being unknown the genus is doubtful.

Soft Bastard-Vetch. Pl. diffusely procumbent.

9 P. densifòlia (Smith in Rees' cyclop. 27. no. 9.) stems decumbent, branched, and smooth; stipulas ovate, concave; leaves with 16-20 pairs of obovate emarginate leaflets, which are villous beneath; peduncles length of leaves; racemes dense, oblong; legumes ovate, turgid, almost smooth. ♃. H. Native of California. Flowers drooping, reddish.

Dense-leaved Bastard-Vetch. Pl. decumbent.

10 P. gla'bra (Clar. bull. philom. no. 61. D. C. astr. no. 4.) stem branched, prostrate, glabrous; stipulas broad, ovate; leaves with 6-7 pairs of oval-oblong, acute, glabrous leaflets; peduncles longer than the leaves; wings of flowers entire; legume stipitate, turgid, glabrous. ♃. H. Native of Provence, on the Lower Alps. Corolla white, tipped, and margined with violet.

Glabrous Bastard-Vetch. Fl. July. Clt. 1818. Pl. prostrate.

11 P. Gera'rdi (Vill. dauph. 3. p. 474.) stem diffuse, branched, prostrate; leaves and stipulas clothed with velvety pubescence, and ciliated; peduncles rather longer than the leaves; wings of flower oblong, and rounded at the apex; legumes ovate, rather velvety. ♃. H. Native of Dauphiny. Flowers white, having the carina tipped with purple.

Gerard's Bastard-Vetch. Fl. July. Pl. prostrate.

12 P. austra'lis (Lin. mant. 103. and 448.) stem branched, tufted, ascending, glabrous; stipulas ovate; leaves with 6-8 pairs of linear-lanceolate, glabrous leaflets, having the terminal one sessile; peduncles longer than the leaves; wings bifid at the apex, longer than the keel; legumes stipitate, ovoid, at length glabrous. ♃. H. Native of the alps of Europe and the Pyrenees. Jacq. misc. 2. t. 3. D. C. astr. no. 8. Lodd. bot. cab. 490. P. Hallèri, Vill. dauph. 4. p. 473. Colùtea austràlis, Lam. dict. 1. p. 354. Corolla pale, having the keel tipped with purple.

Var. β, Altaica (Fisch. in litt.) stem almost erect. ♃. H. Native of the Altaian mountains. Perhaps a proper species.

Southern Bastard-Vetch. Fl. May, July. Clt. 1779. Pl. asc.

13 P. astragalìna (D. C. astr. no. 9.) stems short, procumbent, smoothish; stipulas ovate, acute; leaves with 9-10 pairs of ovate leaflets, which are beset with adpressed pubescence on both surfaces; peduncles about the length of the leaves; wings entire, shorter than the keel; legumes stipitate, pendulous, when young beset with black hairs. ♃. H. Native of the alps of Switzerland, Savoy, Austria, Pyrenees, and on the Altaian mountains in Siberia. In July, 1831, this plant was found in plenty by Dr. Graham and others in Scotland on the Clova mountains, north of Forfar in Angushire. Astrágalus alpìnus, var. Lin. spec. 1070. Oed. fl. dan. 1. t. 51.—Lodd. bot. cab. 429. Flowers white, tipped with lilac. Root creeping.

Astragalus-like Bastard-Vetch. Fl. May, July. Scotland. Pl. procumbent.

14 P. Lappo'nica (D. C. prod. 2. p. 274.) stems elongated, ascending, glabrous; stipulas ovate, acute; leaves with 9 pairs of oval leaflets, which are glabrous above, and clothed with adpressed pubescence beneath; peduncles longer than the leaves; wings entire, longer than the keel; legumes stipitate, pendulous, half-bilocular, when young beset with black hairs. ♃. H. Native of the alps of Lapland and Sweden, and of Dahuria near Ochotsk. Astrágalus alpìnus, var. Lin. l. c. P. Lappónica, Wahlenb. Flowers purplish. This I fear is not distinct from the last.

Lapland Bastard-Vetch. Fl. June, Jul. Clt. 1816. Pl. 1 ft.

15 P. oroboìdes (D. C. prod. 2. p. 274.) stem elongated, ascending, glabrous; stipulas ovate, acute; leaves with 5-7 pairs of oval-oblong leaflets, which are glabrous above and hardly pubescent beneath; peduncles longer than the leaves; racemes elongated; wings entire, longer than the keel; legumes sessile, semi-bilocular, pendulous, when young beset with black hairs. ♃. H. Native of the alps of Norway and Lapland. Astrágalus oroboìdes, Horn. in fl. dan. 8. t. 1396. Astrag. leontìnus, Wahl. fl. lap. p. 191. t. 12. f. 4. but not of Jacq. Flowers purplish.

Orobus-like Bastard-Vetch. Fl. Ju. Jul. Clt. 1820. Pl. asc.

16 P. brachy'tropis (Stev. mem. soc. hist. nat. mosc. 4. p. 53.) stems ascending, smoothish; stipulas broad, short, and bluntish; leaves with 6 pairs of oblong-elliptic leaflets, which are smoothish above and rather pubescent beneath; peduncles longer than the leaves; racemes short; wings entire, longer than the keel; legumes on short pedicels, when young hairy. ♃. H. Native of Eastern Caucasus, Bieb. suppl. 485. Flowers purplish.

Short-keeled Bastard-Vetch. Pl. ascending.

† *A species not sufficiently known.*

17 P. trifolia'ta (Lin. mant. 270.) stem branched, filiform; stipulas lanceolate; leaves trifoliate; leaflets oval, obtuse; legumes semi-orbicular. ⊙. H. Native of China. Smith, in Rees' cycl. Perhaps a species of *Glýcine* or *Flemíngia*, according to Smith. Perhaps a species of *Crotalària*, according to the specimen in Delessert's herbàrium at Paris.

Trifoliate-leaved Bastard Vetch. Pl. procumbent.

Cult. Most of the species grow well in the open borders in common garden soil; the dwarfer kinds are well adapted for ornamenting rock-work, but the rarer and more tender species should be grown in pots in a mixture of sand, peat, and loam. They are all increased by dividing the plants at the root, or by seeds, which generally ripen in this country, which last is by far the best method. The seeds of the annual kinds only require to be sown in the open border in spring.

CXXX. OXY'TROPIS (from *οξυς*, *oxys*, sharp, and *τροπις*, *tropis*, a keel; in reference to the keel of the flower ending in an exserted mucrone on the back at the apex). D. C. astr. no. 4. ed. maj. p. 19. and 53. prod. 2. p. 275.—Astrágalus species of Lin. and others.

LIN. SYST. *Diadélphia, Decándria.* Calyx 5-toothed (f. 40. *a.*). Keel of corolla ending in an exserted mucrone on the back at the apex (f. 40. *b.*). Stamens diadelphous. Legume (f. 40. *c.*), bilocular, or half bilocular in consequence of the upper suture being bent in so much.—Herbs with impari-pinnate leaves, axillary or radical peduncles, bearing spikes of flowers. There are a number of species with inflated legumes, which would constitute a good section of the genus, but from the fruit of most of the species being but slightly known or altogether unknown, it is at present impossible to separate them, and consequently they are here arranged according to habit.

§ 1. *Acaúlis* (from *acaulis*, stemless; in reference to the species contained in this division being without stems). *D. C. prod. 2. p. 275. Plants without stems or with very short ones. Stipulas adnate to the petiole. Leaves with many opposite pairs of leaflets, not verticillate.*

* *Flowers purplish or white.*

1 O. MONTA'NA (D. C. astr. no. 1.) plant almost stemless, villous, the hairs on the petioles and scape spreading; leaflets elliptic-lanceolate; scapes a little longer than the leaves; racemes short; bracteas one half shorter than the calyxes; legumes erect, terete-oblong, villous, acuminated by the style, half bilocular. ♃. H. Native of Europe, on the mountains. Astrágalus montànus, Lin. spec. 1070. Jacq. austr. t. 167. Curt. bot. mag. 483. Scop. carn. t. 45. Phàca montàna, Crantz. austr. 422. Flowers of a bluish-purple colour, almost like those of *Phàca astragalìna.* Calyx purplish.

Mountain Oxytropis. Fl. July, Aug, Clt. 1581. Pl. ½ ft.

2 O. BOREA'LIS (D. C. prod. 2. p. 275.) plant almost stemless, the hairs on the scapes and stipulas spreading and stiff, on the petioles there are but few; leaflets elliptic-lanceolate, glabrous beneath and pilose above; scapes length of leaves; flowers capitate; bracteas length of calyx, which is beset with black stiff hairs. ♃. H. Native of Tschuktschor Land, in the Bay of St. Lawrence, and Kotzebue's Sound. Stipulas pale.

Northern Mountain Milk-vetch. Pl. ½ foot.

3 O. CYANÆ'A (Bieb. fl. taur. suppl. 502.) plant almost stemless, hoary, and pilose; the hairs on the petioles and scapes are adpressed; leaflets elliptic-lanceolate; scapes longer than the leaves; racemes short; bracteas one-half shorter than the calyxes; legumes oblong-ovate, villous, at length spreading. ♃. H. Native of Iberia. Astrágalus montànus, Bieb. fl. taur. 2. p. 197. exclusive of the synonymes. O. montàna, Stev. mem. soc. mosc. 4. p. 54. Flowers spreading, blue, larger than those of *O. montàna*, and the keel ending in a longer mucrone.

Var. β, Albàna (Stev. l. c.) scapes declinate; legumes ovate, pubescent. ♃. H. Native of the alps about Chinalug.

Azure-flowered Mountain Milk-vetch. Fl. July, Aug. Clt. 1818. Pl. ½ foot.

4 O. ARGYRÆ'A (D. C. prod. 2. p. 276.) plant almost stemless; stipulas white, membranous, hairy; leaflets elliptic-oblong, clothed with adpressed, silky, silvery down on both surfaces; petioles, scapes, and calyxes beset with spreading villi; scapes twice the length of the leaves; flowers erect, disposed in capitate spikes; bracteas linear, length of calyx. ♃. H. Native of the Altaian mountains. Flowers deep-purple. Legumes unknown.

Silvery Mountain Milk-Vetch. Pl. 1 foot.

5 O. URALE'NSIS (D. C. prod. 2. p. 276.) plant stemless, clothed with silky hairs in every part; leaflets ovate, acute; scapes solitary or twin, longer than the leaves; calyx clothed with silky down, as well as the leaflets; heads of flowers round and dense; bracteas oblong, one to each flower; legumes oblong, tumid, pointed, shaggy, erect, bilocular. ♃. H. Native of Siberia, on the Ural Mountains, Alps of Austria, Pyrenees, &c. In Scotland on mountains in sandy soil; plentiful near Burnt Island in Fifeshire. Astrágalus Uralénsis, Lin. spec. 1071. Smith, engl. bot. t. 466. Jacq. misc. 1. p. 150. Light. fl. scot. 401. t. 17. Pall. astrag. t. 42. f. A. Phàca Uralénsis, Wahl. carp. 737. Flowers of a rich bluish-purple colour, rarely white. This is an elegant plant. The Siberian plant is more villous than silky; it may perhaps be a distinct species. The plant is also a native of Arctic America.

Ural Mountain Milk-Vetch. Fl. July, Scotland. Pl. ½ foot.

6 O. CŒRU'LEA (D. C. astr. no. 2.) plant stemless and silky; leaflets lanceolate; scapes nearly twice the length of the leaves; flowers spicate, lower ones drooping a little; legumes ovate, ventricose, almost 1-celled, acuminated, glabrous. ♃. H. Native of Siberia, on high mountains about Lake Baikal. Astrágalus cœrùleus, Pall. itin. 3. p. 293. Astr. Baicalénsis, Pall. astrag. p. 64. t. 52.—Gmel. sib. 4. t. 26. f. 2. Flowers blue. Mucrone of keel equal in length to the wings.

Blue-flowered Mountain Milk-Vetch. Pl. ½ foot.

7 O. A'RCTICA (R. Br. chl. melv. p. 20.) plant almost stemless, silky; leaflets opposite and alternate, ovate-oblong; heads subumbellate, few-flowered; legumes erect, oblong, and are, as well as the calyxes, clothed with black pubescence. ♃. H. Native of Melville Island in the Arctic sea, &c. This species approaches *O. Uralénsis*, but the leaflets are smaller, acute or obtuse, and much more numerous, and the flowers are disposed in umbels, not in spikes.

Arctic Mountain Milk-Vetch. Pl. ¼ foot.

8 O. LEUCA'NTHA (Pers. ench. 2. p. 331.) plant stemless and glabrous; leaflets lanceolate; scapes hardly longer than the leaves, rather pilose; spikes almost globose; bracteas shorter than the calyx; the 2 upper teeth of the calyx shorter, and more distant than the rest. ♃. H. Native of Eastern Siberia, among rocks. Flowers white, but according to Pallas's figure they are reddish. Legume unknown.

White-flowered Mountain Milk-Vetch. Pl. ½ foot.

9 O. ARGENTA'TA (Pers. ench. 2. p. 3[illegible]1.) plant almost stemless; leaflets lanceolate, silvery white on both surfaces; scapes hoary-pubescent, hardly longer than the leaves. ♃. H. Native of Siberia, in the Kirghisean Steppe. Astrágalus argentàtus, Pall. astr. p. 60. t. 48. Flowers white, but with a tinge of blue. Legume unknown.

Silvered Mountain Milk-Vetch. Pl. ½ foot.

10 O. AMBI'GUA (D. C. astr. no. 4.) plant stemless and hairy or smoothish; leaflets ovate, with rather villous margins; scapes longer than the leaves; spikes of flowers oblong; bracteas lanceolate, and are, as well as the calyxes, hairy; legumes erect, ovate, acuminated, somewhat bilocular. ♃. H. Native throughout Siberia. Astrágalus ambíguus, Pall. astr. p. 54. t. 43.—Gmel. sib. 4. t. 30. Flowers purplish-blue.

Ambiguous Mountain Milk-Vetch. Fl. May, July. Clt. 1817. Pl. ½ foot.

stemless, dwarf, clothed with silky white hairs; leaves in pairs, or 3 or 4 in a whorl, linear, acute; scapes decumbent, longer than the leaves; spike capitate; bracteas white and membranous, rather longer than the calyx, which is villous. ♃. H. Native of Siberia, at the river Ina. Flowers blue, one-half smaller than those of *O. Inària*. The legume, according to Fischer, is ovate, inflated, mucronate, and pubescent.

Dwarf Mountain Milk-Vetch. Pl. decumbent.

36 O. LANA'TA (D. C. astr. no. 26.) plant with a short suffruticose stem; leaflets oblong, clothed with silky down. 4 in a whorl; stipulas joined together; scape shorter than the leaves; flowers capitate; legumes ovate, turgid, villous, and woolly, hardly bilocular. ♄. F. Native of Siberia, on hills. Phàca lanàta, Pall. itin. ed. gall. in 8vo. append. no. 386. t. 87. f. 2. Phàca Sibírica, Lin. fil. suppl. 326. Astrágalus dasyphýllus, Pall. astr. p. 91. t. 75. Flowers purple.

Woolly Mountain Milk-Vetch. Pl. ½ foot.

37 O. VERTICILLA'RIS (D. C. astr. no. 25.) plant stemless; leaflets linear, acute, acuminated, clothed with silky villi, disposed 4 or 6 in a whorl on the petiole; scape hairy, longer than the leaves; spikes ovate; legumes erect, ovate, acuminated, hardly half-bilocular. ♃. H. Native of Siberia. Astrágalus verticillàris, Lin. mant. 275.—Amm. ruth. t. 19. f. 1. Flowers flesh-coloured.

Whorled-leafletted Mountain Milk-Vetch. Fl. July. Clt. 1819. Pl. ½ foot.

38 O. PROSTRA'TA (D. C. astr. no. 22.) plant stemless; leaflets linear, inflexed, rather villous, disposed 3 or 4 in a whorl on the petiole; stipulas very villous; scapes decumbent, rather longer than the leaves; flowers capitate; bracteas shorter than the calyx, which is hairy. ♃. H. Native of Siberia, in sandy, gravelly, salt fields about Lake Tarei. Phàca prostràta, Lin. fil. suppl. 336. Pall. itin. ed. gall. 8vo. append. no. 303. t. 87. f. 1. Astrágalus Dahùricus, Pall. astr. p. 88. t. 72. Legume unknown. Flowers purple or flesh-coloured.

Prostrate Mountain Milk-Vetch. Pl. prostrate.

39 O. MYRIOPHY'LLA (D. C. astr. no. 24.) plant stemless; leaflets subulate, pilose, disposed 4 or 6 in a whorl on the petiole; scapes erect, longer than the leaves; flowers disposed in a spike, lower ones rather remote; bracteas about equal in length to the calyx, which is cylindrical and villous; legumes erect, cylindrical, acuminated, tomentose, half bilocular. ♃. H. Native of Siberia, on mountains in sandy places. Phàca myriophýlla, Pall. voy. append. no. 384. t. 86. f. 2. Astrágalus myriophýllus, Pall. astr. p. 87. t. 71. Astr. verticillàris, Lin. mant. 275. Willd. spec. 3. p. 1299. There are varieties of this plant with dark-purple, blue, flesh-coloured, and white flowers, and sometimes variegated with these colours.

Myriad-leaved Mountain Milk-Vetch. Fl. July, Aug. Clt. 1818. Pl. ½ foot.

40 O. OXYPHY'LLA (D. C. astr. no. 21.) plant stemless: leaflets linear-lanceolate, clothed with silky pubescence, disposed 4 or 5 in a whorl, on the petiole; scape hairy, about equal in length to the leaves or longer than them; spikes ovate-oblong; legumes ovate, inflated, acuminated, pubescent, 1-celled. ♃. H. Native of Siberia and Dahuria, on hills. Phàca oxyphýlla, Pall. itin. ed. gall. append. no. 380. t. 87. f. 3. Astrágalus oxyphýllus, Pall. astr. p. 90. t. 74. There are varieties of this species with purple and pale flowers.

Sharp-leafletted Mountain Milk-Vetch. Fl. July, Aug. Clt. 1816. Pl. ½ foot.

41 O. MURICA'TA (D. C. astr. no. 23.) plant stemless; leaflets linear, glabrous, disposed 4-8 in a kind of whorl on the petiole, young ones muricated beneath as well as the petioles and legumes; scapes glabrous, about equal in length to the leaves; bracteas rather longer than the calyx; spikes of flowers ovate; legumes lanceolate, arched, acuminated. ♃. H. Native of Siberia, on mountains at the river Yenesee, and at lake Baikal. Phàca muricàta, Lin. suppl. Pall. itin. ed. gall. append. no. 385. t. 89. f. 1. Astrágalus muricàtus, Pall. astr. p. 89. t. 73. Flowers yellow, ex Lin.

Muricated Mountain Milk-Vetch. Pl. ¼ to ½ foot.

§ 3. *Tragacanthoìdeæ* (from τραγος, *tragos*, a goat, ἀκανθα, *akantha*, a thorn, and ιδεα, *idea*, similar; in reference to the plants contained in this section resembling the *Goat's-thorn*, in being spiny). *D. C. prod. 2. p. 280. Stems elongated, shrubby. Stipulas adnate. Petioles permanent, at length becoming spines.*

42 O. TRAGACANTHOÌDES (Fisch. in litt. D. C. prod. 2. p. 280.) stem erect, branched; petioles becoming hardened into strong spines; leaves with 5 or 6 pairs of elliptic-oblong leaflets, which are clothed with adpressed silky down on both surfaces; peduncles few-flowered, length of leaves; calyx clothed with soft hairs, at length becoming inflated. ♄. F. Native of the Altaian mountains, at the river Baschka-us, where it was detected by Mardofkin, in July 1822. This is a very elegant plant, having larger flowers than any other species, they are purple. The keel is furnished with a long beak. The legumes, according to Fischer, are bladdery, almost globose, acuminated, and hairy.

Tragacanth-like Mountain Milk-Vetch. Shrub 1 foot.

§ 4. *Caulescéntes* (a diminutive of *caulis*, a stem; the plants contained in this section are furnished with stems). *D. C. prod. 2. p. 280. Stems elongated. Stipulas not adnate to the petiole. Leaflets rising in pairs from the petiole, not in whorls.*

* *Flowers cream-coloured.*

43 O. PILÒSA (D. C. astr. no. 27.) stems erect, beset with soft hairs as well as the rest of the plant; leaflets lanceolate, acute; peduncles axillary, longer than the leaves; spikes ovate-oblong; legumes erect, terete, hooked at the apex, villous. ♃. H. Native of Europe, Tauria, and of Siberia, on mountains near the river Oby. Sims, bot. mag. 2483. Astrágalus pilòsus, Lin. spec. 1065. Jacq. austr. t. 51. Pall. astr. t. 80. Lodd. bot. cab. 544.—Gmel. sib. 4. t. 16. Flowers pale-yellow.

Pilose Mountain Milk-Vetch. Fl. June, Aug. Cl. 1732. Pl. 1 foot.

44 O. PALLA'SII (Pers. ench. 2. p. 334. Bieb. fl. taur. suppl. 502.) plant caulescent, prostrate, pubescent or villous; leaflets oblong-elliptic, acutish; peduncles rather longer than the leaves; spikes capitate; legumes erect, oblong-terete, mucronate, hairy. ⊙. H. Native of Tauria, among stones near Sudak. Astrágalus lanàtus, Pall. astr. p. 108. t. 81. Bieb. fl. taur. 2. p. 188. Flowers very pale cream-coloured, much more so than the last species.

Pallas's Mountain Milk-Vetch. Fl. July, Aug, Clt. 1818. Pl. prostrate.

* * *Flowers purple or white.*

45 O. TE'RES (D. C. astr. no. 28.) plant caulescent, erect, almost glabrous; leaflets linear-oblong, acute, rather pubescent; peduncles twice the length of the leaves; flowers few, about 7 or 8, disposed in a loose spike; legumes erect, cylindrical, mucronate, glabrous. Native of Siberia, at the river Oby, at the place where the Irtish falls into it. Corolla purplish-blue.

Terete-podded Mountain Milk-Vetch. Pl. 1 foot.

46 O. FLORIBU'NDUS (D. C. astr. no. 30.) plant caulescent, erect, rather pilose; leaflets linear, acute at both ends, puberulous; stipulas lanceolate; peduncles axillary, at first shorter than the leaves, but at length longer; flowers spicate; le-

gumes oblong-subulate, 1-celled, pubescent. ♂. H. Native of Siberia, in sandy places along the banks of the river Irtish. Astrágalus floribúndus, Pall. astr. p. 47. t. 37. Flowers numerous, elegant, of a purplish rose-colour.

Bundle-flowered Mountain Milk-Vetch. Pl. ½ to 1 foot.

47 O. GLA'BRA (D. C. astr. no. 31. t. 8.) plant caulescent, prostrate, glabrous; leaflets lanceolate-elliptic, acuminated; peduncles much longer than the leaves; flowers in spikes, remote; legumes pendulous, pubescent. ♃. H. Native of Siberia, Altai, and Dahuria. Very like the following. The hairs on the legume are blackish, but the other parts of the plant are clothed with adpressed pubescence or smooth.

Glabrous Mountain Milk-Vetch. Fl. June, Aug. Clt. 1823. Pl. prostrate.

48 O. DEFLE'XA (D. C. astr. no. 32.) plant rather pilose; stems ascending; leaflets ovate-lanceolate, pubescent; peduncles much longer than the leaves; flowers disposed in spikes; legumes pendulous, hairy, 1-celled, gaping at the apex. ♃. H. Native of Siberia, about the Baikal on the mountains in cold springs, and North America on the banks of the Saskatchawan. Astrágalus defléxus, Pall. act. petr. 1776. t. 15. Lher. stirp. t. 80. A. hìans, Jacq. icon. rar. t. 153. Astr. parviflòrus, Lam. Astr. retrofléxus, Pall. astr. t. 27. Tìum hìans, Mœnch. meth. 162. Flowers purple.

Deflexed-podded Mountain Milk-Vetch. Fl. June, Jul. Clt. 1800. Pl. 1 foot.

49 O. FISCHE'RI (D. C. prod. 2. p. 281.) plant caulescent, assurgent, or procumbent, pubescent; stipulas distinct; leaflets oblong-linear, rather obtuse; peduncles longer than the leaves; flowers spicate, rather distant; wings obtuse, somewhat emarginate; mucrone of keel elongated, about equal in length to the wings. ♃. H. Native of Siberia, on the Altaian mountains. Flowers small, bluish-purple. O. versícolor, Fisch. in litt. but very distinct from *Astrágalus versícolor*.

Var. β, *macrántha* (D. C. l. c.) flowers larger and rose-coloured; leaves and calyxes much more villous. ♃. H. Native of Siberia. Perhaps a proper species.

Fischer's Mountain Milk-Vetch. Fl. July, Aug. Pl. proc.

50 O. VAGINA'TA (Fisch. in litt. D. C. prod. 2. p. 281.) plant caulescent and ascending, sparingly pubescent; stipulas concrete; leaflets elliptic; peduncles a little longer than the leaves; spikes of flowers somewhat capitate; wings retuse; beak of keel equal in length to the wings. ♃. H. Native of Siberia, on the Altaian mountains at the metal mines. Flowers large, blue. It differs from *O. Fischèri macrántha* in the stipulas being joined into one. Legumes unknown.

Sheathed-stipuled Mountain Milk-Vetch. Pl. ascending.

51 O. TENE'LLA (Fisch. in litt. D. C. prod. 2. p. 281.) stems short, diffuse, or procumbent, pubescent; stipulas concrete; leaflets elliptic or oblong-linear, acutish, clothed on both surfaces with adpressed silky down; peduncles longer than the leaves; flowers disposed in a spike, rather distant; wings entire; mucrone of keel about equal in length to the wings; legumes nearly terete, acute, straight, 1-celled. ♃. H. Native of Scythia. Flowers small, bluish-purple.

Tender Mountain Milk-vetch. Pl. diffuse.

52 O. DICHO'PTERA (D. C. astr. no. 33. exclusive of the synonymes) plant caulescent, ascending, pubescent; stipulas joined; leaflets oblong, acute; peduncles equal in length to the leaves; flowers capitate; wings emarginate; mucrone of keel small. ♃. H. Native of Siberia. Flowers blue.

Fork-winged Mountain Milk-Vetch. Fl. July. Clt. 1815. Pl. ascending.

Cult. All the species of this genus are very elegant when in bloom, and being for the most part dwarf evergreen plants, are very proper for ornamenting rock-work, or the front of flower-borders. For this purpose the seeds of the species, whether perennial or annual, should be sown where the plants are to remain, especially those which are intended for rock-work, as it has been observed that no species of this genus thrives after being transplanted. The rarer kinds may be kept in pots, well drained with sherds, in a mixture of peat, sand, and a little loam, and treated as other alpine plants.

CXXXI. ASTRA'GALUS (from αστραγαλος, *astragalos*, vertebra or talus; the seeds in the legumes in some species being squeezed into a squarish form in the legume, or perhaps αστηρ, *aster*, a star, and γαλα, *gala*, milk. It is also the name of a shrub of Greek writers). D. C. astrag. no. 5. ed. maj. p. 22. and p. 79. prod. 2. p. 281.—Astrágalus species of Linneus and others.

LIN. SYST. *Diadélphia, Decándria.* Calyx 5-toothed. Keel of flower obtuse. Stamens diadelphous. Legume bilocular or half bilocular, from the upper suture being bent in so much.—Herbs or subshrubs. The species of this genus are very distinct, but are very difficult to define. The following sections and divisions have been adopted with a view to define them more completely, viz.

I. PURPURASCE'NTES. Stipulas free from the petiole. Flowers purplish. This section contains the following divisions: *Hypoglottídei, Dissitiflòri, Onobrychoìdei, Sesamèi, Vesicàrii,* and *Annulàres,* see species 1 to 94.

II. OCHROLEU'CI. Stipulas free from the petiole. Flowers cream-coloured. To this section belongs the following divisions: *Buceràtes, Synochreàti, Ciceroìdei, Galegifórmes, Alopecuroìdei, Christiàni,* see species 95 to 154.

III. TRAGACANTHA'CEI. Stipulas adnate to the petiole. Petioles permanent, usually becoming hardened into spines. To this section belong two divisions, viz. *Tragacánthæ* and *Chronopòdii,* see species 155 to 196.

IV. PODOCHREA'TI. Stipulas adnate to the petioles. Petioles never becoming indurated. To this section the following divisions belong, viz. *Anthylloìdei, Caprìni, Incàni,* and *Radiciflòri,* see species 197 to 257.

SERIES I. PURPURASCE'NTES (so called from the flowers being purple or purplish). D. C. prod. 2. p. 281. Stipulas free from the petiole. Flowers purplish.

§ 1. *Hypoglottidei* (ὑπο, *hypo*, under, and γλωττα, *glotta*, a tongue; in reference to the shape of the pods). *D. C. prod. 2. p. 281. Flowers purplish or white. Stipulas free from the petiole, but joined together, therefore they appear as if they were bifid at the apex and opposite the leaves.*

1 A. HYPOGLÓTTIS (Lin. mant. 274.) stems prostrate, rather hairy; stipulas ovate, concrete; leaves with numerous, little, ovate, obtuse, dark-green leaflets, sometimes rather emarginate; heads of flowers roundish; peduncles longer than the leaves, ascending; bracteas one half shorter than the tube of the calyx; the hairs on the calyxes as well as those on the peduncles are black and white mixed; legumes ovate, deeply channelled along the back, compressed, hairy, hooked at the point, bilocular; cells 1-seeded. ♃. H. Native of Europe, on hills and mountains, also of Barbary, Tauria, Siberia, North America; and in Britain, on open mountainous heaths, in a chalky or sandy soil, also on the sea-coast; upon Newmarket and Royston heaths, on Swaffham heath, Norfolk; Gogmagog hills. Plentiful near Doncaster, on several parts of the sea-coast of Scotland, particularly beyond Newhaven, Edinburgh. D. C. astr. no. 18. t. 14. Smith, engl. bot. 274. A. arenàrius, Huds. 323. Oed. fl. dan. 614. Pall. astr. t. 34. A. Dánicus, Retz. obs. fasc. 3. p. 41. Hoffm. A. gláux, Vill. Oxýtropis montána, Spreng. fl. hal. 207. with a figure, ex. Wallr. sched. 329. A. epiglóttis, Dicks. hort. sic. fasc. 1-13.

—Raii, syn. 326. t. 12. f. 3. Flowers variegated with purplish, blue, and white. Root creeping, woody, though slender.

* *Tongue-under-tongue* or Purple Milk-Vetch Fl. June, July. Britain. Pl. prostrate.

2 A. DASYGLÓTTIS (Fisch. in litt. D. C. prod. 2. p. 282.) plant diffuse, nearly glabrous; stipulas concrete, opposite the leaves; leaflets elliptic-oblong, somewhat emarginate; spikes of flowers capitate; peduncles a little longer than the leaves; bracteas about equal in length to the tube of the calyx; calyx beset with white hairs; legumes erect, ovate-triquetrous, hairy, disposed in heads; cells 1-seeded. ♃. H. Native of Siberia, on the Altaian mountains. Root creeping. Flowers purple, blue, and white mixed. Very nearly allied to *A. hypoglóttis*.

Thick-tongued or Thick-podded Milk-Vetch. Fl. June, July. Clt. 1818. Pl. diffuse.

3 A. PURPU'REUS (Lam. dict. 1. p. 314.) plant diffuse, procumbent, rather villous; stipulas concrete, opposite the leaves; leaflets obovate, bidentate at the apex; spikes of flowers capitate; peduncles longer than the leaves; legumes erect, ovate-triquetrous, hairy, disposed in heads; cells 3-seeded. ♃. H. Native of Provence, on the mountains, Piedmont, and the Appennines. D. C. astr. no. 17. t. 12. Flowers purplish blue.

Purple-flowered Milk-Vetch. Fl. June, July. Clt. 1820. Pl. prostrate.

4 A. TENUIFÒLIUS (Desf. atl. 2. p. 186. D. C. astr. no. 10. but not of Lin.) plant decumbent, hoary, and villous; stipulas concrete, opposite the leaves; leaflets elliptic-linear, about 15 or 17 pairs; peduncles shorter than the leaves; spikes capitate; vexillum elongated. ♃. H. Native of Barbary, near Cafza, in sand. Flowers rose-coloured. Legumes unknown.

Fine-leaved Milk-Vetch. Pl. decumbent.

5 A. LOTOÌDES (Lam. dict. 1. p. 316.) plant prostrate, glabrous; stipulas not known; leaves with about 4 or 5 pairs of obovate, nearly obcordate leaflets; flowers 4 or 5 in an umbel; peduncles length of leaves; legumes prismatic, triquetrous, erect, subulate at the apex. ⊙. H. Native of China. A. Sínicus, Lin. mant. 103. Sims, bot. mag. 1350. Flowers rose-coloured. Lamarck's name has been adopted in preference to that of Linnæus in consequence of its being more expressive of the habit of the plant, and to prevent its being confounded with *A. Chinénsis*. The specimen in the Linnæan herbarium under the name of *A. Sinicus* is certainly a species of *Coronilla* very near *C. vària*.

Lotus-like Milk-Vetch. Fl. June, July. Clt. 1763. Pl. pr.

6 A. VICIÆFÓRMIS (D. C. astr. no. 19.) plant trailing and clothed with adpressed pubescence; stipulas half-concrete; leaves with from 10-15 pairs of obovate or obcordate leaflets; spikes 5-7-flowered; peduncles angular, a little longer than the leaves; legumes oblong, acute, erect, villous. ♃. H. Native of Cappadocia. A. humifùsus, Willd. spec. 3. p. 1286. Flowers bluish-purple.

Vicia-formed Milk-Vetch. Pl. trailing.

7 A. ONOBRYCHIOÌDES (Bieb. casp. 185. fl. taur. 2. p. 184.) plant rather diffuse, suffruticose at the base, clothed with adpressed pubescence; stipulas concrete, opposite the leaves; leaves with 8-10 pairs of elliptic leaflets; spikes of flowers capitate, on long peduncles; vexillum linear, longer than the wings; legumes ovate-oblong, erect, villous, terminating in a hooked point. ♃. H. Native of Iberia, Persia, and Caucasus. A. canéscens, D. C. astr. no. 39. t. 16. A. cephalòtes, Pall. astr. no. 32. t. 24. Flowers beautiful purple.

Saintfoin-like Milk-Vetch. Fl. July. Clt. 1819. Pl. diff.

8 A. BÍCOLOR (Lam. dict. 1. p. 317.) plant almost stemless, suffrutescent, hoary; stipulas concrete, opposite the leaves; leaves with from 6-9 pairs of oblong-linear leaflets; spikes of flowers capitate; peduncles twice the length of the leaves; calyxes villous, 5-cleft; legumes villous. ♃. H. Native of Armenia, D. C. astrag. no. 41. Flowers white and purple in the same head, according to Tournefort, cor. 28.

Two-coloured-flowered Milk-Vetch. Pl. ½ foot.

9 A. NA'NUS (D. C. astr. no. 40. t. 17.) plant almost stemless, frutescent, canescent; stipulas concrete, opposite the leaves; leaves with 6-7 pairs of ovate leaflets; spikes of flowers capitate, on short peduncles; legumes ovate-oblong, pubescent. ♃. H. Native of Syria. Flowers purple.

Dwarf Milk-Vetch. Pl. ¼ to ½ foot.

10 A. PSORALEOÌDES (Lam. dict. 1. p. 317.) plant with short stems, ascending, suffrutescent and canescent; stipulas concrete, opposite the leaves; leaves with 6-9 pairs of linear-oblong leaflets, flowers capitate at first, but at length spicate, longer than the leaves; legumes oblong, very hairy. ♄. F. Native of the Levant. D. C. astr. no. 42. t. 18. f. 2. Flowers blue or purplish blue.

Psoralea-like Milk-Vetch. Pl. ½ foot.

11 A. ALLYSSOÌDES (Lam. dict. 1. p. 317.) plant with short, ascending, suffrutescent stems, hoary; stipulas concrete, opposite the leaves; leaves with from 5-10 pairs of linear-oblong leaflets; spikes of flowers somewhat cylindrical, on peduncles, which are twice the length of the leaves; legumes ovate, acute, pubescent, 4-seeded. ♃. F. Native of the Levant. D. C. astr. no. 43. t. 18. f. 1. Flowers small, of a dirty-white colour.

Madwort-like Milk-Vetch. Pl. ¼ foot.

12 A. LASIOGLÓTTIS (Stev. in Bieb. suppl. 486.) plant ascending, hoary from adpressed hairs; stipulas concrete, opposite the leaves; spikes of flowers capitate, on long peduncles; vexillum elongated, emarginate; legumes rather ovate-globose, acute, woolly. ♃. F. Native of Caucasus, in stony, exposed places. Flowers purple. Allied to *A. onobrychioìdes*.

Woolly-tongued Milk-Vetch. Pl. ascending.

13 A. LEONTÌNUS (Jacq. icon. rar. 1. t. 153.) plant diffuse, suffruticose at the base, clothed with hairs, which are fixed by their centre; stipulas concrete, but usually free at length; leaves with 6-12 pairs of ovate leaflets; flowers disposed in heads; peduncles trigonal, longer than the leaves; legumes ovate, villous. ♃. H. Native of Austria and Switzerland, on mountains. D. C. astr. no. 20. Lodd. bot. cab. 432. Flowers blue. Vexillum a little longer than the wings.

Lion's-tail Milk-Vetch. Fl. May, June. Clt. 1816. Pl. diff.

14 A. UNIFU'LTUS (Lher. stirp. 158.) plant decumbent, suffrutescent, hoary from villi; stipulas concrete, opposite the leaves; leaves with from 11-14 pairs of oblong, obtuse leaflets; racemes pedunculate, length of leaves; legumes erect, compressed, villous. ♃. F. Native of Peru and Chili. D. C. astr. no. 9. t. 10. Calyxes rather bladdery, clothed with adpressed, black down. Flowers purplish.

Single-propped Milk-Vetch. Pl. decumbent.

15 A. PROCU'MBENS (Hook, in Beech. voy. p. 18.) plant clothed with hirsute tomentum in every part; stems prostrate, branched; stipulas concrete; leaves with 11-14 pairs of elliptic, retuse leaflets; peduncles racemose, longer than the leaves; wings of flowers not half so long as the keel; legumes, in an immature state, linear, hairy, and reflexed. ♃. F. Native of Chili, about Conception. Flowers pale-purple.

Procumbent Milk-Vetch. Pl. procumbent.

16 A. BIDENTA'TUS (H. B. et Kunth, nov. gen. amer. 6. p. 493. t. 584.) plant ascending and somewhat pubescent; stipulas joined together to the middle; leaves with from 9-11 pairs of linear-oblong leaflets, which are emarginately bidentate at the apex; racemes roundish, pedunculate, longer than the leaves. ♃. S. Native of South America. Very like *A. unifúltus*. Flowers pale-purple.

Bidentate-leafletted Milk-Vetch. Pl. ascending.

17 A. Garbancíllo (Cav. icon. 1. t. 85.) plant erect, suffruticose, and rather villous; stipulas concrete, opposite the leaves; leaflets 10-12 pairs, oblong, obtuse; racemes pedunculate, longer than the leaves; legumes inflated, pilose. ♄. S. Native of Peru, in the valley of Canta. Flowers pale violet. The plant is said to be noxious to cattle. *Garbancillo* is the vernacular name of the plant in Peru. Calyx covered with black hairs.

Garbancillo Milk-Vetch. Shrub 1½ foot.

18 A. Donia'nus (D. C. prod. 2. p. 283.) plant prostrate, beset with a few scattered adpressed hairs; leaves with 8-10 pairs of oval, alternate, mucronulate leaflets, which are pubescent beneath, but when young silky; stipulas connate; peduncles axillary, few-flowered, twice the length of the leaves; legumes subulate, silky. ♃. H. Native of Nipaul, in Gosaingsthan. Flowers purple, having a broad vexillum. Root long, thick, and woody, dividing into many arms at the base. A. macrorhìzus, D. Don, prod. fl. nep. 245.

Don's Milk-Vetch. Fl. Ju. Jul. Clt. 1818. Pl. pr.

19 A. arena'rius (Lin. spec. 1069.) plant diffuse, tomentose from white adpressed down; stipulas concrete, opposite the leaves; leaflets linear-obtuse; peduncles few-flowered, rather shorter than the leaves; legumes stipitate, rather tumid, tomentose, thrice the length of the breadth. ♃. H. Native of Denmark and Sweden, in sandy places. Retz. obs. 2. no. 73. p. 3. t. 3. D. C. astr. no. 1. Corolla blue. The stems are erect, according to Retzius, but according to Willdenow and Linnæus they are prostrate. Root creeping.

Sand Milk-Vetch. Fl. June, July. Clt. 1800. Pl. ½ foot.

20 A. Bayonne'nsis (Lois. fl. gall. 247.) plant diffusely-procumbent, somewhat tomentose from white, adpressed down; stipulas concrete, opposite the leaves; peduncles 4-6-flowered, about equal in length to the leaves; legumes almost sessile, rather tumid, tomentose, twice the length of the breadth. ♃. H. Native of the west of France, in sand by the sea-coast, at Bayonne. D. C. fl. fr. suppl. 573. A. Austrìacus, Thore, but not of Lin. Flowers bluish-purple.

Bayonne Milk-Vetch. Fl. July, Aug. Clt. 1816. Pl. pr.

21 A. verrucòsus (Moris, elench. sard. p. 12.) plant pilose and decumbent; stipulas concrete, opposite the leaves, lanceolate-subulate; leaves with 10-12 pairs of ovate-oblong leaflets; racemes longer than the leaves, many-flowered; legumes arched, oblong, acuminated, rather mucronulate, pilose. ⊙. H. Native of Sardinia. Flowers purple.

Warted-podded Milk-Vetch. Pl. decumbent.

22 A. macrópterus (D. C. prod. 2. p. 283.) plant erect and smoothish; young stipulas concrete and opposite the leaves, but at length becoming free; leaflets linear-lanceolate, acute; peduncles 2 or 3 times the length of the leaves; flowers nodding, disposed in interrupted spikes; wings much longer than the keel, and about equal in length to the vexillum; legumes oval-linear, straight, glabrous, apiculated by the style, hardly double the length of the calyx. ♃. H. Native of Dahuria and Siberia. Astrágalus and Oxýtropis macróptera, Fisch. in litt. but there is no mucrone on the keel to be seen. Flowers purple.

Long-winged Milk-Vetch. Pl. 1 foot.

23 A. vagina'tus (Pall. astr. no. 49. t. 36.) plant erect, pubescent; stipulas concrete, opposite the leaves; leaflets linear-lanceolate, acute; peduncles longer than the leaves; flowers drooping, disposed in dense spikes; legumes linear, straight. ♃. H. Native of Siberia, at the Uba, Jenesee, and Baikal. Flowers of a whitish-purple colour, or white and purple mixed. This species is very nearly allied to *A. versicolor*, and probably only the same. The plant is also a native of North America.

Sheathed-stipuled Milk-Vetch. Pl. 1 foot.

24 A. versícolor (Pall. astr. no. 48. t. 35.) plant erect and glabrous; stipulas concrete, opposite the leaves; leaflets linear, acute; peduncles bearing a crowded spike of flowers each, which is longer than the leaves; flowers drooping; legumes triquetrous, erect, glabrous. ♃. H. Native of eastern Siberia, on rocks. Flowers pale-blue at first, but at length changing to a deeper blue. It is probably not distinct from *A. vaginàtus*.

Party-coloured-flowered Milk-Vetch. Pl. ½ to 1 foot.

25 A. Tau'ricus (Pall. astr. no. 51. t. 38. exclusive of the synonymes) plant spreading and tufted, clothed with adpressed silky down; leaflets linear, acute; stipulas membranous, concrete, opposite the leaves; peduncles spicate, thrice the length of the leaves; legumes ovate, acute, 2-4-seeded. ♃. H. Native of Tauria, in gravelly or chalky places. Flowers purple, varying to white, ex Bieb. taur. 2. p. 192. Oxýtropis Taùricus, Pers. ench. exclusive of the synonymes. A. cretàceus, Pall. ined. taur.

Taurian Milk-Vetch. Fl. Ju. Jul. Clt. 1826. Pl. ¼ to ½ ft.

§ 2. *Dissítiflori* (from *dissitus*, distant, and *flos*, a flower; in reference to the flowers being distant in the racemes). *D. C. prod. 2. p. 284. Stipulas distinct, not adhering to the petiole. Flowers purplish or white, distant in the racemes. Legumes straight.*

26 A. Austri'acus (Lin. spec. 1070.) plant diffusely procumbent; leaflets glabrous, linear, truncately-emarginate; racemes pedunculate, longer than the leaves; wings of corolla bifid; legumes somewhat triquetrous, pendulous. ♃. H. Native of Spain, Dauphiny, Austria, Italy, Tauria, in dry exposed places, and of Russia, on the banks of the Volga. Jacq. austr. 195. Vind. 263. D. C. astr. no. 1. A. dichópterus, Pall. astr. t. 39. Allied to *Oxýtropis dichóptera*. Flowers with a blue vexillum, but the rest purple.

Austrian Milk-Vetch. Fl. May, June. Clt. 1640. Pl. diff.

27 A. olo'pterus (D. C. prod. 2. p. 284.) plant diffuse; leaves with 6-7 pairs of linear, glabrous, entire, acutish leaflets; racemes pedunculate, twice or thrice the length of the leaves; wings of corolla obtuse. ♃. H. Native of the Altaian mountains, and in the Kirghisean steppe. A. Austrìacus, Fish. in litt. The plant is very like the *A. Austrìacus*, but differs in the wings of the corolla being entire; also like *A. melilotoìdes*, but differs from it in the leaves having many pairs of leaflets. The flowers are pale, according to the dried specimen.

Entire-winged Milk-Vetch. Fl. Ju. Jul. Clt. 1817. Pl. diff.

28 A. melilotoìdes (Pall. itin. ed. gall. t. 33. f. 1. and 2. astr. t. 41.) plant erect, glabrous; leaflets 5, oblong, emarginate; racemes pedunculate, thrice the length of the leaves: wings of corolla entire; legumes erect, ovate, didymous, 2-seeded, wrinkled. ♃. H. Native of Siberia, Altaia, Dahuria, and China. D. C. astr. no. 37. Flowers purple.

Melilot-like Milk-Vetch. Pl. 2 to 3 feet.

29 A. sulca'tus (Lin. spec. 1065.) plant erect, glabrous; stem furrowed; leaflets linear-lanceolate; racemes pedunculate, longer than the leaves; wings of corolla entire; legumes erect, rather triquetrous, half bilocular. ♃. H. Native of Siberia, in grassy places, and the Tartarian desert. Jacq. hort. vind. t. 40. D. C. astr. no. 35. Tium lineàre, Mœnch. A. leptostàchys, Pall. astr. t. 40. but not of Willd. Flowers pale-violet but with a white keel, tipped with brown.

Furrowed-stemmed Milk-Vetch. Fl. July. Clt. 1783. Pl. 2 to 3 feet.

30 A. Cra'cca (D. C. astr. no. 2. t. 9.) plant diffuse; leaflets oval-oblong, emarginate, pubescent; racemes pedunculate, about equal in length to the leaves; wings of corolla entire; legumes pendulous, stipitate, ovate-oblong, compressed, half-bilocular. ♃. G. Native of Peru.

Cracca-like Milk-Vetch. Pl. diffuse.

31 A. PROSTRA'TUS (Hook, in Beech. voy. p. 18.) plant diffuse; leaflets pubescent, obtuse; stipulas concrete, but free from the petiole; racemes pedunculate, much longer than the leaves; flowers loose, almost sessile; calyxes clothed with black pubescence. ♃. G. Native of Chili, about Conception. Flowers purple.

Prostrate Milk-Vetch. Pl. prostrate.

32 A. GRA'CILIS (Nutt. gen. amer. 2. p. 100.) plant erect, slender, pubescent; leaflets oblong-linear, remote; racemes pedunculate, longer than the leaves; legumes very short, drooping, elliptic-ovate, rather triquetrous, pubescent, 1-celled, usually containing 4 seeds. ♃. H. Native of North America, on the plains on the banks of the Missouri. A. tenéllus, Pursh. fl. amer. sept. 2. p. 473. E'rvum multiflòrum, ibid. p. 739. Dàlea parviflòra, ibid. p. 474. according to Nuttall. Psoràlea parviflòra, Poir. suppl. 4. p. 590. Flowers pale purple.

Slender Milk-Vetch. Fl. June, July. Clt. 1821. Pl. 2 ft.

33 A. FLEXUÒSUS (Doug. mss.) plant erect, flexuous, downy in a young state; stipulas distinct; leaflets distant, linear, obtuse, beset with close-pressed hairs beneath; flowers distant, racemose; calyx smoothish; bracteas not much longer than the pedicels. ♃. H. Native of North America, near the Columbia river. Flowers purple. Plant with the habit of *Vícia crácca.*

Var. β, álba (Dougl. mss.) flowers white.

Flexuous-stemmed Milk-Vetch. Pl. 1 foot.

34 A. INFLE'XUS (Dougl. mss.) plant white and woolly; stems flexuous; stipulas distinct; leaves with numerous pairs of oblong-lanceolate leaflets; racemes pedunculate, longer than the leaves; flowers remote; bracteas subulate, longer than the tube of the calyx; legumes curved upwards, very woolly. ♃. H. Native of North America, on the banks of the Columbia river. Flowers large, purple.

Inflexed-podded Milk-Vetch. Pl. 1 foot.

35 A. COLLI'NUS (Dougl. mss.) plant puberulous, erect; stipulas joined? leaves with numerous pairs of obovate-lanceolate emarginate leaflets; racemes on long peduncles; flowers distant; bracteas subulate, twice the length of the pedicels; legumes straight, between terete and compressed. ♃. H. Native of North America, near the Columbia river. Flowers purple.

Hill Milk-Vetch. Pl. 1 to 2 feet.

36 A. SUCCULE'NTUS (Rich. in Frankl. trav. p. 226.) plant prostrate, pubescent; leaflets 21-25, oblong-obovate, slightly emarginate; stipulas distinct; racemes shorter than the leaves; flowers remote; bracteas ovate, acute, longer than the pedicel; calyx beset with black hairs. ♃. H. Native of North America, in the vicinity of the Saskatchawan river, and in the Arctic region. Lindl. bot. reg. 1324. Flowers large, purplish, with an oblong vexillum.

Succulent Milk-Vetch. Fl. June. Clt. 1826. Pl. prostrate.

37 A. SUBULA'TUS (Bieb. fl. taur. no. 1480. but not of Desf.) plant diffuse and hoary from white pili; leaflets linear; racemes pedunculate, loose, longer than the leaves; the lower flowers remote; legumes subulate, triquetrous, rather arched, erectish, 5 times the length of the calyx. ♃. H. Native of Tauria and Siberia, in fields. A. subulifórmis, D. C. astr. no. 33.

Var. a, màjor (D. C. prod. 2. p. 284.) flowers approximate, purple. Pall. astr. t. 20.

Var. β, maciléntus (D. C. l. c.) flowers fewer, remote, and purple. Pall. astr. t. 20.

Var. γ, Tartáricus (D. C. l. c.) flowers fewer, and cream-coloured. Native of Caucasus, on the banks of the Volga and the Don. Perhaps a distinct species.

Subulate-podded Milk-Vetch. Fl. Ju. Jul. Clt. 1820. Pl. dif.

38 A. CORNICULA'TUS (Bieb. pl. ross. cent. 1. t. 45. ex suppl. fl. taur. 492.) plant procumbent, suffruticose, hoary, and pilose; leaflets linear; peduncles longer than the leaves, few-flowered; flowers umbellate; legumes subulate, triquetrous, rather arched, and much spreading. ♃. ♄. H. Native of Bessarabia, about Odessa, and of the south of Podolia. Flowers purple.

Horned-podded Milk-Vetch. Pl. procumbent.

39 A. CERATOI'DES (Bieb. suppl. 492.) plant depressed, clothed with silky villi; leaflets oblong-elliptic; peduncles longer than the leaves; racemes somewhat capitate; legumes subulate, triquetrous, erect, 4-times longer than the calyx, clothed with adpressed bristles. ♃. H. Native of Siberia, on the Altaian mountains. A. subulàtus Altàicus, Pall. astr. no. 27. t. 20. A. Flowers purple.

Horn-like-podded Milk-Vetch. Pl. depressed.

40 A. MACRÓLOBUS (Bieb. suppl. 493.) plant depressed, clothed with white adpressed hairs; leaflets oblong-elliptic; peduncles rather longer than the leaves; racemes somewhat capitate; legumes subulate, triquetrous, erect, beset with adpressed bristles, thrice the length of the calyx. ♃. H. Native of Siberia, on the Altaian mountains, and on the banks of the Yenesee, in the Kirghisean-steppe. Flowers white.

Long-podded Milk-Vetch. Pl. depressed.

41 A. VIRGA'TUS (Pall. astr. t. 18. exclusive of the synonymes,) plant erect, suffruticose, rather canescent; leaves with about 6 pairs of linear-lanceolate acute leaflets; racemes spicate, much elongated; the lower flowers very remote; legumes oblong, triquetrous, twice the length of the calyx. ♄. ♃. H. Native of Hungary, Tauria, Tartary, at the Volga, and at the Caspian sea, in sandy places. A. vàrius, Gmel. jun. trav. 2. p. 116. t. 17. D. C. astr. no. 34. A. virgàtus, Bieb. fl. taur. and suppl. no. 465. Flowers purple.

Var. β, Uralénsis (D. C. prod. 2. p. 285.) stems shorter than the peduncles; racemes few-flowered. ♄. ♃. H. Native of the Ural mountains. A. subulàtus, Uralénsis, Pall. astr. t. 20. C. ex Bieb. suppl. 493. Perhaps a proper species.

Twiggy Milk-Vetch. Fl. May, Aug. Clt. 1806. Pl. 1 to 3 feet.

42 A. HYRCA'NUS (Pall. astr. no. 29. t. 22.) plant erect, suffruticose, pubescent; leaves with 3 pairs of linear acute leaflets; racemes usually 5-flowered, hardly longer than the leaves; legumes oblong, mucronate, villous, twice the length of the calyx. ♃. ♄. H. Native on the shores of the Caspian sea, at Derbent. Flowers purple. Perhaps only a variety of *A. virgàtus* according to Bieberstein.

Hyrcanian Milk-Vetch. Pl. 1 to 2 feet.

43 A. BRACHY'LOBUS (D. C. prod. 2. p. 285.) plant erectish; shrubby at the base, clothed with adpressed silky white down; leaves with 2-3 pairs of linear acute leaflets; racemes pedunculate, much longer than the leaves, 6-8-flowered; legumes oblong, pubescent, mucronate by the style, hardly longer than the calyx. ♄. H. Native of Siberia, at Lake Inderskoi. Flowers purple? Allied to *A. virgàtus* according to Fischer. Leaflets 12-15 lines long.

Short-podded Milk-Vetch. Pl. 1 foot.

44 A. A'NNUUS (D. C. astr. no. 25.) plant rather diffuse, and rather glabrous; leaflets linear; racemes longer than the leaves; flowers spreading; vexillum twice the length of the wings. ⊙. H. Native country as well as the legumes unknown. Perhaps belonging to a different section of the genus.

Annual Milk-Vetch. Pl. diffuse.

45 A. BIFLÒRUS (Viv. fl. lyb. 44. t. 20. f. 1.) plant erect, clothed with canescent hairs; stipulas very short; leaves with 5-6 pairs of elliptic leaflets; peduncles longer than the leaves, usually bearing only 2 flowers; calyx covered with stiff black hairs. ⊙. H. Native of Cyrenaica. Flowers blue. The legume being unknown, the place which the plant should occupy in the genus is doubtful.

Two-flowered Milk-Vetch. Pl. ½ to 1 foot.

§ 3. *Onobrychoìdei* (from *onobrỳchis*, saintfoin, and *idea*, like. The plants contained in the division agree with *Saintfoin* in habit). *D. C. prod.* 2. *p.* 285. *Stipulas distinct, and free from the petioles. Flowers purplish, disposed in dense spikes or heads. Vexillum of flowers linear and elongated. Legumes straight, rarely falcate. Roots perennial.*

* *Legumes curved.*

46 A. LEPTOPHY′LLUS (Desf. atl. 2. p. 188. t. 207.) plant procumbent, suffrutescent, and rather pubescent; leaflets obcordate; racemes longer than the leaves; legumes pendulous, falcate, compressed, when young pubescent. ♃. H. Native of Barbary, on the mountains. A. Tunetànus, Willd. spec. 3. p. 1277. Flowers white.

Slender-leaved Milk-Vetch. Fl. June, July. Clt. 1811. Pl. procumbent.

47 A. ORNITHOPODIOI′DES (Lam. dict. 1. p. 312.) plant suffruticose, tufted and diffuse, hoary and villous; leaflets ovate; racemes longer than the leaves; legumes pendulous, falcate, compressed. ♃. H. Native of Armenia. Flowers yellowish. D. C. astr. no. 4.

Ornithopus-like Milk-Vetch. Pl. diffuse.

48 A. DAHU′RICUS (D. C. prod. 2. p. 285.) plant herbaceous, erect, pilose; stipulas lanceolate-subulate; leaflets oblong, mucronate, 7-9 pairs; racemes longer than the leaves; legumes erect, incurved, linear, compressed, rather pilose. ♃. H. Native on the banks of rivers from Dahuria to China. Galèga Dahùrica, Pall. itin. 3. append. no. 107. t. W. f. 1. ed. gall. append. no. 369. t. 81. f. 3. Flowers purple. The teeth of the calyx are subulate, as in *Galèga*, but the stamens are diadelphous, and the legumes are bilocular.

Dahurian Milk-Vetch. Fl. July. Clt. 1822. Pl. 1 to 2 feet.

49 A. LENTIGINÒSUS (Dougl. mss.) plant smooth, prostrate; stipulas membranous, distinct; leaflets obovate-roundish; racemes about the length of the leaves; legumes smooth, inflated, curved at the end, and ending in a long beak. ♃. H. Native of North West America, on the Blue mountains. Flowers apparently purple.

Freckled Milk-Vetch. Pl. ¾ foot.

50 A. STEVENIA′NUS (D. C. prod. 2. p. 285.) plant erect, glabrous, slender, few-leaved; leaflets linear, distant, 4 or 5 pairs; spikes pedunculate, few-flowered, longer than the leaves; flowers rather distant; legumes linear, elongated, falcate, slender, acute, and glabrous. ♃. H. Native of Iberia, Caucasus, and Asia Minor. A. grácilis, Stev. ined. but not of Nutt. Flowers purple, almost like those of *A. onobrỳchis*, but the habit of the plant is that of *A. vàrius.*

Steven's Milk-Vetch. Pl. 1 foot.

* * *Legumes straight.*

51 A. MACROSTA′CHYS (D. C. astr. no. 38. t. 15.) plant shrubby, erect, pubescent; leaves with about 12 or 14 pairs of linear leaflets; spikes pedunculate, elongated, many-flowered, much longer than the leaves; vexillum longer than the wings; legumes ovate, compressed, hairy. ♃. H. Native of Armenia. A. hedysaroìdes, Willd. spec. 3. p. 1264. Pers. ench. 2. p. 337. no. 46. and Oxỳtropis hedysaroìdes, Pers. ench. 2. p. 334. no. 44. Calyx tubular, pilose. Flowers purple.

Long-spiked Milk-Vetch. Pl. ½ foot.

52 A. LINEARIFÒLIUS (Pers. ench. 2. p. 336.) plant erect, pubescent; leaflets linear, acute, about 10 or 12 pairs; racemes much longer than the leaves; vexillum broad, twice the length of the wings. ♃. H. Native of Siberia. Sweet, fl. gard. t. 73. A. Onobrỳchis angustifòlius, D. C. astr. no. 24. A. tenuifòlius, Lin. spec. 1065. Flowers purple.

Linear-leafletted Milk-Vetch. Fl. July, Aug. Clt. 1780. Pl. 1 foot.

53 A. PECTINA′TUS (Dougl. mss.) plant erect, pubescent; leaflets filiform; racemes dense-flowered, pedunculate, longer than the leaves; bracteas a little longer than the pedicels. ♃. H. Native of North America, in the pastures of the Saskatchawan, &c. Phàca pectinàta, Hook. fl. bor. amer. 141. t. 54. Flowers large, purple.

Pectinated-leaved Milk-Vetch. Pl. 1 foot.

54 A. ONOBRY′CHIS (Lin. spec. 1070,) plant diffuse or erect, pubescent; leaves with 7-16 pairs of oblong leaflets; spikes of flowers oblong-ovate, pedunculate, longer than the leaves; vexillum linear, twice the length of the wings; legumes ovate, triquetrous, rather villous, erect, twice the length of the calyx, ending in a straight point; cells 4-seeded. ♃. H. Native of Europe and Siberia. D. C. astr. no. 24. Bieb. fl. taur. no. 1482. Flowers purple. An elegant plant. Of all the varieties there are white flowers.

Var. α, *alpìnus* (D. C. prod. 2. p. 286.) plant dwarf; leaflets linear; spikes ovate. ♃. H. Native of Austria. Jacq. fl. austr. t. 38. Plant procumbent.

Var. β, *Moldávicus* (D. C. l. c.) plant dwarf; leaflets ovate-oblong, glabrous; spikes of flowers ovate. ♃. H. Native of Moldavia. Plant procumbent.

Var. γ, *microphỳllus* (Bess. in litt. D. C. l. c.) plant dwarf; leaflets linear; spikes of flowers ovate-oblong. ♃. H. Native of Podolia. Plant procumbent.

Var. δ, *màjor* (D. C. l. c.) plant erect; leaflets ovate or oblong; spikes of flowers oblong. ♃. H. Native of Siberia. A. onobrỳchis stipuláceus et máximus, D. C. astr. no. 24.—Gmel. sib. 4. t. 21.

Saintfoin-like Milk-Vetch. Fl. June, July. Clt. 1640. Pl. 1½ foot, or procumbent.

55 A. ADU′NCUS (Bieb. fl. taur. 2. p. 195. plant. ross. cent. 2. t. 80.) plant diffuse and hoary; leaves with 5-10 pairs of elliptic small leaflets; spikes short, pedunculate, longer than the leaves; vexillum much longer than the wings; legumes ovate-oblong, rather villous, ending in a long oblique acumen. ♃. H. Native of Caucasus, among broken rocks. Flowers purple. Very like the preceding species.

Hooked-podded Milk-Vetch. Fl. June, July. Clt. 1819. Pl. diffuse.

56 A. FLA′CCIDUS (Bieb. fl. taur. 2. p. 196.) plant procumbent and villous; leaves with 8 or 10 pairs of elliptic, somewhat emarginate leaflets; spikes few-flowered, pedunculate, about equal in length to the leaves; vexillum much longer than the wings; legumes triquetrous, prismatic, erect, acute, hairy. ♃. H. Native of Iberia, very common. A. hỳbridus, Gmel. trav. 1. t. 18. ? A. viminеus var. Pall. astr. no. 28. Flowers purple. Legume bent downwards at the apex.

Flaccid Milk-Vetch. Pl. procumbent.

57 A. VIMI′NEUS (Pall. astr. no. 28. t. 21.) plant erect, suffruticose; leaves with 4-6 pairs of lanceolate acute leaflets; spikes somewhat capitate, pedunculate, longer than the leaves; vexillum much longer than the wings; legumes spreading; oblong-lanceolate, villous, apiculated by the style. ♄. H. Native of Siberia, Iberia, and about Odessa. A. cornùtus, Pall. itin. 2. app. p. 499. no. 122. A. Odessànus, Bess. enum. no. 944. ex cont. 2. no. 1575. Stems glabrous. Leaves beset with adpressed pubescence. Calyx clothed with black hairs. Corolla purple? Legume clothed with white hairs.

Twiggy Milk-Vetch. Fl. June, Aug. Clt. 1816. Pl. 1 foot.

58 A. FRUTICÒSUS (Pall. astr. no. 26. t. 19. but not of Forsk.) plant shrubby, erect; leaves with 8-10 pairs of linear-lanceolate acute leaflets; spikes capitate, few-flowered, pedunculate, longer than the leaves; vexillum much longer than the wings;

legumes erect, oblong-lanceolate, villous, apiculated by the style. ♄. F. Native of Eastern Siberia, and beyond the Baikal. D. C. astr. no. 27.—Gmel. sib. 4. t. 24. f. A. Flowers white, tipped with purple. Very like the preceding species.

Shrubby Milk-Vetch. Fl. June, July. Clt. 1804. Sh. 1 ft.

59 A. ARBU´SCULA (Pall. astr. no. 24. t. 17.) plant erect, shrubby; leaves with 3 pairs of linear acute leaflets; spikes of flowers capitate, pedunculate, twice the length of the leaves; vexillum much longer than the wings; legumes spreading, elongated, linear, channelled on the back, clothed with adpressed pubescence. ♄. F. Native of Siberia, in the Kirghiscan steppe. Flowers purple. Habit of the two preceding species.

Little-tree Milk-Vetch. Shrub.

60 A. SUFFRUTICÒSUS (D. C. astr. no. 5. exclusive of the synonymes,) plant diffuse, suffruticose, villous; leaflets ovate-oblong, 7-10-pairs; spikes capitate, few-flowered, pedunculate, about equal in length to the leaves; vexillum a little longer than the wings; calyx rather inflated and villous. ♄. F. Native of Siberia, beyond the Baikal. Flowers purple. Perhaps this species belongs to a different section.

Suffruticose Milk-Vetch. Shrub.

61 A. ABORIGINO´RUM (Richards. in Frankl. journ. append. p. 746.) plant suffruticose, erect; leaves with 5 pairs of lanceolate-linear hoary-pubescent leaflets; racemes axillary, loose, exceeding the leaves. ♄. H. Native of Arctic America. Flowers white or bluish; the keel decidedly blue. The roots are long and yellow like liquorice. The Crees and Stone Indians gather them in the spring as an article of food.

Aborigin's Milk-Vetch. Shrub 1 foot.

62 A. ADSU´RGENS (Pall. astr. no. 44. t. 31.) plant ascending, smoothish; leaves with 11-12 pairs of lanceolate acute leaflets; stipulas acuminated, length of leaves; spikes of flowers oblong, pedunculate, longer than the leaves; vexillum longer than the wings; legumes oblong, terete, and somewhat tetragonal, sulcate on the back, apiculated by the style, erect, clothed with adpressed pubescence. ♃. H. Native of Siberia beyond the Baikal. Flowers bluish purple.

Var. β, prostràtus (Fisch. hort. gor.) stems prostrate. ♃. H. Native of Siberia about Irkutsk.

Assurgent Milk-Vetch. Fl. June, July. Clt. 1818. Pl. asc.

63 A. LAXMA´NNI (Jacq. hort. vind. 3. p. 37.) plant erect or diffuse, smoothish; leaves with 11-13 pairs of oblong-lanceolate leaflets; spikes of flowers pedunculate, oblong, longer than the leaves; vexillum much longer than the wings; legumes oblong, trigonal, mucronate, having a furrow on the back. ♃. H. Native of Siberia and North America, on the plains of the Missouri river. Flowers pale-purple or pale-blue. A. Laxmánni of Pall. astr. t. 30. differs in its more rigid habit. The American plant appears to be upright. Jacquin's one is procumbent.

Laxmann's Milk-Vetch. Fl. July, Aug. Clt. 1804. Pl. 1½ foot or procumbent.

64 A. AGRE´STIS (Dougl. mss.) stem erect, smooth; leaflets ovate-lanceolate, obtuse, beset with adpressed hairs; peduncles elongated, longer than the leaves; spikes of flowers capitate; calyx villous; bracteas lanceolate, not half so long as the calyx. ♃. H. Native of North America, near the Columbia river in fields. Flowers purple.

Field Milk-Vetch. Pl. 1 foot.

65 A. DORYCNIOI´DES (Dougl. mss.) plant erect, densely clothed with hoary silky villi; leaflets obovate-linear, obtuse; calyx smooth; racemes longer than the leaves. ♃. H. Native of North America, near the Columbia river. Flowers purple. An elegant plant.

Dorycnium-like Milk-Vetch. Pl. 1 foot.

66 A. MICROCA´RPUS (D. C. astr. no. 29.) plant erect, glabrous; leaves with 10-12 pairs of elliptic leaflets; spikes of flowers capitate, pedunculate, equal in length to the leaves; vexillum oblong, a little longer than the wings; legumes ovate, compressed, pubescent, rather acute. ♃. H. Native of Siberia, in plains near the river Oby. Flowers purple.

Small-fruited Milk-Vetch. Pl. 1 foot.

67 A. BARBA´TUS (Lam. dict. 1. p. 314.) plant erect, clothed with canescent hairs; leaves with 6-8 pairs of linear-lanceolate leaflets; spikes of flowers ovate, on short peduncles; teeth of calyx subulately-filiform, longer than the corolla, clothed with stiff villi; vexillum linear, much longer than the wings. ♃. H. Native of Armenia. D. C. astr. no. 12. A. híspidus, Labill. syr. dec. 1. t. 8. Flowers purple.

Bearded Milk-Vetch. Pl. ½ foot.

68 A. LABRADO´RICUS (D. C. prod. 2. p. 287.) plant procumbent, clothed with minute pubescence; leaflets ovate; spikes of flowers pedunculate; legumes secund, straight, acuminated at both ends, pendulous. ♃. H. Native of the north of Canada and of Labrador. A. secúndus, Michx. fl. bor. amer. 2. p. 67. but not of D. C. Flowers of a deep purple-colour. Perhaps belonging to a different section.

Labrador Milk-Vetch. Pl. procumbent.

69 A. MISSOURIE´NSIS (Nutt. gen. amer. 2. p. 99.) plant almost stemless, rather diffuse, clothed with canescent villi; stipulas ovate; leaves with 5-10 pairs of small obovate-elliptic leaflets; spikes of flowers capitate, standing on peduncles, which are a little longer than the leaves; calyx covered with black hairs; legumes oblong, acuminated, transversely-dilated, nearly glabrous, half-bilocular. ♃. H. Native of Upper Louisiana, on hills about the Missouri. Oxýtropis argentàtus, Pursh, fl. sept. amer. 2. p. 473. exclusive of the synonymes. Flowers purple, but there is a variety with white flowers also. Perhaps belonging to a different section.

Missouri Milk-Vetch. Pl. ½ foot.

70 A. CARYOCA´RPUS (Ker. bot. reg. t. 176.) plant having numerous, prostrate, assurgent stems, rising from the same root, clothed in every part with hoary-silky down; stipulas ovate, acute; leaves with 9-12 pairs of elliptic leaflets; peduncles shorter than the leaves; racemes loose-flowered; legumes nut-formed, inflated, fleshy, mucronate, glabrous, many-seeded. ♃. H. Native of Louisiana. A. crassicárpus, Fras. cat. 1813. A. carnòsus, Nutt. gen. amer. 2. p. 100. but not of Pursh. Flowers of a pale-violet colour. Perhaps belonging to a different division of the genus.

Nut-fruited Milk-Vetch. Fl. June, July. Pl. prostrate.

§ 4. *Sesàmei* (*Semsen* is the Arabic name of some species). *D. C. prod. 2. p. 287. Stipulas distinct, not adhering to the petiole. Flowers purplish, disposed in dense spikes or heads. Legumes straight. Roots annual.*

71 A. PENTAGLÓTTIS (Lin. mant. 274.) plant diffusely-procumbent, rather villous; stipulas ovate; leaves with 4-9 pairs of obovate retusely-emarginate leaflets; peduncles rather longer than the leaves; legumes half-ovate, somewhat triquetrous, echinated with tubercles, which are usually piliferous, disposed in heads; cells 1-celled. ⊙. H. Native of Spain and Barbary, on hills. D. C. astr. no. 16. Cav. icon. t. 188. A. cristàtus, Gouan. ill. 59. A. echinàtus, Lam. A. procúmbens, Mill. A. dasyglóttis, Pall. Flowers blue and white.

Five-tongued or Five-podded Milk-Vetch. Fl. Ju. Jul. Pl. pr.

72 A. GLA´UX (Lin. spec. 1097.) plant procumbent, clothed with canescent villi; stipulas ovate-lanceolate; leaves with 8-13 pairs of small, oblong, acutish leaflets; peduncles longer than the leaves; vexillum linear; legumes erect, ovate, triquetrous, mucronate, villous, disposed in heads; cells 1-seeded. ⊙. H. Native of Spain and the south of France, in arid places. D. C. astr. no. 22.—Clus. hist. 2. p. 242. with a figure. Allied to the smaller

variety of *A. hypoglóttis*, but differs in the stipulas being free, not connate. Flowers purplish.

Miltwort Milk-Vetch. Fl. June, July. Clt. 1596. Pl. procumbent.

73 A. OXYGLÓTTIS (Stev. in Bieb. fl. taur. 2. p. 192.) plant diffuse, puberulous; stipulas subulate; leaves having 5-9 pairs of oblong emarginate leaflets; peduncles length of leaves, or rather shorter; legumes sulcate, acute, rather hoary, disposed in stellate heads; cells 6-seeded. ⊙. H. Native of Tauria, on hills about Sudak. A. sesàmeus, Pall. astr. no. 104. exclusive of the synonymes. Flowers unknown, but probably blue.

Sharp-tongued or Sharp-podded Milk-Vetch. Fl. June, July. Clt. 1817. Pl. diffuse.

74 A. PSILOGLÓTTIS (Stev. in litt. D. C. prod. 2. p. 288.) plant diffuse or rather procumbent; stipulas linear-subulate; leaflets cuneated, emarginate, 6 or 8 pairs, smoothish; peduncles one-half shorter than the leaves, and are, as well as the stems, hoary; legumes spreading, crowded, furrowed, acute, glabrous; cells 3-4-seeded. ⊙. H. Native about Astracan. Flowers probably purplish. Perhaps this and the preceding species are referrible to division six, *Annulàres*.

Smooth-tongued or Smooth-podded Milk-Vetch. Pl. spread.

75 A. CRUCIA'TUS (Link, enum. 2. p. 256.) plant procumbent, hoary, and villous; stipulas lanceolate; leaves with 6-8 pairs of oblong-linear acutish leaflets; peduncles a little shorter than the leaves; legumes between terete and compressed, dilated at the base, clothed with adpressed villi, and disposed in stellate heads; cells 5-7-seeded. ⊙. H. Native of Egypt and Siberia. A. stélla, Bieb. fl. taur. 2. p. 191. ex Fisch. in litt. Flowers violaceous?

Cross-podded Milk-Vetch. Fl. June, July. Clt. 1820. Pl. procumbent.

76 A. STE'LLA (Gouan. ill. 50.) plant diffusely procumbent, clothed with hoary villi; stipulas lanceolate; leaves with 8-10 pairs of elliptic-oblong leaflets; peduncles length of leaves or shorter; legumes almost terete, furrowed on the back, mucronate, hairy, at first in a head, but at length becoming stellately disposed; cells 5-10-seeded. ⊙. H. Native of the south of France and of the north of Africa, in arid places. D. C. astr. no. 7.—Lob. icon. 2. t. 83. Flowers bluish-purple. There is a variety of this plant with acute leaflets.

Star-podded Milk-Vetch. Fl. Jul. Aug. Clt. 1658. Pl. pr.

77 A. TRIBULOÌDES (Delill. ill. fl. ægyp. p. 22.) plant diffusely procumbent, or almost stemless, clothed with hoary villi; stipulas lanceolate; leaves with 7-9 pairs of elliptic-oblong leaflets; heads of flowers axillary, sessile; legumes nearly terete, hairy, furrowed on the back, disposed in stellate heads; cells 5-7-seeded. ⊙. H. Native of Egypt, in deserts. Perhaps distinct from *A. tribuloìdes* of Roth. in Horn. hort. hafn. 2. p. 703. Flowers purplish.

Caltrop-like Milk-Vetch. Fl. June, Jul. Clt. 1817. Pl. pr.

78 A. SESA'MEUS (Lin. spec. 1068.) plant diffuse, villous, and rather canescent; stipulas lanceolate; leaves with 9-10 pairs of elliptic, emarginate leaflets; heads of flowers axillary, sessile; legumes erect, nearly terete, acuminated, villous, furrowed on the back, disposed in heads; cells 7-8-seeded. ⊙. H. Native of the south of Europe and the north of Africa. D. C. astr. no. 8. A. stellàtus, Riv. tetr. irr. t. 106.—Garid. aix. t. 12. Flowers bluish purple.

Sesame-like Milk-Vetch. Fl. June, Jul. Clt. 1816. Pl. diff.

§ 5. *Vesicàrii* (from *vesica*, the bladder; in reference to the calyxes in all the species contained in this division being inflated). *D. C. prod. 2. p. 288. Stipulas distinct, not adhering to the petiole. Flowers purplish or white. Calyxes bladdery.*

79 A. LINEA'TUS (Lam. dict. 1. p. 314.) plant diffusely prostrate, clothed with villous pubescence; leaves with 8-10 pairs of elliptic-oblong leaflets; peduncles longer than the leaves; calyxes bladdery, rather villous, lined, and contracted at the mouth, inclosing the legume, which is pilose. ⊙. H. Native of the Levant. Vahl. symb. 1. p. 59. D. C. astr. no. 14. t. 11. f. 1. Flowers purplish.

Lined-calyxed Milk-Vetch. Pl. prostrate.

80 A. MEGALA'NTHUS (D. C. astr. no. 58. t. 20.) plant diffuse, rather hoary from adpressed down; leaflets oblong-elliptic; peduncles shorter than the leaves; calyxes inflated, clothed with black adpressed down; legumes very hairy, length of calyx. ♃. H. Native of Siberia, about Zmeof. Cajànus megalánthus, Spreng. Flowers large, pale. Stipulas sometimes joined together at the very base. Said to be nearly allied to *A. unifúltus*.

Large-flowered Milk-Vetch. Pl. diffuse.

81 A. VESICA'RIUS (Lin. spec. 1071.) plant diffusely procumbent, hoary from adpressed silky down; leaves with 5-7 pairs of elliptic leaflets; peduncles longer than the leaves; calyx bladdery, clothed with black adpressed down, and long white spreading hairs; legumes hairy, a little longer than the calyx. ♃. H. Native of the south of France, Hungary, and Tauria, in rugged exposed places. Vill. dauph. t. 42. f. 1. D. C. astr. no. 15. All. pedem. no. 1269. t. 80. f. 1. A. álbidus, Waldst. et. kit. pl. hung. 1. t. 40. A. glaúcus, Bieb. fl. taur. 2. p. 186. A. dealbàtus, Pall. astr. t. 23. f. 1. Flowers having the vexillum purple, the wings yellow, and the keel white, tipped with yellow, rarely with all the petals cream-coloured.

Bladdery-calyxed Milk-Vetch. Fl. July, Aug. Clt. 1737. Pl. diffuse.

82 A. ALBICAU'LIS (D. C. astr. no. 59. t. 21.) plant tufted and erectish, suffruticose at the base, canescent from adpressed down; leaves with 3-4 pairs of ovate leaflets; peduncles a little longer than the leaves; calyxes bladdery, clothed with adpressed black down; legumes hairy, ovate, compressed. ♃. H. Native of Russia, between the Volga and the Don, at Sarepta, also of Caucasus and Tauria. A. dealbàtus, Pall. astr. no. 30. t. 23. f. 2 and 3. Willd. spec. 3. p. 1263. Bieb. fl. taur. no. 1463. Oxýtropis dealbàtus, Pers. Flowers white or pale yellow.

White-stemmed Milk-Vetch. Pl. ½ foot.

83 A. ARGE'NTEUS (Bertol. ined. ex Vis. pl. dalm. in bot. zeit. p. 18.) plant silky; stems diffusely procumbent, herbaceous, permanent at the base; peduncles terminal, very long, and loosely racemose; leaves with 5-7 pairs of linear leaflets; stipulas distinct; wings entire, shorter than the vexillum; legume straight, terete, acuminated. ♃. H. Native of Dalmatia. Nearly allied to *A. vesicàrius* but differs in the legumes being terete and silky.

Silvery Milk-Vetch. Pl. procumbent.

§ 6. *Annulàres* (from *annulàris*, of a ring; in reference to the shape of the legumes which are twisted into the form of a ring). *D. C. prod. 2. p. 289. Stipulas distinct, not adhering to the petiole. Flowers purplish or white. Legumes arched. Roots annual.*

84 A. NUTTALLIA'NUS (D. C. prod. 2. p. 289.) plant decumbent; leaflets elliptic, emarginate; peduncles 2-flowered, longer than the petioles; legumes falcate, having 2 keels, glabrous; seeds truncate. ⊙.? ♂.? ♃.? H. Native of North America, in plains at Rod river. A. micránthus, Nutt. in journ. sc. nat. philad. 1821. p. 122. but not of Desv. Stem a span long. Flowers blue.

Nuttall's Milk-Vetch. Fl. June, July. Clt. 1822. Pl. dec.

85 A. CYMBÆCA'RPOS (Brot. fl. lus. 2. p. 167. phyt. p. 143. t. 59.) plant herbaceous, procumbent, rather pilose; leaflets obcordate, cuneated; peduncles length of leaves; legumes gla-

brous, warted, beaked, arched, and most tumid at the base. ⊙. H. Native of Portugal, in barren sandy places. Corolla sometimes white and sometimes purple.

Boat-fruited Milk-Vetch. Fl. June, Jul. Clt. 1800. Pl. pr.

86 A. STRIATE'LLUS (Bieb. fl. taur. 2. p. 189.) plant diffuse, glabrous; leaflets cuneiform, somewhat emarginate; peduncles 3-flowered, shorter than the leaves; legumes ovate-oblong, tumid, glabrous, deflexed, a little arched. ⊙. H. Native of Tauria, about Sudak. Bieb. pl. ross. cent. 1. t. 20. ex suppl. no. 1472. Corolla blue or white. Vexillum hardly longer than the wings, and obtuse keel.

Striped Milk-Vetch. Pl. diffuse.

87 A. ANNULA'RIS (Forsk. ægypt. 139.) plant diffuse, clothed with cinereous villi; leaflets few, obovate; peduncles few-flowered, length of leaves; young legumes straight, subulate, pubescent, adult ones glabrous, spotted, resupinate and arched. ⊙. H. Native of Egypt. D. C. astr. append. no. 6. t. 7. A. maculàtus, Lam. dict. 1. p. 316. A. subulàtus, Desf. fl. atl. 2. p. 186. but not of Pall. Flowers small, rose-coloured.

Annular-podded Milk-Vetch. Fl. June, July. Clt. 1800. Pl. diffuse.

88 A. TRIMÓRPHUS (Viv. fl. lyb. p. 44. t. 10. f. 2.) plant erect, and clothed with canescent hairs; lower leaves with 1-3 leaflets, upper ones impari-pinnate, with a few pairs of elliptic-oblong, acute leaflets; peduncles 2-3-flowered, a little longer than the leaves; legumes cylindrical, incurved, clothed with adpressed villi. ⊙. H. Native on the shores of Lybia, in the Great Syrtis. Flowers purple.

Three-formed Milk-Vetch. Fl. Ju. Jul. Clt. 1827. Pl. $\frac{1}{2}$ ft.

89 A. HISPÍDULUS (D. C. astr. no. 30. t. 13.) plant tufted and rather diffuse, pilose; leaflets elliptic-oblong; peduncles few-flowered, length of leaves; legumes slender, erect, hispid, when young they are straight, but when mature they are arched. ⊙. H. Native of Egypt, in the desert. Flowers pale, with the vexillum elongated.

Hispid-podded Milk-Vetch. Pl. $\frac{1}{4}$ foot.

90 A. SCORPIOIDES (Pourr. in Willd. spec. 3 p. 1280.) plant erectly-spreading, pubescent; leaflets oblong, obtuse, emarginate; stipulas lanceolate; flowers axillary, 1-2, almost sessile; legumes hooked, subulate, pubescent. ⊙. H. Native of Spain, about Madrid. A. subbiflòrus, Lag. Flowers blue. This plant, when growing in a dry place, hardly exceeds an inch in height, but when growing in moist rich places it rises to a foot. Perhaps not distinct from *A. canaliculàtus*, of Willd. enum. suppl. 52.

Scorpion-like-podded Milk-Vetch. Fl. June, July. Clt. 1816. Pl. 1 inch to 1 foot.

91 A. MAREO'TICUS (Delil. fl. ægyp. 113. t. 39. f. 3.) plant diffusely-prostrate, rather hispid; leaflets obovate, emarginate; peduncles 3-4-flowered, shorter than the leaves; legumes hooked and arched, almost cylindrical, glabrous, furrowed on the back, almost bilocular. ⊙. H. Native about Alexandria, and in the Mareotic marsh. Flowers lilac.

Mareotic Milk-Vetch. Fl. June, July. Clt. 1817. Pl. pr.

92 A. CORRUGA'TUS (Bert. amœn. 38. rar. dec. 3. p. 33.) plant erectly-spreading, rather pubescent; leaflets oblong-cuneated, emarginately bidentate at the apex; peduncles usually 1-flowered, about equal in length to the leaves; legumes arched, furrowed on the back, quite smooth, transversely and reticulately wrinkled. ⊙. H. Native of Egypt. A. cruéntus, Balb. cat. taur. append. 1. p. 8. A. crenàtus, Schultes, obs. 186. Flowers blue or purplish.

Wrinkled-podded Milk-Vetch. Pl. $\frac{1}{2}$ foot.

93 A. RETICULA'TUS (Bieb. suppl. fl. taur. 491.) plant diffuse and glabrous; leaflets oblong-cuneated and emarginate; peduncles usually 5-flowered, shorter than the leaves; legumes hooked, subulate, furrowed on the back, quite smooth, transversely and reticulately veined. ⊙. H. Native of Middle Iberia, at Sarepta. Flowers blue. A very small plant.

Reticulated-podded Milk-Vetch. Fl. June, July. Clt. 1828. Pl. $\frac{1}{8}$ foot.

94 A. CANALICULA'TUS (Willd. enum. suppl. 52.) stems erect; leaflets oblong, retuse; stipulas ovate; flowers axillary, solitary, nearly sessile; legumes hooked, profoundly channelled on the back. ⊙. H. Native of Europe. Flowers white.

Channelled Milk-Vetch. Fl. June, July. Clt. 1816. Pl. 1 to 2 feet.

SERIES II. OCHROLEU'CI (from ωχρος, *ochros*, yellow, and λευκος, *leucos*, white; the colour of the flowers is between white and yellow, that is cream coloured). D. C. prod. 2. p. 290. Stipulas free from the petiole. Flowers cream-coloured.

§ 7. *Buccràtes* (from βους, *bous*, an ox, and κερας, *keras*, a horn; in reference to the form of the pods). *D. C. prod.* 2, *p.* 290. *Stipulas neither adhering to the petioles nor together. Flowers cream-coloured. Legumes usually arched. Roots annual.*

95 A. CONTORTUPLICA'TUS (Lin. spec. 1068.) plant procumbent, villously-pubescent; leaflets obovate, emarginate; racemes pedunculate, 4-times shorter than the leaves; legumes contortuplicate, channelled on the back, villous. ⊙. H. Native of Siberia, Tauria, and Hungary, in grassy places. Pall. astr. t. 79.—Gmel. sib. 4. t. 28. D. C. astr. no. 29.—Buxb. cent. 3. p. 22. t. 39. Flowers pale yellow. This plant varies wonderfully in size, according to the soil in which it grows.

Contortuplicate-podded Milk-Vetch. Fl. July, Aug. Clt. 1783. Pl. procumbent.

96 A. TRIME'STRIS (Lin. spec. 1073. but not of Bieb.) plant diffuse, villously-pubescent; leaflets elliptic, emarginate; peduncles 2-5-flowered, a little shorter than the leaves; legumes hooked, subulate, rather pubescent, broadly furrowed on the back, and 2-keeled. ⊙. H. Native of Egypt and the island of Scio. Jacq. hort. vind. 174. D. C. astr. no. 50. A. membranàceus, Mœnch. A. hamòsus β, Pall. Flowers pale yellow.

Three-Monthly Milk-Vetch. Fl. Ju. July. Clt. 1777. Pl. $\frac{1}{2}$ ft.

97 A. HAMÒSUS (Lin. spec. 1067.) plant diffuse, pubescent; leaflets cuneated, emarginate, glabrous above; peduncles usually 6-flowered, shorter than the leaves; legumes hooked, furrowed on the back, almost terete, subulate at the apex, when young pubescent, but when adult smooth. ⊙. H. Native of dry exposed places, from Spain to Tauria, and of Mauritania. Gært. fruct. t. 154. D. C. astr. no. 51.—Moris. oxon. sect. 2. t. 9. f. 10. A. Austrìacus, Delarb. A. bùceras, Willd. enum. suppl. p. 51. according to Link. and Fischer. The plant is either prostrate or diffuse, and the peduncles bear from 2-8 flowers; they are pale-yellow. It goes commonly under the name of caterpillars in the gardens, in reference to the shape of the pods.

Var. β, *macrocárpus* (D. C. prod. 2. p. 290.) plant decumbent or erect; peduncles equal in length to the leaves. Led. hort. dorp. p. 23. Legumes 3-times larger than those of the species.

Hooked-podded Milk-Vetch. Fl. June, Aug. Clt. 1640. Pl. diffuse.

98 A. ÆGI'CERAS (Willd. enum. suppl. 52.) plant diffuse and pubescent; leaflets elliptic, emarginate; stipulas lanceolate, acuminated; racemes 8-10-flowered, pedunculate, twice or thrice shorter than the leaves; legumes hooked, compressed at the apex, somewhat pubescent, channelled on the back. ⊙. H. Native country unknown. Flowers pale yellow. Sometimes the plant is erect.

Goat's-horn-podded Milk-Vetch. Fl. June, Jul. Clt. 1818. Pl. 1 foot or diffuse.

99 A. BRACHY'CERAS (Ledeb. cat. hort. dorp. 1822. p. 3.) plant procumbent; leaflets elliptic, mucronate; stipulas ovate; racemes pedunculate, shorter than the leaves; legumes nearly erect, incurved, subulate. ⊙. H. Native of the North of Persia, and probably of the south of Tauria. A. triméstris, Bieb. fl. taur. 2. p. 190. Legumes much shorter than those of *A. hamòsus*, and the plant is also much smaller. Flowers pale yellow.

Short-horned or podded Milk-Vetch. Fl. June, July. Clt. 1828. Pl. procumbent.

100 A. GENICULA'TUS (Desf. atl. 2. p. 186. t. 205.) plant diffuse, hoary from villi; stipulas lanceolate; leaves with 5-8 pairs of oblong-elliptic leaflets; peduncles shorter than the leaves, when bearing the fruit they are deflexed; legumes depressed, trigonal, mucronate, a little arched, channelled on the back, hairy. ⊙. H. Native of Barbary, near Mascar on hills. D. C. astr. no. 52. Flowers pale yellow.

Jointed Milk-Vetch. Pl. diffuse.

101 A. TUBERCULÒSUS (D. C. astr. no. 60. t. 22.) plant erect, hispid at the apex; stipulas lanceolate; leaflets obovate, emarginate, about 11-12 pairs; racemes pedunculate, longer than the leaves; legumes depressed, ending each in a long mucrone, arcuately hooked upwards, tubercular, and puberulous. ⊙.? H. Native of Syria and Cappadocia. The fruit of the Cappadocian plant is much larger than those of the Syrian one. Flowers pale yellow.

Tubercular-fruited Milk-Vetch. Pl. 1 foot.

102 A. EPIGLÓTTIS (Lin. mant. 274.) plant procumbent, clothed with hoary villi; stipulas lanceolate, and are, as well as the calyxes, clothed with black villi; leaves with 6-7 pairs of oblong-linear leaflets; spikes of flowers capitate, on very short peduncles; legumes depressed, somewhat cordate, acuminated, with somewhat replicate margins, spreading, and pubescent. ⊙. H. Native of Spain, Barbary, the Levant, and south of France. D. C. astr. no. 56.—Herm. lugd. bot. p. 77. Riv. tetr. 109. f. 1. Flowers pale yellow.

Var. β, aspérulus (D. C. prod. 2. p. 291.) stems rather rigid, and rough. ⊙. H. Native of Spain, on hills about St. Philip. A. aspérula, Dufour, ann. gen. sc. 7. p. 295.

Sword-tongued or Sword-podded Milk-Vetch. Fl. June, July. Clt. 1737. Pl. procumbent.

103 A. TRIANGULA'RIS (D. C. prod. 2. p. 291.) stem erect, smoothish, trigonal; stipulas membranous, acuminated, villous; leaves with 8-10 pairs of elliptic-oblong, obtuse, emarginate leaflets; spikes of flowers pedunculate, longer than the leaves; legumes pendulous, triquetrous, few-seeded, straight, incompletely 2-celled. ⊙. H. Native country unknown. Phàca triangulàris, Zea in Horn. hort. hafn. suppl. 63. Flowers pale yellow.

Triangular-stemmed Milk-Vetch. Fl. July, Aug. Clt. 1818. Pl. ¾ foot.

104 A. BŒ'TICUS (Lin. spec. 1068.) plant procumbent, pubescent; stipulas membranous, ovate, acuminated; leaves with 10-15 pairs of obovate retuse leaflets; spikes of flowers on very short peduncles; legumes erect, triquetrously-prismatic, glabrous, straight, but hooked at the apex. ⊙. H. Native of Spain, Barbary, Sicily, and the Levant. A. uncinàtus, Mœnch. A. triangulàris, Munt. phyt. t. 110.—Riv. tetr. irr. t. 105.—Bocc. sic. t. 4. Flowers pale yellow. The plant under this name in the gardens is erect; it is therefore perhaps the preceding species. In Hungary the seeds are roasted, ground, and used as a substitute for coffee.

Bœtian Milk-Vetch. Fl. June, Aug. Clt. 1759. Pl. proc.

§ 8. *Synochreàti* (from συν, *syn*, together, and ωχρος, *ochros*, yellow; the stipulas are joined together, and the flowers are yellow). *D. C. prod. 2. p. 291. Stipulas free from the petiole, but joined together. Flowers cream-coloured. Root perennial.*

105 A. EMARGINA'TUS (D. C. astr. no. 47.) plant almost stemless and ascending, clothed with somewhat tomentose villi; stipulas membranous, concrete; leaves with 20-25 pairs of ovate emarginate leaflets; spikes of flowers ovate, dense, on radical peduncles or scapes, which are much longer than the leaves; legumes roundish, hairy. ♃. H. Native of the Levant. Flowers pale yellow.

Var. α, densifòlius (Lam. dict. 1. p. 317.) leaflets small, much crowded. Rauw. hodœp. 123. t. 29.

Var. β, Billardièrii (D. C. l. c.) leaflets larger, and rather distant. A. emarginàtus, Labill. syr. dec. 1. p. 19. t. 9.

Emarginate-leafletted Milk-Vetch. Fl. June, July. Clt. 1825. Pl. ¼ foot.

106 A. CAPITA'TUS (Lin. spec. 1064.) plant caulescent, erect; leaflets emarginate; spikes capitate, on elongated peduncles. ♃. H. Native of the Levant. Flowers purple.

Capitate-flowered Milk-Vetch. Fl. July, Aug. Clt. 1759. Pl. 1 foot.

107 A. FRA'GRANS (Willd. spec. 3. p. 1294.) plant procumbent, and almost stemless, glabrous; stipulas concrete, marcescent; leaves with 8-10 pairs of elliptic acute leaflets, which are pubescent beneath; peduncles about equal in length to the leaves; spikes of flowers ovate; bracteas ovate, membranous; legumes glabrous. ♃. H. Native of Cappadocia. A. glàber, D. C. astr. no. 44. but not of Michx. A. orientalis minimus foliis viciæ et floribus ex viridi-flavescentibus odoratissimis, Tourn. cor. 29. Flowers greenish yellow.

Fragrant Milk-Vetch. Pl. procumbent, an inch long.

108 A. MICROPHY'LLUS (Lin. spec. 1067.? Willd. spec. 3. p. 1277.) plant diffuse, smoothish; lower stipulas free, upper ones concrete; leaves with 15-18 pairs of puberulous leaflets, the lower ones oblong and emarginate, the upper ones linear and retuse; peduncles longer than the leaves; legumes erect, crowded in spikes, inflated, ovate, hairy. ♃. H. Native of Siberia in pastures; also of Thuringia and Hercynia, if the synonyme of Willd. be rightly attached. The fruit is that of *A. cìcer*, but the leaves and stipulas are different. Flowers pale yellow. The specimen in the Linnæan herbarium is pubescent, with 6-7 pairs of roundish emarginate leaflets.

Small-leaved Milk-Vetch. Fl. June, July. Clt. 1773. Pl. 1 foot long, diffuse.

109 A. SEMIBILOCULA'RIS (D. C. astr. no. 64. t. 23.) plant erect, rather ascending, smoothish; lower stipulas concrete, upper ones distinct; leaves with 9-11 pairs of elliptic-oblong acute leaflets; peduncles longer than the leaves; legumes erect, disposed in heads, oblong-triquetrous, half-bilocular. ♃. H. Native of Siberia, about Zmeof. Flowers pale yellow.

Half-bilocular-podded Milk-Vetch. Fl. July, Aug. Clt. 1804. Pl. 1 foot.

110 A. RESUPINA'TUS (Bieb. fl. taur. suppl. p. 493.) plant with short diffuse stems, and clothed with adpressed pubescence in every part; stipulas concrete; leaves with 5-10 pairs of elliptic acutish leaflets; peduncles about equal in length to the leaves; legumes oblong, nearly terete, arched, resupinate, and rather pilose. ♃. H. Native of middle Iberia. A. physòdes var. perpusílla, Bieb. fl. taur. 2. p. 198. Flowers pale yellow.

Resupinate-podded Milk-Vetch. Pl. ¼ foot.

111 A. RE'PTANS (Willd. hort. berl. 2. t. 88.) plant procumbent, creeping, glabrous; some of the stipulas concrete, and others free; leaves with 12-13 pairs of linear, lanceolate, obtuse, mucronate leaflets; racemes pedunculate, hardly shorter than the leaves; legumes lanceolate, pubescent, half-bilocular. ♃. G. Native of Mexico. Flowers white. Allied to *A. odoràtus*, according to Link. There is a specimen in the Lambertian herbarium, which agrees with this in every particular, but the leaves

are hairy on the under surface, and the peduncles are equal in length to the leaves.

Creeping Milk-Vetch. Fl. Ju. Jul. Clt. 1818. Pl. ½ creeping.

112 A. ODORA'TUS (Lam. dict. 1. p. 311.) plant erect, and rather ascending, pubescent; stipulas concrete; leaves with 11-14 pairs of oblong acute leaflets; peduncles length of leaves; bracteas smaller than the calyx; legumes oblong, terete, glabrous, spreadingly reflexed. ♃. H. Native of the Levant. D. C. astr. no. 67. t. 24. Habit of *A. uliginòsus*, but differs in the stipulas being concrete. Flowers pale yellow, sweet-scented.

Sweet-scented-flowered Milk-Vetch. Fl. June, July. Clt. 1820. Pl. ½ foot.

113 A. STIPULA'TUS (D. Don, prod. fl. nep. p. 246. and in bot. mag. 2380.) plant erect, glabrous; stipulas concrete, foliaceous, large; leaves with 8-16 pairs of oval-oblong, or obovate mucronulate leaflets; peduncles about the length of the leaves; flowers disposed in loose spikes, at first erect, but at length drooping; legumes compressed, stipitate, glabrous, drooping. ♃. H. Native of Upper Nipaul at Corasan. Corolla greenish-white, tinged with red. A. lanceolàtus, Hamilt. in herb. Lamb. Coronílla stipulàta, ibid. Habit of *A. glycyphýllus*. Stipulas 2 inches long, and half an inch broad.

Large-stipuled Milk-Vetch. Fl. June, July. Clt. 1822. Pl. 2 to 3 feet.

114 A. MUCRONA'TUS (D. C. astr. no. 68. t. 25.) plant erect, rather pubescent; stipulas concrete, lanceolate; leaves with 7-17 pairs of oblong-elliptic mucronate leaflets; peduncles length of leaves; legumes compressed, arched, channelled on the back, when young pubescent. ♃. H. Native of the Levant. A. orientàlis altíssimus, &c. Tourn. cor. p. 29. Flowers yellow.

Mucronate-leafletted Milk-Vetch. Fl. June, Aug. Pl. 2 to 3 ft.

115 A. FRAXINIFÒLIUS (D. C. astr. no. 71.) plant erect, smoothish; stipulas concrete, marcescent; leaves with 6-7 pairs of ovate acuminated leaflets, which are pubescent beneath; peduncles shorter than the leaves; legumes pendulous, subulate, triquetrous, sessile, a little arched and glabrous. ♃. H. Native of the Levant. Tourn. cor. 29. Flowers yellow. Like *A. stipulàtus* and *A. glycyphýllus*.

Ash-leaved Milk-Vetch. Pl. 2 to 3 feet.

§ 9. *Ciceroìdei* (from *cicer*, the chick-pea, and *idea*, similar; plant similar to the chick-pea in habit). *D. C. prod. 2. p. 292. Stipulas neither adhering to the petioles nor to each other, Flowers cream-coloured, disposed in pedunculate spikes. Roots perennial. Legumes sessile.*

116 A. GLYCYPHY'LLUS (Lin. spec. 1067.) plant prostrate, glabrous; stipulas ovate-lanceolate, entire; leaves with 4-5-7 pairs of oval, bluntish, smooth leaflets; peduncles shorter than the leaves; spikes of flowers ovate-oblong; legumes almost terete, obscurely triangular, with a slight longitudinal furrow, curved upwards, pointed, smooth, and even. ♃. H. Native of Europe and Siberia. In Britain in woods, thickets, borders of fields, or on the sides of hills, on a chalky or gravelly soil. Smith, engl. bot. t. 203.—Riv. tetr. irr. t. 103. Flowers sulphur-coloured. The leaves have at first a sweetish taste, soon changing on the palate to a nauseous bitter. Cattle are not fond of them, nor is this plant applied to any agricultural use.

Sweet-leaved or Liquorice-Vetch. Fl. June, July. Britain. Pl. prostrate, 2 to 3 feet long.

117 A. GLYCYPHYLLOI'DES (D. C. prod. 2. p. 292.) plant procumbent, pubescent; stipulas oblong, leafy, rather stipitate; leaves with 7 pairs of oval leaflets; peduncles shorter than the leaves; spikes of flowers ovate; flowers secund; calyx acutely 5-toothed; legumes spreading, disposed in something like a spike, subulate, triquetrous, straight, glabrous. ♃. H. Native of Iberia. Flowers pale yellow.

Glycyphyllus-like Milk-Vetch. Fl. June, July. Clt. 1818. Pl. prostrate.

118 A. SECU'NDUS (D. C. astr. no. 55.) plant procumbent, glabrous; stipulas ovate-oblong, with pubescent margins, and are, as well as the bracteas, leafy; leaves with 4-5-pairs of ovate leaflets; peduncles longer than the leaves; flowers secund, spreading; calyx truncate; legumes stipitate, compressed, oblong, glabrous. ♃. H. Native of the south of Siberia. Flowers pale yellow. Allied to *A. glycyphýllus*.

Secund-flowered Milk-Vetch. Pl. prostrate.

119 A. SERI'CEUS (D. C. astr. no. 45.) plant almost stemless and suffrutescent, clothed with silky pubescence; stipulas lanceolate; leaves with 11-13 pairs of oblong-elliptic leaflets; peduncles a little longer than the leaves; spikes capitate; legumes ovate, silky, acute from the style. ♃. H. Native of the Levant. A. orientàlis mínimus flore glomerato vìrescente. Tourn. cor. 29. Flowers greenish yellow.

Silky Milk-Vetch. Pl. ¼ to ½ foot.

120 A. STRIGULÒSUS (H. B. et Kunth, nov. gen. amer. 6. p. 494.) stems herbaceous, procumbent, clothed with strigose pubescence, as well as the under side of the leaves, but they are glabrous above; leaves with 9-10 pairs of oblong obtuse leaflets; stipulas ovate-oblong, acuminated; racemes cylindrically oblong, on long peduncles; calyx beset with black strigæ. ♃. H. Native of Mexico, in temperate parts. Flowers pale-yellow. Perhaps belonging to a different division.

Strigose Milk-Vetch. Pl. procumbent.

121 A. KAHI'RICUS (D. C. prod. 4. p. 292.) plant diffuse, tomentose; stipulas broad, short, acute: leaves having 5-7 pairs of orbicular leaflets; peduncles length of leaves; flowers disposed in spicate racemes, erect; calyx when in fruit inflated; legumes stipitate, ovate, smooth. ♃. F. Native of Egypt, between Cairo and Soueys. A. longiflòrus, Delil. fl. ægyp. 112. t. 39. f. 2. but not of Pall. Flowers pale yellow.

Cairo Milk-Vetch. Pl. diffuse.

122 A. PEREGRI'NUS (Vahl. symb. 1. p. 57.) plant diffuse, clothed with hairy tomentum; stipulas lanceolate: leaves having 11-13 pairs of obovate emarginate leaflets; peduncles length of leaves or shorter than them; flowers disposed in spikes, lower ones remote; legumes somewhat triquetrous, a little arched, hairy. ♃. H. Native of Egypt. D. C. astr. no. 72. t. 27. Flowers pale-yellow. There is a variety of this plant with fewer flowers, which are sessile in the axils of the leaves.

Foreign Milk-Vetch. Pl. diffuse.

123 A. DEPRE'SSUS (Lin. spec. 1073.) plant almost stemless or diffuse, clothed with canescent pubescence; stipulas ovate, membranous; leaflets 9-11 pairs, obovate; peduncles shorter than the leaves; legumes terete, depressed, straight, drooping, glabrous. ♃. H. Native of the south of Europe, in rugged exposed places, and on mountains. All. ped. no. 1277. t. 19. f. 3. D. C. astr. no. 48. Lodd. bot. cab. 680. Flowers cream-coloured. A. helmintocárpus, Vill. mosp. 42. t. 25. f. 2. dauph. 3. p. 456. t. 42. f. 2. but Villars describes his plant as having no peduncle, the leaflet hoary, cut at the apex, and the legume oblong-elliptic and thickening.

Depressed Milk-Vetch. Fl. June, July. Clt. 1772. Pl. depressed.

124 A. LEUCOPHÆ'US (Smith, in Lin. trans. 1. p. 252.) plant prostrate, clothed with canescent villi; stipulas ovate, trapezoid, membranous; leaves with 12-14 pairs of obcordate leaflets; peduncles shorter than the leaves; legume terete, depressed, acute, deflexed, glabrous. ♃. H. Native country unknown. Very like the preceding species, but the flowers are nearly white at first, but at length changing to a dirty purplish colour.

Dusky-flowered Milk-Vetch. Fl. May, Aug. Clt. 1777. Pl. prostrate.

125 A. GLA'BER (Michx. fl. bor. amer. 2. p. 66. but not of D. C.) plant low and smoothish; leaves with 10-11 pairs of elliptic-oblong, obtuse or emarginate leaflets; peduncles longer than the leaves; flowers disposed in racemose spikes; legumes distant, spreading, depressed, incurved. ♃. H. Native of Georgia and South Carolina, in sandy woods. Flowers white.

Smooth Milk-Vetch. Pl. ½ to 1 foot.

126 A. CI'CER (Lin. spec. 1067.) plant diffusely procumbent, rather pubescent; stipulas lanceolate; leaves with 10-13 pairs of elliptic-oblong mucronate leaflets; peduncles longer than the leaves; flowers disposed in spike-like heads; legumes inflated, hairy, mucronate. ♃. H. Native of Europe, in mountain meadows and hedges. D. C. astr. no. 67. var. *α.* Jacq. austr. 3. t. 251.—All. pedem. no. 1266. t. 41. f. 2.—Riv. tetr. irr. t. 108.—Moris. oxon. sect. 2. t. 9. f. 9. Corolla pale-yellow.

Chick-pea Milk-Vetch. Fl. July, Aug. Clt. 1570. Pl. proc.

127 A. ULIGINÒSUS (Lin. spec. 1066.) plant erect, somewhat diffuse, and rather pubescent; stipulas membranous, lanceolate, acuminated; leaves with 10-11 pairs of elliptic oblong leaflets; peduncles about equal in length to the leaves; flowers disposed in spikes; bracteas about equal in length to the calyx; legumes rather reflexed, terete, glabrous, with a longitudinal furrow on the back. ♃. H. Native of Siberia, in rather humid meadows. Pall. astr. t. 26. D. C. astr. no. 66.—Gmel. sib. 4. t. 17, 18. Flowers pale yellow, the top of the keel violet-coloured.

Bog Milk-Vetch. Fl. July, Aug. Clt. 1772. Pl. diffuse.

128 A. MICRA'NTHUS (Desv. journ. bot. 1814. 1. p. 78. but not of Nutt.) plant diffuse, rather pubescent; stipulas ovate, acute; leaves having 11-12 pairs of elliptic, obtuse leaflets; peduncles twice the length of the leaves; flowers disposed in spikes; bracteas shorter than the calyx; legumes deflexed, somewhat trigonal, smoothish. ♃. H. Native country unknown. Flowers pale yellow.

Small-flowered Milk-Vetch. Fl. June, July. Clt. 1800. Pl. diffuse.

129 A. CANADE'NSIS (Lin. spec. 1066.) plant erectish, rather pubescent; stipulas lanceolate, acuminated; leaves having 10-12 pairs of elliptic-oblong, bluntish leaflets; peduncles about equal in length to the leaves; flowers disposed in spikes; bracteas shorter than the calyx; legumes erect, oblong, terete, glabrous. ♃. H. Native of North America, from Canada to Carolina. D. C. astr. no. 65. Dodart. icon. t. 65.—Dill. elth. 46. t. 39. f. 45. Corolla yellow. Root creeping.

Canada Milk-Vetch. Fl. July. Clt. 1732. Pl. 2 to 3 feet.

130 A. CAROLINIA'NUS (Lin. spec. 1066.) plant erect, glabrous; stipulas ovate, acuminated; leaves with 20 pairs of oblong leaflets, which are pubescent beneath; peduncles longer than the leaves; flowers disposed in spikes; bracteas length of pedicels; legumes erect, ovate, tumid, beaked. ♃. H. Native of Virginia and Carolina, on mountains.—Dill. elth. t. 39. f. 45. Flowers pale yellow.

Carolinian Milk-Vetch. Fl. Jul. Aug. Clt. 1732. Pl. 2 to 3 ft.

131 A. FALCA'TUS (Lam. dict. 1. p. 310. but not of Desf.) erect, rather pubescent; stipulas lanceolate, acuminated; leaves having 16-20 pairs of elliptic-oblong, acute leaflets; peduncles rather longer than the leaves; legumes pendulous, rather trigonal, acute, falcate, glabrous, disposed in racemes. ♃. H. Native of Siberia, in wet, grassy places. Pall. astr. t. 31. D. C. astr. no. 70. t. 26. A. viréscens, Ait. hort. kew. 3. p. 73. A. Iseténsis, Hortul. Flowers greenish yellow.

Falcate-podded Milk-Vetch. Fl. Ju. Jul. Clt.? Pl. 1 to 2 ft.

132 A. FALCIFÓRMIS (Desf. amend. atl. D. C. astr. no. 69.) plant erect, glabrous; stipulas lanceolate, acuminated; leaves with 10-15 pairs of elliptic, obtuse, leaflets; peduncles rather shorter than the leaves; legumes compressed, drooping, falcate, rather stipitate. ♃. H. Native of Algiers, at the foot of Mount Atlas. A. falcàtus, Desf. fl. atl. 2. p. 188. t. 206. Flowers pale yellow or greenish yellow.

Falciform-podded Milk-Vetch. Fl. June, July. Clt. 1816. Pl. 2 feet.

133 A. A'SPER (Jacq. icon. rar. 1. t. 152.) plant erect, straight, rough from hairs, which are fixed by their centre; stipulas linear-lanceolate; leaves with 12-15 pairs of lanceolate leaflets; peduncles much longer than the leaves; flowers spicate, erect; legumes oblong, triquetrous, acuminated, clothed with adpressed pubescence. ♃. H. Native of Siberia, Tauria, Caucasus, Hungary, &c. D. C. astr. no. 63. A. chloránthus, Pall. astr. no. 34. t. 25. Flowers greenish yellow, tipped with orange.

Rough Milk-Vetch. Fl. Jul. Aug. Cl. 1796. Pl. 3 to 4 ft.

134 A. CHLOROSTA'CHYS (Lindl. mss.) this plant comes very near *A. stipulàtus* and *A. galegifórmis*, both in habit and character. It is cultivated in the English gardens, but we have not been able to procure a specimen, and therefore the description remains a desideratum. ♃. H. Native of Nipaul. Flowers greenish-yellow. A. malachophýllus, Hort.

Green-spiked Milk-Vetch. Fl. Sept. Oct. Clt. 1824. Pl. 3 to 5 feet.

135 A. PALLE'SCENS (Bieb. fl. taur. suppl. p. 489.) plant ascending, canescent; stipulas lanceolate; leaves with 5-6 pairs of linear-elliptic leaflets; peduncles much longer than the leaves; flowers disposed in spicate racemes, rather distant; legumes erect, oblong, and somewhat triquetrous, clothed with adpressed pubescence, acuminately mucronate. ♃. H. Native of Siberia, between the Don and the Volga. Flowers cream-coloured. This plant would have been brought into the division *Dissitiflòræ*, if it had not been for the colour of the flowers.

Pale-flowered Milk-Vetch. Fl. Ju. Jul. Clt. 1818. Pl. asc.

§ 10. *Galegifórmes* (from *Galèga*, goats'-rue, and *fórma*, form; plants with the habit of Goats'-rue, *Galèga*). *D. C. prod. 2. p. 294. Stipulas neither adhering to the petiole nor to each other. Flowers cream-coloured or white. Legumes stipitate.*

136 A. CHINE'NSIS (Lin. fil. dec. 1. t. 3.) plant erect, glabrous; leaves with 12-13 pairs of elliptic-oblong leaflets; peduncles longer than the leaves; flowers pendulous, racemose; legumes ovate, inflated, hardly mucronate. ♃. H. Native of China. Flowers pale yellow, but finally become white.

China Milk-Vetch. Fl. Jul. Aug. Clt. 1795. Pl. 2 to 4 ft.

137 A. GALEGIFÓRMIS (Lin. spec. 1066.) plant erect, glabrous; leaves with 12-13 pairs of elliptic-oblong leaflets; peduncles longer than the leaves; flowers pendulous, racemose; legumes triquetrous, mucronate at both ends. ♃. H. Native of Siberia, and Iberia. Pall. astr. no. 38. t. 29. D. C. astr. no. 61. Flowers pale yellow.

Goats'-rue-formed Milk-Vetch. Fl. June, July. Clt. 1729. Pl. 3 to 5 feet.

138 A. DRUMMO'NDI (Dougl. in Hook, fl. bor. amer. p. 153. t. 57.) plant glabrous; stems flexuous; leaves with 10-12 pairs of ovate-lanceolate, obtuse, mucronate leaflets; bracteas subulate, about the length of the pedicels, or perhaps longer; peduncles a little longer than the leaves, pubescent as well as the petioles, and under side of the leaves as well as the calyxes. ♃. H. Native of North America. Flowers yellow. Like *A. galegifórmis*.

Drummond's Milk-Vetch. Pl. 2 feet.

139 A. SUCCU'MBENS (Dougl. mss.) plant strong and very villous; stems flexuous; leaflets obovate, obtuse; stipulas broad, triangular; bracteas subulate, about the length of the tube of the calyx; racemes about the length of leaves. ♃. H. Native of North America, on the barren grounds of the Columbia. Flowers apparently yellow. Legumes flat, smooth.

Crouching Milk-Vetch. Pl. 1 foot.

140 A. racemosus (Pursh, fl. sept. amer. p. 740.) plant erect, rather pubescent; leaves with 10 pairs of lanceolate leaflets; peduncles longer than the leaves; racemes dense-flowered; legumes pendulous, inflated, triquetrous. ♃. H. Native of Upper Louisiana. A. galegoides, Nutt. gen. amer. 2. p. 100. Flowers white. Plant disagreeably scented.

Racemose-flowered Milk-Vetch. Pl. 2 to 3 feet.

141 A. ptero'stylis (D. C. prod. 2. p. 294.) plant almost erect, glabrous; leaves with 6-7 pairs of elliptic, emarginate leaflets; peduncles longer than the leaves: flowers erect, racemose; legumes pendulous, ovate, depressed, reticulately veined. ♃.? S. Native of New Holland, on the eastern coast, and the island of Timor. The cauline stipulas are distinct, and deeply bi or tridentate. The style is compressed, ensiform, and bearded at the apex on the upper side. Legume on a short stipe, with the cells 2-seeded. Perhaps this plant will constitute a new genus.

Winged-styled Milk-Vetch. Pl. 1 foot.

§ 11. *Alopecuroìdei* (from αλωπηξ, *alopex*, a fox, ουρα, *oura*, a tail; and ειδος, *eidos*, form; in reference to the shape of the spikes of flowers, which has been likened to a fox's tail). *D. C. prod. 2. p. 294. Stipulas not adhering to the petioles. Stems erect, straight. Flowers yellow, disposed in thick dense spikes, which are either sessile, or on very short peduncles, in the axils of the leaves.*

142 A. alope'cias (Pall. astr. p. 12. t. 9.) plant erect; leaflets elliptic, villous; stipulas lanceolate; spikes sessile, cylindrical, almost the length of the leaves; tube of calyx woolly, somewhat globose, with the segments subulate, and rather longer than the corolla. ♃. H. Native of Siberia, at Lake Alagul, in the Songarian desert. Flowers pale yellow.

Fox-tail-spiked Milk-Vetch. Fl. Jul. Aug. Clt. 1800. Pl. 3 ft.

143 A. ma'ximus (Willd. spec. 3. p. 1258.) plant erect; leaflets lanceolate, pubescent; stipulas oblong-lanceolate; spike sessile, cylindrical, nearly terminal; teeth of calyx capillary, woolly, shorter than the corolla. ♃. H. Native of America. Flowers yellow. Very like the next species.

Largest Milk-Vetch. Fl. June, July. Clt. ? Pl. 2 to 3 ft.

144 A. alopecuroi'des (Lin. spec. 1064. Mill. fig. t. 28.) plant erect; leaflets ovate-lanceolate, pubescent; stipulas ovate-lanceolate, acuminated; spikes of flowers ovate-oblong, stalked; calycine segments setaceous, shorter than the tube, but about equal in length to the corolla. ♃. H. Native of Siberia. A. alopecuroìdes and A. alopecùrus, D. C. astr. no. 66. and 67. A. alopecùrus, Pall. astr. t. 8. Flowers yellow.

Fox-tail-like-spiked Milk-Vetch. Fl. June, July. Clt. 1737. Pl. 2 to 3 feet.

145 A. Narbone'nsis (Gouan. ill. 49. Pall. astr. t. 10.) plant erect, villous; stipulas lanceolate; leaflets oblong-linear; spikes of flowers somewhat globose; calycine teeth setaceous, shorter than the corolla, but about the same length as the tube. ♃. H. Native about Narbonne and Madrid. Flowers yellow.

Narbonne Milk-Vetch. Fl. Ju. Jul. Clt. 1789. Pl. 2 to 3 ft.

146 A. Pónticus (Pall. astr. p. 14. t. 11.) plant erect; stem rather villous; leaflets oblong, smoothish; stipulas lanceolate: spikes of flowers sessile, almost globose, when in fruit ovate; segments of the calyx linear, much shorter than the tube and the corolla. ♃. H. Native of Tauria and Bessarabia. Flowers yellow. In the specimen sent under this name to De Candolle, by Steven from Tauria, the leaflets are not emarginate, nor the teeth of the calyx ovate, as described by Willdenow.

Pontic Milk-Vetch. Fl. July, Aug. Clt. 1820. Pl. 2 feet.

147 A. vulpìnus (Willd. spec. 3. p. 1259.) plant erect; stem glabrous; leaflets obovate, obtuse, or emarginate, rather velvety; spikes of flowers nearly globose, on very short peduncles; teeth of calyx setaceous, length of tube, but a little shorter than the corolla. ♃. H. Native about Astracan, and in the sand of the Caspian desert, as well as of the desert of Kuma. A. alopecuroìdes, Pall. astr. p. 9. t. 7. Flowers pale yellow.

Fox Milk-Vetch. Fl. June, July. Clt. 1816. Pl. 2 to 3 ft.

148 A. macroce'phalus (Willd. spec. 3. p. 1260.) plant erect; stem glabrous; leaflets oblong-elliptic, glabrous; stipulas large, acuminated; spikes of flowers globose, pedunculate; teeth of calyx subulate, length of tube, but shorter than the corolla. ♃. H. Native of Iberia, on hills, and of Galatia, in fields. Bieb. fl. taur. 2. p. 183. A. orientàlis, Pers.? Flowers yellow.

Large-headed Milk-Vetch. Pl. 3 to 4 feet.

149 A. obtusifòlius (D. C. prod. 2. p. 295.) plant erect; stem and leaves clothed with velvety villi; leaflets broadly obovate, very obtuse; stipulas narrow-lanceolate; spikes globose, containing about 8 or 10 flowers, pedunculate; calycine teeth subulate, length of tube, but shorter than the corolla. ♃. H. Native of the Levant, between Mossul and Bagdad. Leaflets 11-15, never more, by which it is easily distinguished from all the other species of this division.

Obtuse-leaved Milk-Vetch. Pl. 2 to 3 feet.

§ 12. *Christiàni* (so called from the similarity of the species to *A. Christiànus* of Lin., which is called by Dioscorides *Christiàna-radix* or *Christian-root*; in reference to the country in which it grows wild). *D. C. prod. 2. p. 295. Stipulas adnate to the petiole, but not joined together. Flowers cream-coloured, disposed in glomerate, almost sessile racemes in the axils of the leaves.*

150 A. macroca'rpus (D. C. astr. no. 73. t. 28. but not of Pall.) plant erect, hairy; stipulas lanceolate; leaves with 11-14 pairs of ovate-oblong leaflets; flowers glomerate, almost sessile, axillary; legumes inflated; ovate-globose, mucronate, glabrous, large. ♃. H. Native of the Levant. Flowers pale yellow.

Long-fruited Milk-Vetch. Pl. 2 to 3 feet.

151 A. Sieversia'nus (Pall. astr. no. 18. t. 12.) plant erect, rather hairy; stipulas ovate-lanceolate, acuminated; leaves having 10-12 pairs of ovate-oblong leaflets; flowers glomerate, almost sessile, axillary; legumes inflated, ovate-globose, mucronulate, callous, tomentose. ♃. H. Native of the south of Siberia, at the river Ultchaar. Flowers pale yellow.

Sievers's Milk-Vetch. Pl. 2 to 3 feet.

152 A. Christia'nus (Lin. spec. 1064.) plant erect, hairy; stipulas membranous, lanceolate, acuminated; leaves with 12-24 pairs of elliptic-orbicular leaflets; flowers glomerate, sessile in the axils of all the leaves; legumes ovate, wrinkled, glabrous. ♃. H. Native of Judea, and between Aleppo and Mossul, and of Armenia. Tour. voy. 2. p. 254. with a figure. A. flòridus, Scop. ins. 2. p. 108. Flowers yellow.

Christian Milk-Vetch. Fl. Jul. Clt. 1737. Pl. 2 to 3 ft.

153 A. tomentòsus (Lam. dict. 1. p. 312.) plant erect, clothed in every part with soft tomentum; stipulas lanceolate; leaves with 20-25 pairs of ovate-orbicular, somewhat emarginate leaflets; flowers glomerate, almost sessile in the axils of the leaves; legumes oblong, terete, acuminated, callous, hairy. ♃. H. Native of Egypt. D. C. astr. no. 80. t. 29. A. fruticòsus, Forsk. ægyp. 139. Flowers yellow.

Tomentose Milk-Vetch. Fl. July. Clt. 1800. Pl. 1½ foot.

154 A. Siebe'ri (D. C. prod. 2. p. 295.) stem erect, clothed with hoary, silky, adpressed hairs; stipulas membranous, acuminated; leaves having 20-25 pairs of elliptic, obtuse leaflets, when young clothed with canescent villi; flowers axillary, almost sessile; legumes triquetrous, acuminated, pubescent. ♄.? ♃.? F. Native of Egypt. A. trigònus, Sieb. pl. exsic. but not of D. C. Flowers pale-yellow. Allied to the preceding

species, and like it having the petioles permanent, and therefore falls into section *Tragacanthæ*.

SERIES III. TRAGACANTHA'CEI (from τραγος, *tragos*, a goat, and ακανθα, *akantha*, a spine; in reference to the similarity of the species to *A. tragacántha*, which is vulgarly called goat's-thorn). D. C. prod. 2. p. 295. Stipulas adnate to the petioles. The petioles are permanent, and at length become hardened spines.

§ 13. *Tragacánthæ* (see series for derivation). *D. C. l. c. Petioles permanent, becoming as hard as spines. Stipulas adnate to the petioles.*

* *Flowers sessile in the axils of the leaves.*

155 A. TRIGO'NUS (D. C. astr. no. 81.) flowers axillary, sessile, solitary, concealed under the stipulas; legumes trigonal, acuminated, hoary from pubescence; leaflets with 6-7 pairs of leaves, which are clothed with hoary wool. ♄. F. Native of Egypt. Flowers yellowish.

Trigonal-fruited Goat's-Thorn. Shrub ½ to 1 foot.

156 A. CRYPTOCA'RPUS (D. C. astr. no. 82.) flowers solitary, axillary, latent; legumes ovate, hairy, 2-seeded; leaves having 4-6 pairs of linear leaflets, which are as well as the stipulas quite glabrous. ♄. F. Native of Armenia. Trag. orientàlis humíllima fòliis viciæ, &c. Tourn. cor. 29. Flowers pale yellow?

Hidden-fruited Goat's-Thorn. Shrub ½ foot.

157 A. BA'RBA JÒVIS (D. C. astr. no. 83.) flowers solitary, latent; calyxes 5-parted, very villous; legumes ovate, glabrous, almost 1-celled, 1-2-seeded; leaves having 3-5 pairs of oblong, acute, hoary-tomentose leaflets. ♄. F. Native of Armenia. Trag. orientàlis humíllima argéntea, &c. Tour. cor. 29. Tragacántha argéntea, Mill. Corolla purplish?

Jupiter's-beard Goat's-Thorn. Shrub ¼ to ½ foot.

158 A. MICROCE'PHALUS (Willd. spec. 3. p. 1332.) flowers axillary, sessile, somewhat capitate; calyxes woolly, 5-cleft; leaves having 4 pairs of lanceolate, hoary, mucronate leaflets. ♄. F. Native of Armenia.

Small-headed Goat's-Thorn. Shrub ½ foot.

159 A. ERIOCAU'LOS (D. C. astr. no. 84.) flowers axillary, solitary, latent; calyxes usually hardly 5-cleft; leaves with 4-5 pairs of oblong acute leaflets, which are woolly, as well as the stems. ♄. F. Native of Armenia. Trag. orientàlis foliis incanis caule et ramulis tomentosis, Tourn. cor. 29. Corolla cream-coloured? Legume unknown.

Woolly-stemmed Goat's-Thorn. Shrub ½ foot.

160 A. CAUCA'SICUS (Pall. astr. p. 2. t. 2.) flowers 2-3-together, axillary, sessile; calyxes 5-cleft, clothed with woolly villi; legumes 1-celled, 4-seeded; leaves having 5-7 pairs of oblong-linear leaflets, which are clothed with hoary tomentum. ♄. H. Native of Caucasus, on barren rocks. Flowers white (Bieb.), cream-coloured (Pall.). Stipulas when young clothed with white tomentum, but at length becoming glabrous. Bieb. fl. taur. 2. p. 205. Willd. spec. 3. p. 1331. exclusive of the synonyme of Tournefort.

Caucasian Goat's-Thorn. Fl. June, July. Clt. 1824. Sh. ½ ft.

161 A. GU'MMIFER (Labill. journ. phys. 1790. p. 46. with a figure,) flowers 3-5-together, axillary, sessile; calyxes 5-cleft, and are, as well as the legumes, woolly; leaves having 4-6 pairs of oblong-linear glabrous leaflets. ♄. F. Native of Mount Lebanon. Flowers yellow, rising from the axils of all the leaves, as well as in the preceding species, and therefore they appear in something like a spike. Gum tragacanth flows from this plant, but more sparingly than from *A. vèrus*. D. C. astr. no. 85. exclusive of the synonyme of Tournefort.

Gum-bearing Goat's-Thorn. Fl. June, July. Sh. ½ to 1 ft.

162 A. VE'RUS (Oliv. voy. 3. t. 44.) flowers 2-5-together, axillary, sessile; calyxes tomentose, obtusely 5-toothed; leaves having 8-9 pairs of linear hispid leaflets. ♄. F. Native of the Levant. A. gúmmifer var. β, hispídulus, D. C. astr. no. 85. Young stipulas clothed with silky villi, adult ones glabrous. According to Olivier, a traveller in the Levant, the greater part of the gum-tragacanth which is imported into Europe is obtained from this plant. Tragacanth exudes from it naturally from July to September, either from wounds made in the shrub by animals, or from fissures occasioned by the force of the juice during the great heats of summer. According as the juice is more or less abundant, tragacanth exudes in twisted filaments, which sometimes assume the form of a small worm, elongated, rounded, and compressed, rolled up upon itself or twisted. The finest and purest tragacanth assumes this form. It is almost transparent whitish, or of a yellowish white. It also exudes in large tears, which preserve more or less of a vermicular form. This is more of a reddish colour, and more contaminated with impurities. The quantity of tragacanth furnished by Persia is very considerable. Much is consumed in that country in the manufacture of silk, and the preparation of comfits. It is exported to India, Bagdad, and Bussorah. Russia also gets some by way of Bakou. Tragacanth, though generally called a gum, differs very much from gum Arabic in its properties. It is opaque, white, difficultly pulverizable, unless when thoroughly dried, and the mortar heated, or in frost, and it cannot be said to be properly soluble in water, for it absorbs a large quantity of that fluid, and increases in bulk. It is totally insoluble in alcohol. Its mucilage differs from that of gum-Arabic in being precipitated by the superacetate of lead and oxymuriate of tin, and not by silicized potass, or the oxymuriate of iron. In pharmacy tragacanth is employed for forming powders into troches, and rendering them tough cohesive substances, by beating them with mucilage of tragacanth, and then drying the mass. For electuaries it is improper, as it renders them slimy on keeping. It is also an improper adjunct to active powders, as it swells up on attempting to mix them with water. It is a demulcent, and may answer the purposes of gum-arabic, being better adapted for allaying tickling cough, and sheathing the fauces in catarrhal affection, owing to its great viscidity.

True Tragacanth or Goat's-Thorn. Shrub ½ to 3 feet.

163 A. SETI'FERUS (D. C. prod. 2. p. 296.) flowers and leaflets unknown, but the last fall very soon off the plant; there are fascicles of silky bristles, rising from the axils of the spines. ♄. F. Native of the Levant. This species is hardly known, but from the habit it is allied to the preceding plant, but it differs from it in having axillary fascicles of bristles.

Bristle-bearing Goat's-Thorn. Shrub ½ foot.

164 A. ERIA'NTHUS (Willd. spec. 3. p. 1332.) flowers axillary, sessile, aggregate; calyxes globose, woolly; leaves with 5 pairs of oblong, acute, glabrous leaflets. ♄. F. Native of Armenia. Petioles yellowish.

Woolly-flowered Goat's-Thorn. Shrub ½ foot.

165 A. BREVIFLÒRUS (D. C. astr. no. 89. t. 31.) flowers axillary, sessile, somewhat capitate; calyx 5-cleft, rather longer than the corolla, having woolly, plumose, filiform lobes; leaves with 6-7 pairs of lanceolate villous leaflets. ♄. F. Native of Armenia. Lodd. bot. cab. 1388. Trag. orientàlis foliis angustissimis, flore purpurascente, Tourn. cor. 29. A. eriocéphalus, Willd. spec. 3. p. 1333. Flowers purple.

Var. β, *glàber* (D. C. l. c.) leaflets longer and glabrous. ♄. F. Native of Persia. Perhaps a distinct species.

Short-flowered Goat's-Thorn. Fl. May, Jul. Clt. 1826. Sh. ½ ft.

166 A. AU'REUS (Willd. act. berl. 1794. p. 29. t. 1. f. 3.) flowers axillary, sessile, disposed in globose heads; calyx 5-

parted, with plumose segments, shorter than the corolla; leaves with 5-6 pairs of oblong-linear smoothish leaflets. ♄. F. Native of Armenia. D. C. astr. no. 90. t. 32. f. 1. Trag. orientàlis humilis floribus luteis dense congestis, &c. Tour. cor. 29. Flowers yellow.

Golden-flowered Goat's-Thorn. Shrub ½ foot.

167 A. plumòsus (Willd. spec. 3. p. 1333.) flowers axillary, sessile, aggregate; calyx cleft into 5 parts beyond the middle; lobes filiform, bearded, plumose, shorter than the corolla; leaflets elliptic-lanceolate, ending each in a spine-like mucrone, and clothed beneath with adpressed silky villi. ♄. F. Native of Galatia (Willd.). Troade (Oliv.). Flowers purple. Very like the two preceding species, but differs from them in the form of the leaflets.

Feathery-calyxed Goat's-Thorn. Shrub ½ foot.

168 A. compa'ctus (Willd. in act. berl. 1794. p. 29. t. 1. f. 1.) flowers axillary, sessile, 4-5, aggregate; calyx 5-parted; the lobes filiform, and bearded with wool, shorter than the corolla; leaves with 4-5 pairs of oblong, mucronate, hoary-villous leaflets. ♄. F. Native of Armenia and Caucasus. D. C. astr. no. 86. t. 32. f. 2. Bieb. fl. taur. suppl. p. 500. A. pycnophýllus, Stev. in soc. mosq. 4. p. 57. Flowers white.

Compact Goat's-Thorn. Shrub ½ foot.

169 A. arnaca'ntha (Bieb. fl. taur. 2. p. 205.) flowers axillary, 2-3-together; calyx 5-parted, with setaceous woolly segments, which are shorter than the corolla; leaflets lanceolate, ending each in a spiny mucrone, and clothed with hoary hairs. ♄. F. Native of Tauria and Caucasus, on barren hills. A. Potèrium, Pall. astr. p. 1. t. 1. but not of Vahl. A. compáctus var. β, D. C. Willd. Flowers flesh-coloured. The legume is 1-celled according to Pallas.

Lamb's-Thorn. Shrub ½ foot.

170 A. oleæfòlius (D. C. astr. no. 87.) flowers axillary, sessile, disposed in globose whorls around the branches; calyx 5-cleft, woolly, villous; leaves with 6-10 pairs of oblong, glaucescent, smoothish leaflets. ♄. F. Native of the Levant. Trag. orientalis foliis oleæ, &c. Tourn. cor. 29. A. pugnifórmis, Willd. spec. 3. p. 1334. but not of Lher. Flowers yellowish.

Olive-leaved Goat's-Thorn. Shrub ½ foot.

171 A. longifòlius (Lam. dict. 1. p. 322.) flowers axillary, sessile, disposed in somewhat globose whorls; calyx 5-parted, woolly, a little shorter than the corolla; leaves with 9-12 pairs of oblong glabrous leaflets, each ending in a spine-like mucrone. ♄. F. Native of Armenia. D. C. astr. no. 88. t. 30. A. pugnifórmis, Lher. stirp. 170. Trag. orientàlis, Pocock, trav. 3. t. 88.

Long-leaved Goat's-Thorn. Shrub ½ to 1 foot.

172 A. denuda'tus (Stev. mem. mosq. 4. p. 57.) flowers axillary, sessile, glomerate; calyx 5-parted, with setaceous woolly lobes; leaves with 7 pairs of lanceolate, mucronate, green, pubescent leaflets. ♄. F. Native of Eastern Caucasus, on the higher mountains. Bieb. fl. taur. suppl. p. 501. Corolla small, with the vexillum striated. Young leaves rather tomentose in winter, but becoming smooth in summer.

Naked-leaved Goat's-Thorn. Shrub ½ foot.

173 A. pseu'do-Tragaca'ntha (Pall. astr. p. 3. t. 3.) flowers axillary, sessile, 7-8-together; calyxes woolly, with setaceous lobes, which are longer than the tube; leaves with 8-9 pairs of oblong, acutish, awnless leaflets, clothed with hoary pili. ♄. F. Native of Eastern Caucasus, in subalpine places among rocks. Flowers yellowish. This plant is very like *A. aristàtus*, but differs in the flowers being sessile.

False-Goat's-Thorn. Shrub ½ foot.

174 A. Cre'ticus (Lam. dict. 1. p. 321.) flowers axillary, sessile, aggregate; calyxes 5-parted, with setaceous plumose lobes, which are a little longer than the corolla; leaves with 5-8 pairs of oblong, acute, tomentose leaflets. ♄. F. Native of Candia, on Mount Ida. D. C. astr. no. 91. t. 33. Trag. Crética incàna, &c. Tourn. cor. 29. Flowers purple, striped. Gum tragacanth also flows from this shrub, but very sparingly.

Cretan Goat's-Thorn. Shrub ½ to 1 foot.

175 A. Sí'culus (Biv. giorn. palerm. no. 4. Rafin. car. p. 72.) flowers axillary, sessile, aggregate; calyx 5-parted, very villous, shorter than the corolla; leaves with 4-8 pairs of oblong acute leaflets, which when young are villous, but afterwards become glabrous. ♄. F. Native of Sicily, on high mountains, especially on Mount Etna. Flowers white, or tinged with purple (Rafinisque). A. tragacántha, Bern. Ucr. hort. panorm. p. 316.

Sicilian Goat's-Thorn. Shrub ½ foot.

176 A. echi'nus (D. C. astr. no. 92. t. 34.) flowers axillary, sessile, twin; calyx woolly and villous, 5-toothed, shorter than the corolla; leaves with 4-5 pairs of oblong-lanceolate, acutish, hoary leaflets. ♄. F. Native of the Levant on rocks, and of Eastern Caucasus. A. Cáspicus, Bieb. fl. taur. 2. p. 204. suppl. 500. A. Creténsis, Pall. astr. p. 6. exclusive of the synonymes. Flowers white, with the vexillum striped with purple.

Hedgehog Goat's-Thorn. Shrub ½ foot.

* * *Flowers axillary, pedunculate.*

177 A. echioi'des (Lher. stirp. 170.) peduncles 2-flowered, shorter than the leaves; calyxes hardly pubescent, 5-toothed; leaves with 4-5 pairs of linear-lanceolate hoary leaflets. ♄. F. Native of Candia. A. echioìdes, Willd. spec. 3. p. 1326. A. Créticus, Willd. acad. berol. 1794. p. 23. t. 2. f. 2. exclusive of the synonymes. Flowers white, but the vexillum is marked with red lines.

Bugloss-like Goat's-Thorn. Shrub ½ foot.

178 A. Oly'mpicus (Pall. astr. p. 4. t. 4.) peduncles very short; calyx ovate, tubular, silky, 5-toothed; leaves with 6 pairs of oblong, bluntish, hoary leaflets; legumes cylindrical, mucronate, twice the length of the calyx. ♄. F. Native of Armenia, on Mount Olympus. A. leucophýllus, Willd. spec. 3. p. 1331. Flowers white, almost sessile. Legumes distinctly pedunculate.

Olympic Goat's-Thorn. Shrub ½ to 1 foot.

179 A. Pote'rium (Vahl. symb. 1. p. 63.) peduncles very short, usually 2-flowered; calyx cylindrical, 5-toothed; leaves with 4-5 pairs of oblong acute leaflets, which are glabrous above and villous beneath; legumes tomentose, ovate, 1-seeded, length of calyx. ♄. H. Native of Granada, in dry places. Potèrium, Cluss. hist. 1. p. 108. with a figure. Moris. oxon. sect. 2. t. 13. f. 2. A. Granaténsis, Lam. dict. 1. p. 321. A. tragacántha β, Lin. spec. 1073. Flowers white. The odd leaflet usually permanent. Perhaps A. Potèrium of Willd., a native of the Levant, is distinct from the plant of Vahl.

Poterium-like Goat's-Thorn. Fl. June, July. Clt. 1640. Shrub ½ foot.

180 A. Massilie'nsis (Lam. dict. 1. p. 320. D. C. astr. no. 96.) peduncles usually 4-flowered, about equal in length to the leaves; calyxes cylindrical, with 5 short blunt teeth; leaves with 9-11 pairs of elliptic hoary leaflets. ♄. H. Native about Marseilles and Narbonne, in sandy places, as well as of Corsica and Mauritania. A. tragacántha var. α, Lin. spec. 1073. A. tragacántha, Pall. astr. t. 4. f. 1, 2. Duh. arb. 2. t. 100. Woodv. med. bot. 267. t. 98. Wats. dent. brit. 84.—Lob. icon. 2. t. 27.—Garid. aix. 469. t. 104, &c. Flowers white. This plant is usually grown for tragacanth, from which the gum is obtained, but it certainly produces nothing like gum tragacanth.

Marseilles Goat's-Thorn. Fl. May, July. Clt. 1640. Shrub ½ to 1 foot.

181 A. arista'tus (Lher. stirp. 170.) peduncles very short, usually 6-flowered; calycine teeth long and setaceous; leaves with 6-9 pairs of oblong-linear, mucronate, pilose leaflets; legumes

hardly half-bilocular. ♄. H. Native of the alps of Europe and the Pyrenees. A. sempervirens, Lam. dict. 1. p. 320. Phàca tragacántha, All. pedem. 1257.—Garid. aix. t. 104. Flowers white or pale red. Peduncles usually 4-flowered.

Awned-calyxed Goat's-Thorn. May, Jul. Clt. 1791. Sh. ½ ft.

182 A. GENARGE'NTEUS (Moris. elench. sard. p. 11.) peduncles usually 5-flowered, shorter than the leaves; teeth of calyx narrow, acute, very short; leaves with many pairs of elliptic, canescent leaflets. ♄. H. Native of Sardinia, on the heights of Genargentum. Flowers cream-coloured, with the keel tipped with dark purple. Like *A. Massiliénsis* and *A aristàtus.*

Genargentum Goat's-Thorn. Shrub ½ foot.

183 A. BRACTEOLA'TUS (D. C. astr. no. 102.) peduncles rather longer than the leaves, bearing ovate spikes of flowers; calyx clothed with adpressed pubescence, cylindrical, with lanceolate-subulate teeth; leaves with 7-8 pairs of oblong leaflets, which when young are clothed with silky pubescence, but at length becoming glabrous. H. ♄. Native of Galatia, on hills. A. púngens, Willd. spec. 3. p. 1325. Trag. orientàlis humíllima se spargens, floribus spicatis, Tourn. cor. 29. Bracteas linear-subulate. Flowers white in the dried specimens.

Bracteolate Goat's-Thorn. Shrub ½ to 1 foot.

184 A. ANGUSTIFÒLIUS (Lam. dict. 1. p. 321.) peduncles 6-flowered, somewhat corymbose, about equal in length to the leaves; calyx cylindrical, rather villous, acutely 5-toothed; leaves with 7-9 pairs of lanceolate leaflets, glabrous in the adult state. ♄. F. Native of Armenia, Willd. act. berol. 1794. p. 25. D. C. astr. no. 98.—Tourn. cor. 29. Flowers yellow.

Narrow-leaved Goat's-Thorn. Shrub ½ foot.

185 A. RETU'SUS (Willd. act. berol. 1794. p. 24. t. 2. f. 3. exclusive of the synonyme) peduncles 4-flowered, shorter than the leaves; calyxes clothed with adpressed, silky villi, cylindrical, 5-toothed; the teeth lanceolate; leaflets obovate, and somewhat retuse. ♄. F. Native of the Levant. Flowers reddish in a dried state. Like *A. Massiliénsis.*

Retuse-leafletted Goat's-Thorn. Shrub ½ foot.

186 A. DAMASCE'NUS (D. C. prod. 2. p. 198.) peduncles 4-6-flowered, somewhat spicate, rather longer than the leaves; calyxes cylindrical, clothed with adpressed silky villi, 5-toothed, the teeth lanceolate; bracteas ovate, membranous, shorter than the tube of the calyx; leaves with 15-16 pairs of elliptic, somewhat mucronate leaflets, which are villous on both surfaces. ♄. F. Native about Damascus. Flowers white in the dried specimens. A. retùsus, D. C. astr. no. 99. t. 35. but not of Willd.

Damascus Goat's-Thorn. Shrub ½ foot.

187 A. LAGOPOÌDES (Lam. dict. 1. p. 312. var. β, D. C. astr. no. 103.) spikes of flowers ovate, pedunculate, longer than the leaves; calyxes very hairy, 5-cleft, the lobes setaceous; bracteas ovate, acuminated, deciduous, membranous, longer than the tube of the calyx; leaves with 7-8 pairs of oblong leaflets, ending each in a spine-like mucrone, and clothed with adpressed villi. ♄. F. Native of Armenia. A. lagopodioìdes, Vahl. symb. 1. p. 64. Willd. in act. berol. 1794. p. 28. t. 1. f. 4. Flowers purple, spreading.

Var. β, Pérsicus (D. C. prod, 2. p. 299.) calyxes rather bladdery; spikes of flowers on long peduncles; flowers imbricated; leaflets broader. ♄. F. Native of Persia, between Kermancha and Amadan. Perhaps a proper species.

Hare's-foot-like Goat's-Thorn. Shrub ¼ foot.

188 A. LAGU'RUS (Willd. act. berol. 1794. p. 28. t. 1. f. 2.) spikes of flowers ovate, pedunculate, longer than the leaves; calyxes very villous, at length a little inflated, 5-cleft; the segments subulate, about equal in length to the corolla; bracteas membranous, ovate, acuminated, length of flowers; leaves with 4-5 pairs of oblong-leaflets, each ending in a spine-like mucrone, and clothed with adpressed villi. ♄. F. Native of Armenia. D. C. astr. no. 104. t. 36. A. lagopoìdes α, Lam. Flowers imbricated, yellow.

Hare's-tail-spiked Goat's-Thorn. Shrub ½ foot.

189 A. VAGINA'TUS (D. C. astr. no. 105. t. 37.) spikes of flowers ovate, dense, pedunculate, longer than the leaves; calyxes at length inflated, villous, acutely 5-toothed; bracteas equal in length to the calyx; stipulas acuminated, very long, sheathing; leaves with 7-10 pairs of oblong leaflets, each ending in a spiny mucrone, and clothed with pubescence beneath. ♄. F. Native of the Levant. Flowers cream-coloured. Petioles almost unarmed.

Sheathing-stipuled Goat's-Thorn. Shrub ½ foot.

190 A. CEPHALA'NTHUS (D. C. astr. no. 106. t. 38.) flowers disposed in round pedunculate heads, 3-times longer than the leaves; calyxes clothed with silky hairs, 5-toothed; bracteas small; leaves with 7-9 pairs of oblong-linear leaflets, which are clothed with hoary, adpressed, silky villi. ♄. F. Native of Persia. Petioles almost unarmed.

Headed-flowered Goat's-Thorn. Shrub ½ foot.

191 A. TRICHÒLOBUS (D. C. prod. 2. p. 299.) spikes of flowers ovate-roundish, pedunculate, twice or thrice longer than the leaves; calyxes a little inflated, hairy; the segments subulate, longer than the tube of the corolla; bracteas ovate, acuminated, deciduous, length of corolla; leaves with 5-6 pairs of linear leaflets, each ending in a spine-like point, and clothed with adpressed hoary villi. ♄. F. Native of the Levant. Flowers pale in the dried specimens, adult ones without the bracteas.

Hair-lobed-calyxed Goat's-Thorn. Shrub ½ foot.

192 A. TU'MIDUS (Willd. act. berol. 1794. p. 26.) flowers usually solitary, on short peduncles; calyxes villous, inflated, contracted at the mouth, 5-toothed; leaves with 4-6 pairs of oblong leaflets, which are clothed with adpressed pubescence. ♄. H. Native of Spain, in the province of Aragon, Egypt, and the Levant, in sandy places. Russ. alepp. t. 5. A. Rauwólfii, Vahl. Colùtea spinòsa, Forsk. descr. Spines long. Axillary leaves small, with a few pairs of leaflets, which are about equal in length to the pedicels. Flowers pale yellow.

Var. β, armàtus (D. C. prod. 2. p. 299.) leaves with 8 pairs of linear, acute leaflets. ♄. F. Native of Mauritania. Anthýllis tragacanthoìdes, Desf. fl. atl. 2. p. 150. t. 194. but not of Labill. Ast. armàtus, Willd. spec. 3. p. 1330.

Tumid-calyxed Goat's-Thorn. Fl. May, July. Clt. 1816. Shrub ½ to 1 foot.

193 A. TORTUÒSUS (D. C. prod. 2. p. 299.) peduncles a little longer than the leaves; flowers 3-8, distant, disposed in a kind of raceme; bracteas membranous, length of pedicels; calyxes villous, 5-toothed, cylindrical, at length a little inflated; leaves with 10 pairs of obovate, hairy, small leaflets. ♄. F. Native of the Levant, between Bagdad and Kermancha. This plant is very like *A. anthylloìdes*, but differs in the petioles being spiny. Flowers probably purple.

Twisted Goat's-Thorn. Shrub ½ to 1 foot.

194 A. COLUTEOÌDES (Willd. act. berol. 1794. p. 27.) peduncles a little longer than the leaves, each bearing 4-5 distant flowers in a kind of spike; bracteas setaceous, very short; calyxes villous, inflated, 5-toothed; leaves with 15-20 pairs of obovate, small, hoary, hairy leaflets. ♄. F. Native on Mount Lebanon. Rauw. trav. 281. with a figure. Anthýllis tragacanthoìdes, Labill. dec. syr. 2. p. 16. t. 9. Flowers purple.

Bladder-senna-like Goat's-Thorn. Shrub ½ foot.

§ 14. *Chronopòdii* (from χρονος, *chronos*, time, and πους ποδος, *pous podos*, a foot; in reference to the permanent nature of the footstalks of the leaves). *D. C. prod. 2. p. 299. Petioles permanent, but never hardening into spines. The odd leaflets remaining a long time on the end of the petiole, after the lateral* *leaflets have fallen. Stipulas not adnate to the petioles. Stamens distinct or diadelphous, with a short sheath. Perhaps a proper genus.*

195 A. AMA'RUS (Pall. astr. p. 8. t. 6.) plant erect, glabrous; stipulas spreading, lunate, leafy; leaves with 2-5 pairs of ovate, remote leaflets; spikes pedunculate, elongated, thinly flowered; calyx almost cylindrical; stamens distinct. ♄. F. Native of the Caspian desert, on the gypsaceous hills called Arsagar. This plant agrees with *A. colutcoides* in the inflorescence, but differs in the calyx not being inflated, and from all the species in the stamens being distinct, but of this rare plant the fruit has not been seen.

Bitter Milk-Vetch. Shrub 1 foot?

196 A. GIBBÒSUS (D. C. prod. 2. p. 300.) plant erect, canescent from adpressed villi; stipulas wanting; leaves with 8-10 pairs of remote, ovate leaflets; spikes elongated, pedunculate, thinly-flowered; calyx gibbous at the base; stamens diadelphous, joined at the base but a very little way. ♄. F. Native between Mossul and Bagdad. Very like *A. amàrus*, but very distinct, and with it will form perhaps a connecting genus to *Astrágalus.*

Gibbous-calyxed Milk-Vetch. Shrub.

SERIES IV. PODOCHREA'TI (πους ποδος, *pous podos*, a foot, and ωχρος, *ochros*, yellow; in reference to the footstalks of leaves or petioles never hardening into spines, as those of the last series, but remaining weak and pliable, and in the flowers being usually yellow). D. C. prod. 2. p. 300. Stipulas adnate to the petioles. Petioles permanent, but never hardening into spines.

§ 15. *Anthylloìdei* (from *Anthýllis*, and *idea*, similar; plant resembling *Anthýllis* in habit). *D. C. prod.* 2. p. 300. *Stipulas adnate to the petioles. Petioles unarmed. Calyxes bladdery, inclosing the legume.*

* *Corollas yellowish, rarely purple.*

197 A. CALYCÌNUS (Bieb. fl. taur. 2. p. 199. pl. cent. ross. 1. t. 9. ex suppl. p. 496.) plant stemless, rather glaucous and canescent from adpressed pili, which are fixed by their centre; leaves with from 5-13 pairs of obovate leaflets, the lower ones remote; scapes longer than the leaves; spikes of flowers oval-oblong; calyxes inflated; legumes somewhat triquetrous, acute, many-seeded. ♃. H. Native of Caucasus and at the river Kuma. Flowers cream-coloured. Calyx sometimes beset with hairs, like those on the leaves.

Large-*calyxed* Milk-Vetch. Pl. ¼ to ½ foot.

198 A. HALICA'CABUS (Lam. dict. 1. p. 320.) plant stemless, glabrous; leaves with 21-31 lanceolate-linear leaflets; scapes longer than the leaves; flowers spicate, remote; calyxes globose, bladdery; legumes hardly half-bilocular, 2-seeded. ♃. H. Native of Armenia. Phàca vesicària, Schreb. dec. p. 5. t. 3. Flowers yellowish. Calyxes veiny, contracted at the mouth.

Kettle-calyxed Milk-Vetch. Fl. Ju. Clt. 1806. Pl. ¼ to ½ ft.

199 A. PHYSALOÌDES (D. C. prod. 2. p. 300.) plant stemless, rather hairy; leaflets 5-7, ovate, obtuse, smoothish; scapes longer than the leaves; flowers rather remote, disposed in spikes; calyxes hairy, globose, bladdery. ♃. H. Native of the Levant. Flowers yellowish. The leaves are like those of *A. calycìnum*, and the flowers are like those of *A. halicácabus.*

Winter-cherry-like-calyxed Milk-Vetch. Pl. ½ foot.

200 A. ANTHYLLOÌDES (Lam. dict. 1. p. 320. D. C. astr. no. 124. t. 42. but not of Pall.) plant almost stemless, clothed with hoary villi; leaflets 27-35, ovate; peduncles twice the length of the leaves; flowers distant on the spikes; calyxes hairy, bladdery; legumes hardly half-bilocular, 2-seeded. ♃. H. Native of Armenia. Phàca incàna, Vahl. symb. 1. p. 57. Flowers yellow. This plant is very like *A. coluteoìdes*, but differs in the petioles being unarmed.

Anthyllis-like Milk-Vetch. Pl. ¼ to ½ foot.

201 A. NUBI'GENUS (D. Don, prod. fl. nep. 245.) plant stemless; leaves with many pairs of oval, mucronulate, densely pilose leaflets; flowers solitary, almost sessile; calyxes inflated, saccate at the base; legumes nearly terete, straight, very villous. ♃. F. Native of Nipaul, in Gosaingsthan. Root long, woody. Flowers large, yellow, with the vexillum pilose on the back.

Cloud-born Milk-Vetch. Fl. May. Pl. ¼ foot.

202 A. VULNERA'RIÆ (D. C. prod. 2. p. 300.) plant almost stemless, twisted, low, hairy; leaflets 7-11-13, obovate, the terminal one sessile; peduncles hardly longer than the leaves; flowers few, capitate; calyxes hairy, reticulated, becoming at length bladdery; corolla clothed with adpressed silky villi. ♃. H. Native of Asia Minor. Phàca halicácaba, Willd. spec. 3. p. 1254. Flowers yellowish.

Wound-wort-like Milk-Vetch. Pl. ½ foot.

203 A. LUPULI'NUS (Pall. itin. ed. gall. append. no. 877. astr. p. 17. t. 15.) plant stemless and canescent from adpressed villi, which is fixed by the centre; leaflets 9, elliptic-oblong; scapes hardly longer than the leaves; spikes dense, ovate; calyx hairy, at length bladdery; corollas glabrous; legumes half-bilocular, 2-seeded. ♃. H. Native of Siberia, in sandy islands in the rivers Selenga and Ouda, and at Lake Baikal. Flowers cream-coloured.

Hop Milk-Vetch. Pl. ¼ to ½ foot.

204 A. LAGUROÌDES (Pall. itin. ed. gall. 8vo. append. no. 376. t. 91. f. 2.) plant stemless, and clothed with adpressed villi; leaflets 5-7, elliptic-oblong; scapes about equal in length to the leaves; spikes ovate, dense; calyxes hispid, at length bladdery; legumes bilocular, 2-seeded. ♃. H. Native of Siberia, in plains about the river Selenga. A. lagùrus, Pall. astr. p. 18. t. 16. but not of Willd. A. laguroìdes, D. C. Willd. This species is very like *A. lupulìnus*, but differs in the flowers being purple.

Hare's-tail-like Milk-Vetch. Pl. ¼ to ½ foot.

205 A. INFLA'TUS (D. C. astr. no. 13.) plant caulescent, nearly erect, glabrous; stipulas lanceolate, adnate to the petiole? leaflets 9, linear-lanceolate; spikes globose; peduncles longer than the leaves; calyxes inflated, tomentose; legumes ovate. ♃. H. Native of Siberia, in the Kirghisean steppe. A. anthylloides, Pall. astr. no. 19. t. 13. A. anthylloìdes, Pall. astr. no. 19. t. 13. but not of Lam. A. fragifórmis, Willd. spec. 3. p. 1261. Flowers cream-coloured.

Inflated-calyxed Milk-Vetch. Pl. ½ foot.

206 A. FOLLICULA'RIS (Pall. astr. p. 19. t. 14.) plant stemless, canescent from adpressed hairs, which are fixed by their centre; leaflets 13-21, lanceolate; scapes straight, longer than the leaves; spikes cylindrical; calyxes clothed with blackish adpressed down, at length becoming bladdery. ♃. H. Native of the Kirghisean steppe, at the Uba, and near Salair. A. strícta, Sievers ex Fisch. in litt. Oxýtropis folliculàris, Pers. ench. but the carina is obtuse.

Follicular-fruited Milk-Vetch. Pl. ¼ to ½ foot.

207 A. MÓLLIS (Bieb. fl. taur. suppl. p. 495.) plant almost stemless and rather villous; leaflets 25-29, elliptic, obtuse, young ones hairy; scapes shorter than the leaves; flowers spicate; calyxes hairy, at length becoming bladdery, the teeth subulate; legumes very hairy, covered by the calyx. ♃. H. Native of Iberia, on hills about Tiflis. A. eriocárpus, Bieb. fl. taur. 2. p. 196. but not of D. C. Flowers yellowish.

Soft Milk-Vetch. Pl. ½ foot.

208 A. HE'LMII (Fisch. in litt. D. C. prod. 2. p. 301.) plant almost stemless, canescent from adpressed bristles; leaflets 13-17, elliptic, rather mucronulate; scapes length of leaves; flowers 6-8, disposed in a kind of capitate spike; calyxes membranous, at length pubescent; legumes hairy, longer than the

calyx. ♃. H. Native of the Ural mountains, at the metal mines of Woskres-Senskoi. Flowers yellow. Perhaps this plant belongs to a different section.

Helm's Milk-Vetch. Pl. ½ foot.

* * *Corollas white. Calyxes hardly bladdery. Perhaps this will constitute a proper section.*

209 A. GALACTÌTES (Pall. astr. p. 85. t. 65.) plant stemless, rather canescent from adpressed bristles; leaflets 11-15, oblong; flowers radical, aggregate, almost sessile; legumes minute, 2-seeded, inclosed in the calyx, which is pubescent, membranous, and rather inflated. ♃. H. Native of Siberia, beyond the Baikal, and of Dahuria, in naked gravelly places. Corolla white, but becoming of a pale yellow colour on drying, and almost as long as the leaves.

Milky-Vetch. Pl. ¼ foot.

210 A. AMMÓDYTES (Pall. itin. ed. gall. append. no. 372. t. 83. f. 2. astr. p. 7. t. 5.) plant prostrate, clothed with hoary down; stipulas ovate, obtuse; leaves with 2-5 pairs of ovate-leaflets; flowers axillary, rather radiant, twin, on short peduncles; calyxes cylindrical, hairy. ♄. F. Native of Eastern Siberia, on sandy hills. D. C. astr. no. 91. Legume ovoid, mucronate, half-bilocular. Flowers white. Plant small. Petioles permanent and unarmed, as in division *Chronopòdii.*

Sand-viper Milk-Vetch. Fl. May, July. Clt. 1820. Sh. pr.

§ 16. *Caprìni* (from *caprinus*, of a goat; in reference to the leaves of *A. caprinus*, the ciliæ of which have been compared to a goat's beard). *D. C. prod. 2. p. 301. Stipulas adhering to the petioles at the base. Petioles unarmed. Flowers yellow. Calyxes not bladdery.*

211 A. OVA'TUS (D. C. astr. no. 107.) plant somewhat caulescent, procumbent, villous; leaflets 20-23, ovate; peduncles longer than the leaves; spikes of flowers ovate-oblong; bracteas and calyxes villous; legumes glabrous. ♃. H. Native of Armenia. Flowers cream-coloured according to the dried specimens, ex. Tourn. cor. 28. Perhaps belonging to a different section.

Ovate-spiked Milk-Vetch. Pl. procumbent.

212 A. DASYA'NTHUS (Pall. astr. p. 79. t. 65. itin. ed. gall. append. no. 375. t. 85.) plant caulescent, erect, clothed with soft hairs; leaflets 21-23, elliptic, obtuse, rather mucronate; peduncles hardly shorter than the leaves; spikes of flowers ovate-roundish; calyxes villous, 5-cleft; legumes ovate-lanceolate, hairy. ♃. H. Native of Siberia and Caucasus, the Ukraine, and Hungary, in sandy and calcareous fields. A. eriocéphalus, Waldst. et Kit. pl. rar. hung. 1. t. 46. Flowers yellow, with the vexillum pubescent.

Thick-flowered Milk-Vetch. Pl. 1 foot.

213 A. MULTÍJUGIS (D. C. prod. 2. p. 301.) plant short, caulescent and pubescent; leaflets 41-61, elliptic, obtuse at both ends; racemes pedunculate, rather loose, elongated, hardly shorter than the leaves; calyxes cylindrical, 5-toothed; corollas glabrous; legumes mucronate, velvety, twice the length of the calyx. ♃. F. Native of the Levant, between Bagdad and Kermancha. Flowers 8-10, distant, yellow.

Many-paired-leaved Milk-Vetch. Pl. ½ foot.

214 A. CAPRÌNUS (Lin. spec. 1071.) plant almost stemless, erect, pubescent; leaflets 23-29, ovate-oblong, ciliated; peduncles one-half shorter than the leaves; flowers racemose, spreading; segments of the calyx subulate; corollas glabrous; legumes ovate, inflated, stipitate, sparingly pilose. ♃. H. Native of Barbary and the Levant. D. C. astr. no. 109.—Mòris. oxon. 2. p. 24. f. 3. Flowers yellow.

Var. β, glàber (D. C. prod. 2. p. 302.) leaflets as well as ovaries nearly smooth. ♃. H. Native of Mauritania. Perhaps a proper species.

Goat's Milk-Vetch. Fl. June, July. Clt. 1683. Pl. ½ ft.

215 A. LONGIFLÒRUS (Pall. astr. p. 73. exclusive of the synonyme of Buxb. and Lin.) plant almost stemless, rather hairy; leaflets 11-13, obovate, retuse, or emarginate; racemes loose, shorter than the leaves; teeth of calyx lanceolate-subulate; corolla very long, glabrous; legumes ovate, turgid, mucronate, smooth, when young filled with pulp. ♃. H. Native of the desert of Tartary and of the Volga, as well as at Lake Inderskoi. Flowers yellow. The plant from the Volga differs from the rest in the legumes being almost sessile.

Var. a, brevìscapus (D. C. prod. 2. p. 303.) peduncles much shorter than the leaves; bracteas hardly exceeding the pedicels. Pall. astr. t. 60.—Gmel. sib. 4. t. 27.

Var. β, procèrior (D. C. prod. 2. p. 302.) peduncles exceeding the leaves; bracteas thrice the length of the pedicels. Pall. astr. t. 60. β.

Long-flowered Milk-Vetch. Fl. June, July. Clt. 1806. Pl. ¼ to ½ foot.

216 A. U'TRIGER (Pall. astr. p. 75.) plant stemless, rather hairy; leaflets 25-35; racemes loose, much shorter than the leaves; teeth of calyx lanceolate-subulate; corollas glabrous; legumes stipitate, ovate, mucronate. hard, turgid, clothed with woolly pubescence, adult ones glabrous and 1-celled. ♃. H. Native of Russia, on rocks. Flowers yellow.

Var. a, ovàtus (Pall. astr. t. 61.) leaflets ovate; legumes large. ♃. H. Native of Tauria, Tartary, and Iberia.

Var. β, Uralénsis (Pall. astr. t. 62. f. 2. β) leaflets oblong-linear. ♃. H. Native of the Ural mountains, at the river Don.

Bladder-bearing Milk-Vetch. Fl. Ju. Jul. Clt. 1818. Pl. ¼ ft.

217 A. LIGNÒSUS (D. C. astr. no. 114. t. 39.) plant somewhat caulescent, woody, grey; leaflets 49-51, oblong-linear; peduncles few-flowered, much shorter than the leaves; teeth of calyx lanceolate, subulate; corollas glabrous; legumes sessile, compressed, villous. ♄. ? ♃. ? H. Native of Siberia, in sandy fields impregnated with salt, at the river Irtish. Flowers yellow.

Woody-stemmed Milk-Vetch. Pl. ¼ to ½ foot.

218 A. PUBIFLÒRUS (D. C. astr. no. 111.) plant almost stemless, hairy; leaflets 21-27, ovate, acute; flowers almost sessile, aggregate; teeth of calyx linear-subulate; wings of corolla pubescent; ovary sessile, woolly. ♃. H. Native of Siberia. Flowers yellow.

Downy-flowered Milk-Vetch. Pl. ½ foot.

219 A. FABA'CEUS (Bieb. suppl. p. 496.) plant stemless; leaflets 35-45, oblong or ovate, pilose; scapes few-flowered, much shorter than the leaves: teeth of calyx lanceolate; corollas glabrous; legumes compressed, sessile, ovate, mucronate, and quite smooth, even when young. ♃. H. Native of Iberia, on hills, and of other provinces in the east. A. tùmidus, Bieb. fl. taur. 2. p. 198. but not of Willd. Flowers yellow, drooping. Allied to *A. longiflòrus* and *A. ùtriger.*

Bean-like Milk-Vetch. Pl. ¼ to ½ foot.

220 A. LANI'GERUS (Desf. atl. 2. p. 181. t. 202.) plant stemless and clothed with soft hairs; leaflets 17-31, elliptic or oblong; flowers almost sessile, aggregate; teeth of calyx lanceolate; corollas glabrous; legumes compressed, ovate, mucronate, sessile, when young very hairy, but when in an adult state sparingly pilose. ♃. H. Native of Mauritania, Egypt, Phrygia, and Iberia, in barren sandy places and on hills. Flowers yellow, sometimes pedunculate.

Var. β, subglabràtus (D. C. prod. 2. p. 302.) leaflets almost glabrous; calyxes and petioles hairy at the base. ♃. H. Native of the Levant.—Buxb. cent. 3. p. 38. f. 2. and hence the *A. tragacanthoìdes* of Willd. spec. 3. p. 1323. Flowers radical.

Wool-bearing Milk-Vetch. Fl. May, Jul. Clt. 1791. Pl. ¼ ft.

221 A. EXSCA'PUS (Lin. mant. 275.) plant stemless, clothed with soft hairs; leaflets 21-27, ovate; flowers almost sessile,

aggregate; teeth of calyx long and subulate; corolla glabrous; legumes ovate, acuminately-mucronate, hairy, sessile, and rather compressed. ♃. H. Native of Vallais, Thuringia, Austria, Hungary, and the Ukraine. Jacq. icon. rar. t. 561. Pall. astr. 64. Astragaloìdes syphilítica, Mœnch. Flowers yellow. The plant is used to cure syphilis in Hungary.

Scapeless Milk-Vetch. Fl. May, July. Clt. 1787. Pl. ¼ ft.

222 A. Schanginia'nus (Pall. astr. p. 67. t. 73.) plant somewhat caulescent and loosely lanuginose; leaflets 25-31, ovate-oblong, peduncles very short, somewhat racemose; teeth of calyx long, subulate; corollas glabrous; legumes triquetrous, acuminated, pubescent, callous. ♃. H. Native of Siberia, at the Catunja and in the desert of the Don. Leaves about a foot long. Flowers yellow.

Schang's Milk-Vetch. Pl. 1 foot.

223 A. declina'tus (Willd. spec. 3. p. 1294.) stems short, procumbent; leaflets 29-31, oblong, obtuse, and pilose; racemes few-flowered, crowded, pedunculate, one half shorter than the leaves; legumes oblong, acute, pilose. ♃. H. Native of Armenia. A. orientàlis acaúlis fere flore luteo. Tourn. cor. 29. ex Willd. Very like *A. exscàpus*. Flowers yellow.

Declinate-stemmed Milk-Vetch. Pl. procumbent.

224 A. nummula'rius (Lam. dict. 1. p. 317. exclusive of the synonymes) stemless, hairy; leaflets 21-23, ovate, mucronate, or emarginate; flowers almost sessile, aggregate; teeth of calyx lanceolate-subulate; corolla glabrous; legumes compressed, ovate, mucronate, hairy. ♃. H. Native of Candia, Syria, and Eastern Caucasus. D. C. astr. 117. t. 11. f. 2. Flowers yellow. In the same plant the leaflets are emarginate and acute.

Money-wort Milk-Vetch. Pl. ¼ to ½ foot.

225 A. diffu'sus (Willd. spec. 3. p. 1321.) plant almost stemless, beset with cinereous hairs; leaflets 19-23, elliptic-lanceolate; flowers almost sessile, aggregate; bracteas and calycine teeth setaceous, longer than the tube, and very pilose; legumes ovate, rather triquetrous, acuminated, hairy. ♃. H. Native of Tauria, in fields adjacent to the Caucasus, and in the Caspian and Tartarian deserts. Bieb. fl. taur. 2. p. 202. A. dolichophýllus, Pall. astr. p. 84. t. 68. Flowers pale cream-coloured. This plant is allied to *A. testiculàtus*.

Diffuse Milk-Vetch. Fl. May, Jul. Clt. 1820. Pl. ¼ foot.

226 A. hu'milis (Bieb. fl. taur. 2. p. 203. suppl. 498.) plant almost stemless, depressed, clothed with cinereous villi; leaflets obovate; flowers almost sessile, aggregate; calycine teeth much shorter than the tube; legumes ovate, acuminated, hairy. ⊙. H. Native of Iberia. Corolla yellowish. Allied to *A. testiculàtus*.

Humble Milk-Vetch. Pl. depressed.

227 A. du'bius (D. C. astr. no. 115.) plant almost stemless, beset with cinereous villi; leaflets 19-21, linear-oblong; flowers almost sessile, aggregate; calycine teeth about equal in length to the tube; legumes compressed, acuminated, villous, half-bilocular. ♃. H. Native of Tartary. Flowers very pale cream-coloured. Perhaps sufficiently distinct from the following species.

Doubtful Milk-Vetch. Pl. ¼ to ½ foot.

228 A. Buchtorme'nsis (Pall. astr. p. 76. t. 62. f. A.) plant stemless, clothed with hoary pubescence; leaflets 39-43, oblong; peduncles few-flowered, very short, declinate when in flower; calyx 5-toothed; legumes oblong-cylindrical, acuminated, callous, half-bilocular. ♃. H. Native of Siberia at the rivers Uba, Catunja, and Bucktorm. Flowers yellow. Legume, according to Fischer ½ an inch long and hairy.

Bucktorm Milk-Vetch. Fl. May, Jul. Clt. 1818. Pl. ¼ to ½ ft.

229 A. brachysta'chys (D. C. prod. 2. p. 303.) plant hairy-pubescent, with very short stems; leaflets 15-23, exactly and broadly ovate; peduncles shorter than the leaves; flowers disposed in short spikes; calyx cylindrical, with lanceolate-subulate teeth; corollas glabrous; ovary sparingly-villous. ♃.? ♄.? F. Native of the Levant, between Aleppo and Mossul. Flowers yellow. Legumes unknown.

Short-spiked Milk-Vetch. Pl. ¼ to ½ foot.

230 A. globòsus (Vahl. symb. 1. p. 60.) plant stemless, clothed with hoary-silvery down; leaflets 12-16 pairs, elliptic-oblong, callous at the apex; scapes twice the length of the leaves; spikes of flowers dense, ovate-globose; bracteas linear, about equal in length to the calyx. ♃. F. Native of Armenia. D. C. astr. 120. Flowers yellow.

Globose-spiked Milk-Vetch. Pl. ¼ to ½ foot.

231 A. cylindra'ceus (D. C. astr. 119.) plant stemless and clothed with hoary-silky down; leaves with 14 pairs of elliptic-oblong leaflets; peduncles longer than the leaves; spikes cylindrical; bracteas setaceous, longer than the calyx. ♃. F. Native of Armenia. Allied to the preceding species. Perhaps both are wrongly placed in the present section. Flowers pale-yellow.

Cylindrical-spiked Milk-Vetch. Pl. ¼ to ½ foot.

232 A. lana'tus (Labill. dec. syr. 1. p. 21. t. 10. but not of Pall.) plant stemless, clothed with hoary villi; leaflets 11-23, ovate; peduncles rather shorter than the leaves; spikes of flowers ovate, dense; legumes ovate-cordate, triquetrous, compressed, acute, villous. ♃. F. Native of Mount Lebanon. A. Libanòtis, Willd. spec. 3. p. 1308. A. hirsutíssimus, D. C. astr. no. 46. t. 19. Flowers yellow. Perhaps this plant belongs to another section.

Woolly Milk-Vetch. Pl. ¼ to ½ foot.

§ 17. *Incàni* (from *incanus*, hoary; aspect of plants). *D. C. prod. 2. p.* 304. *Stipulas adnate to the petioles, which are unarmed. Calyxes as well as legumes not bladdery. Flowers usually purple, rarely of a dirty yellow colour. Vexillum much elongated. Leaves hoary from adpressed down. Legumes perfectly bilocular.*

233 A. Monspessula'nus (Lin. spec. 1072.) plant almost stemless, clothed with hoary pubescence or almost glabrous; leaflets 21-41, ovate or lanceolate, outer ones rather the smallest; scapes exceeding the leaves; teeth of calyx long, and subulate; legumes terete, subulate, a little arched, adult ones glabrous. ♃. H. Native of the south of Europe and Mauritania, in fields. Cam. epit. 929. with a figure. Curt. bot. mag. 219. Flowers either purple, pale, or white. Stems almost wanting when growing in a dry situation, but in rich earth or in a moist place they are elongated. Leaves hoary when the plant grows in dry exposed situations, but in a moist situation they are almost glabrous.

Var. β, *polýgala* (D. C. prod. 2. p. 304.) spikes of flowers shorter; legumes almost glabrous, even when young; leaflets ovate-roundish, almost glabrous. ♃. H. Native of the south of Caucasus. A. polýgala, Pall. astr. p. 110. t. 83.

Montpelier Milk-Vetch. Fl. June, Aug. Clt. 1710. Pl. ¼ to ½ foot, or prostrate.

234 A. sanguinole'ntus (Bieb. casp. 190. fl. taur. 2. p. 200.) plant stemless; leaflets elliptic, obtuse, hoary beneath; scapes declinate, longer than the leaves; legumes oblong, compressed, rather arched, glabrous, spotted with blood-colour. ♃. H. Native of Eastern Caucasus, on dry exposed hills. A. incànus var. Pall. astr. 84. f. 2. A. clavàtus β, brevibracteàtus, D. C. astr. no. 127. Flowers yellowish green. Perhaps this species is referrible to section *Caprìni*.

Bloody-spotted-legumed Milk-Vetch. Pl. ¼ to ½ foot.

235 A. inca'nus (Lin. spec. 1072.) plant stemless, hoary; leaflets 13-17, ovate; scapes hardly exceeding the leaves; spikes capitate; calycine teeth subulate, short; legumes nearly cylindrical, hoary from short down, incurved at the apex, and ending in a subulate mucrone, hardly 3 times the length of the calyx;

cells 5-6-seeded. ♃. H. Native of the south of France, in dry fields and among stones. Magn. bot. monsp. p. 32. with a figure. A. incànus, Pall. astr. t. 84. Flowers purplish.

Var. β, Barrelièri (Dufour, ann. gen. sc. 7. p. 297.) legumes hoary, at length very hard, oblong, not ovate, a little incurved, subulate; cells usually 5-seeded. ♃. H. Native of Spain, in the province of Valentia, on arid hills at St. Philip.

Hoary Milk-Vetch. Fl. June, July. Clt. 1795. Pl. ¼ to ½ ft.

236 A. INCU'RVUS (Desf. atl. 2. p. 182. t. 203.) plant stemless, hoary; leaflets 17-27, elliptic; scapes longer than the leaves; spikes of flowers capitate; teeth of calyx subulate; legumes oblong, cylindrical, tapering to the base, incurved at the apex, glabrous, hardly 3-times the length of the calyx; cells 3-5-seeded. ♃. H. Native of Algiers, in sandy places. D. C. astr. 128. Flowers pale-purple.

Incurved-podded Milk-Vetch. Pl. ½ foot.

237 A. CLAVA'TUS (D. C. astr. no. 127. t. 44.) plant almost stemless, hoary; leaflets 11-21, roundish-ovate; scapes longer than the leaves; flowers disposed in spikes, spreading; legumes erect, glabrous, somewhat clavate, incurved at the top; cells 4-5-seeded. ♃. H. Native of Armenia. Flowers greenish yellow in a dried state. Perhaps the same as *A. cinèreus* of Willd. spec. 3. p. 1315.

Clavate-legumed Milk-Vetch. Pl. ¼ to ½ foot.

238 A. NUMMULARIOI'DES (Desf. emend. D. C. astr. no. 131.) plant stemless and hoary; leaflets 17-23, obovate; scapes longer than the leaves; flowers few, disposed in short spikes; calyxes beset with black villi, 5-toothed; legumes elliptic, ventricose, silky, hardly longer than the calyx; cells 3-seeded. ♃. H. Native of sandy places near Sbiba, in Tunis. A. nummulàrius, Desf. atl. 2. p. 182. t. 204. exclusive of the synonymes. A. rotundifòlius, Willd. spec. 3. p. 1317. Flowers rose-coloured.

Money-wort-like Milk-Vetch. Pl. ¼ to ½ foot.

239 A. MACRORHI'ZUS (Cav. icon. 2. p. 28. t. 133.) plant stemless, hoary; leaflets 15-21, ovate, mucronulate; scapes exceeding the leaves; spikes ovate, many-flowered; flowers distinct, pedicellate; calyxes clothed with black villi, 5-toothed; legumes erect, obovate, pubescent, a little longer than the calyx, ending in a hooked acumen; cells 3-4-seeded. ♃. H. Native of Spain, in fields about Madrid. Flowers red. A. montànus, Brot. ex Steud.

Long-rooted Milk-Vetch. Pl. ¼ to ½ foot.

240 A. BRACHYCA'RPUS (Bieb. fl. taur. 2. p. 201. cent. 2. p. 58.) plant stemless, pubescent; leaflets 15-27, oblong-elliptic; scapes longer than the leaves; spikes many-flowered, at length elongated; calyxes clothed with black and white hairs mixed; legumes erect, obovate, length of calyx, when young clothed with adpressed pubescence; cells 2-3-seeded. ♃. H. Native of Caucasus. Sims, bot. mag. 2335.—Buxb. cent. 3. t. 38. f. 1.? Flowers of a dirty purple colour.

Sharp-fruited Milk-Vetch. Fl. Ju. July. Clt. 1820. Pl. ½ ft.

241 A. GLAREÒSUS (Dougl. mss.) stems short, procumbent; plant clothed with hoary silky villi; stipulas free, permanent; leaflets numerous, obovate; peduncles or scapes bearing from 3-10 flowers at the apex; bracteas lanceolate, subulate, twice the length of the pedicels. ♃. H. Native of North America, from the confluence of Lewis and Clarke's river with the Columbia to the Rocky mountains. Flowers large, purple. Habit of a species of *Oxýtropis*. This species belongs more properly to section *Onobrychoìdei* than to the present section.

Gravel Milk-Vetch. Pl. ¼ to ½ foot.

242 A. PU'RSHII (Dougl. mss.) plant tufted, woody at the base, densely clothed with hoary-silky villi; stipulas distinct, permanent; leaflets numerous, elliptic; bracteas subulate, twice the length of the pedicels; peduncles or scapes shorter than the leaves, bearing a few flowers at the apex. ♃. H. Native of North-west America, on the low hills of the Spokan River. Flowers yellow. Habit of a species of *Oxýtropis*. This plant belongs more properly to section *Ciceroìdei*.

Pursh's Milk-Vetch. Pl. ¼ to ½ foot.

243 A. MOLLI'SSIMUS (Torrey, in ann. lyc. 2. p. 173.) plant almost stemless, erect, clothed in every part with silky down; stipulas free; leaves with 11-14 pairs of ovate-oblong mucronulate leaflets; peduncles longer than the leaves; flowers spicate, erect; legumes oblong, arched, glabrous. ♃. H. Native of North America, on the Platte. Flowers probably cream-coloured.

Very-soft Milk-Vetch. Pl. ¼ to ½ foot.

244 A. PE'NDULUS (D. C. astr. no. 129.) plant stemless, hoary; leaflets 17-21, roundish; scapes longer than the leaves; flowers spreading, but at length pendulous, disposed in spikes. ♃. F. Native of the Levant. A. orientàlis folio subrotundo, flore purpureo magno, Tourn. cor. 28.

Pendulous-flowered Milk-Vetch. Pl. ¼ to ⅓ foot.

245 A. ELONGA'TUS (Willd. spec. 3. p. 1314.) plant stemless, hoary; leaflets 9-11, elliptic; scapes longer than the leaves; spikes of flowers elongated; flowers erect, but at length spreading; legumes pendulous, ovate, pubescent, mucronate by the style; cells 2-3-seeded. ♃. H. Native of Galatia. A. Pistàcia, Rost. ined. Flowers purplish. Legumes the size and form of those of the *Pistachia-nut*. Very like *A. brachycárpus*, but differs in the fruit being pendulous.

Elongated-spiked Milk-Vetch. Pl. ½ foot.

246 A. ANGULÒSUS (D. C. astr. no. 122. t. 45.) plant stemless, hoary; leaflets 9-13, elliptic, mucronulate; scapes longer than the leaves; spikes of flowers at length elongated; legumes ovate, somewhat trigonal, rather pendulous, pubescent, mucronate by the style, about 3-times the length of the calyx; cells 3-4-seeded. ♃. H. Native of the Levant. Flowers unknown.

Angular-podded Milk-Vetch. Pl. ¼ to ½ foot.

§ 18. *Radiciflòri* (from *radix*, a root, and *flos*, a flower; in reference to the flowers and scapes rising from the roots, and not from the stems). *D. C. prod. 2. p. 305. Stipulas adhering to the petioles, which are unarmed. Calyxes not bladdery, nor ruptured above after flowering. Flowers purplish or white, with the vexillum not much elongated. Leaves not hoary. Legumes usually bladdery.*

247 A. PHYSÒDES (Lin. spec. 1073.) plant almost stemless and glabrous, but beset with a few hairs, which are fixed by their centre; leaflets 21-31; peduncles scape-like, about equal in length to the leaves or rather longer; legumes inflated, membranous, nearly globose, glabrous. ♃. H. Native of Siberia, in places impregnated with salt. D. C. astr. 127. Pall. astr. 71. but not of Pall. itin. Flowers purplish. Vexillum oblong. Root creeping.

Var. α, Wolgénsis (Pall. astr. t. 58. D. C. astr. t. 48.) leaflets linear, acute; scape declinate, length of leaves. ♃. H. Native of Sandy Islands, at the mouth of the Volga.

Var. β, Taúricus (Pall. astr. t. 58. B. f. 1.) leaflets oblong; scapes exceeding the leaves; stems more conspicuous. ♃. H. Native of Tauria.

Var. γ, Altàicus (Pall. astr. t. 58. B. f. 2.) leaflets elliptic; scapes length of leaves. ♃. H. Native of Altai.

Inflated-podded Milk-Vetch. Fl. Ju. Jul. Clt. 1759. Pl. ½ ft.

248 A. PALLA'SII (Fisch. in litt. D. C. prod. 2. p. 305.) plant almost stemless, tufted, branched, clothed with hairy pubescence; leaflets 11-13, oblong-linear; scapes length of leaves; legumes inflated, membranous, almost globose, villous. ♃. H. Native of the Caspian desert, at Lake Inderskoi. A. physòdes affìnis, Pall. astr. p. 73. t. 59. A. physòdes var. δ, D. C. astr. no. 127. Pers. ench. 2. p. 344. Flowers purplish.

Pallas's Milk-Vetch. Fl. June, July. Clt. 1818. Pl. ½ foot.

249 A. TESTICULA'TUS (Pall. astr. p. 82. t. 67.) plant stemless, clothed with cinereous villi: leaflets lanceolate or oblong; flowers radical, almost sessile, aggregate; legumes inflated, ovate, tomentose. ♃. H. Native in deserts and in sands at the Caspian sea, and of Tauria. Flowers flesh-coloured, but in a dried state they appear milk-coloured or yellowish. Calyxes cylindrical. Bieb. fl. taur. 2. p. 202. A. cinèreus radiciflòrus, D. C. astr. t. 40.

Testiculate-podded Milk-Vetch. Fl. June, July. Clt. 1818. Pl. ¼ to ½ foot.

250 A. RUPIFRA'GUS (Pall. astr. p. 86. t. 70.) plant stemless, clothed with cinereous villi; leaflets oblong, obtuse: scapes shorter than the leaves, or about equal in length to them; legumes oblong, acute, 2-celled. ♃. H. Native of the south of Tauria, on rocks. Flowers purplish. Calyxes rather turgid.

Var. α, exscàpus (Pall. astr. t. 70.) scapes very short or hardly any; leaflets oblong-linear.

Var. β, caulèscens (Pall. astr. t. 70. B.) scapes length of leaves; leaflets oblong, fewer; calyxes rather bladdery. ♃. H. Native of the Ural mountains. Perhaps a proper species.

Broken-rock Milk-Vetch. Pl. ¼ to ½ foot.

251 A. REDU'NCUS (Pall. astr. p. 109. t. 82.) plant almost stemless, hairy, and rather canescent; leaflets 25-35, elliptic-oblong, glabrous above; scapes a little higher than the leaves; flowers disposed in elongated spikes; legumes erect, hairy, incurved, cylindrical, hooked downwards, channelled above, 5-times the length of the calyx. ♃. H. Native of Tauria, in sandy places at the Volga, and about Sarepta. A. cinèreus lòngipes, D. C. astr. 41. Flowers purple or white.

Var. β, brèvipes (D. C. astr. t. 41.) scapes shorter than the leaves; leaflets elliptic-ovate, fewer. ♃. H. Growing along with the species.

Hooked-podded Milk-Vetch. Pl. ¼ to ½ foot.

252 A. HIRSU'TUS (Vahl. symb. 1. p. 59. D. C. astr. no. 125. t. 43.) plant stemless, clothed with hoary villi; leaflets 7-9, elliptic; scapes rather longer than the leaves; flowers capitate; calyx villous, 5-cleft, at length cleft above; legumes nearly globose, apiculated, hairy, 2-celled. ♃. H. Native of Armenia on hills. Colour of flowers unknown.

Hairy Milk-Vetch. Pl. ¼ to ½ foot.

253 A. ERIOCA'RPUS (D. C. astr. no. 135. t. 47. but not of Bieb.) plant stemless, villously-hairy; leaflets 21-27, elliptic, obtuse; scapes exceeding the leaves; spikes of flowers ovate; calyx villous, 5-toothed; ovary very hairy. ♃. H. Native country unknown. Flowers purple.

Woolly-fruited Milk-Vetch. Pl. ¼ to ½ foot.

254 A. PYGMÆ'US (Pall. astr. 66. t. 54.) plant almost stemless, branched, prostrate; leaflets 7-9, lanceolate, small, pubescent; peduncles 1-flowered, very short; legumes oblong, inflated, pubescent. ♃.? ♄.? H. Native of Eastern Siberia, in the Arctic region. Flowers unknown. Perhaps only a variety of *A. pumìlio*.

Pygmy Milk-Vetch. Pl. prostrate.

255 A. PUMI'LIO (Pall. astr. p. 67. t. 55.) plant almost stemless, with many little shoots rising from the neck; leaflets 9, lanceolate-linear, hoary, and rather pilose beneath; flowers twin, almost sessile. ♃. H. Native of the Curil islands. Flowers large, pale violet. Calyx 5-cleft, clothed with white or brown hairs. Legumes unknown.

Dwarf Milk-Vetch. Pl. ½ foot.

256 A. GEMINIFLÒRUS (Humb. et Bonpl. pl. equin. 1. p. 126. t. 37.) plant almost stemless, branched, prostrate; leaflets 19-21, approximate, complicate, oblong, silky, small; flowers twin, almost sessile; legumes ovate, acuminated, silky, 2-seeded. ♃. F. Native of South America, in the kingdom of Quito, in high cold places; frequent on mount Antisana. Flowers violaceous.

Twin-flowered Milk-Vetch. Pl. ½ foot, prostrate.

257 A. UNIFLÒRUS (D. C. astr. no. 141. t. 50.) plant almost stemless, branched, prostrate, glabrous; leaflets 13-17, linear, obtuse; stipulas joined; flowers almost sessile, solitary. ♄.? ♃. G. Native of Peru, at Huasa-Huasi. Flowers purplish.

One-flowered Milk-Vetch. Pl. prostrate.

† *Species not sufficiently known.*

258 A. UNCA'TUS (Lin. spec. 1072.) plant stemless and scapeless; leaves with 8-9 pairs of obcordate leaflets, each terminating in a bristle; legumes subulate, hooked, longer than the leaves. ⊙. F. Native about Aleppo. Oxýtropis uncàtus, Pers. ench. 2. p. 33.? Said to be allied to *A. trimèstris.* Flowers almost white.

Hooked-podded Milk-Vetch. Pl. ¼ foot.

259 A. AR'CTICUS (Willd. enum. suppl. 51.) plant stemless; leaflets ovate-lanceolate, pilose, silky beneath; scapes ascending, longer than the leaves; legumes lanceolate, a little inflated. ♃. H. Native country unknown. Corolla shewy violet.

Arctic Milk-Vetch. Pl. ¼ to ½ foot.

260 A.? OBCORDA'TUS (Ell. sketch. 2. p. 227.) plant glabrous, decumbent; leaves with 7-9 pairs of small obcordate leaflets; peduncles elongated; lobes of calyx subulate. ♃. H. Native of the south of Georgia, near St. Mary. Flowers white. Legumes unknown.

Obcordate-leafletted Milk-Vetch. Pl. prostrate.

261 A. PSEU'DO-CI'CER (Opiz, in flora, 1821. p. 758.) plant caulescent, prostrate; leaflets glabrous, lanceolate, acute; stipulas lanceolate; racemes pedunculate, shorter than the leaves.—Native of Bohemia. Melilòtus dentàta, Waldst. et Kit. hung. ex Opiz.

False-chick-pea Milk-Vetch. Pl. prostrate.

262 A. RADI'CANS (Horn. hort. hafn. 2. p. 708.) stolons rooting: leaflets ovate-lanceolate; scapes nearly erect, length of leaves; flowers in ovate heads; legumes oblong, flat, glabrous. ♃. H. Native country unknown.

Rooting Milk-Vetch. Pl. creeping.

263 A. SYRI'ACUS (Lin. spec. 1069.) plant pubescent, caulescent and procumbent; leaflets few pairs, linear-lanceolate; heads of flowers pedunculate, longer than the leaves; flowers reflexed; legumes ovate-oblong, tomentose, ending in a long beak. ♃. H. Native of Syria. The plant in the Linnæan herbarium under this name certainly belongs to section *Onobrychoìdei.*

Syrian Milk-Vetch. Pl. procumbent.

264 A. PASTELLIA'NUS (Pollin, pl. veron. 1816.) plant caulescent, diffuse, and silky; leaves with 6 pairs of linear bluntish leaflets; spikes capitate, on long peduncles; legumes ovate, silky, exceeding the calyx. ♃. H. Native of fields about Verona, among stones on mount Pastello.

Pastello Milk-Vetch. Pl. diffuse.

265 A. LUNA'TUS (Pall. astr. p. 44.) plant caulescent, glabrous; leaves with usually 15 pairs of linear-lanceolate leaflets; peduncles very long, sulcated, 10-flowered; legumes triquetrous, rather lunate, erect, glabrous. ♃. H. Native of Persia. Buxb. cent. 3. t. 36. f. 2.? Oxýtropis lunàta, Pers. ench. p. 333 According to Fischer this is a true species of *Astrágalus*, intermediate between *A. falcàtus* and *A. hamòsus.*

Lunate-podded Milk-Vetch. Pl. 1 foot.

Cult. All the species of this genus are worthy of cultivation in every collection. The shrubby kinds, or those belonging to section *Tragacánthæ*, grow well in any light dry soil, and are increased by cuttings or seeds. The herbaceous perennial kinds thrive well in any kind of earth, though they prefer a dry light soil, and they are easily increased by dividing the plants or by seeds; the last mode is preferable, as the greater part of the species are very liable to die if even transplanted or divided at the root. The dwarfer kinds are well adapted for ornamenting rock-work, or to be grown in pots as alpines in a mixture of loam, peat, and sand. Those marked frame require the protection of a frame or greenhouse in winter. The seeds of the annual species only require to be sown in the open border early in spring. Those species belonging to divisions *Alopecuroídei*, *Tragacánthæ*, *Incàni*, *Dissitiflòri*, and *Onobrychoìdei* are the most worthy of cultivation.

CXXXII. GÜLDENSTÆ'DTIA (in honour of A. Güldenstaedt, a Russian naturalist). Fisch. in litt. but not of Neck. D. C. prod. 2. p. 307.

Lin. syst. *Diadélphia, Decándria.* Calyx bibracteate at the base, campanulate, 5-cleft, upper segments broadest. Petals 5, disposed in a papilionaceous corolla, with the vexillum entire, about the length of the wings. Keel minute. Stamens diadelphous. Legume somewhat cylindrical, 1-celled, many-seeded, filled with medulla, which vanishes at maturity, with the valves always separating in a spiral manner. Seeds reniform, small, scrobiculate.—Stemless herbs, with impari-pinnate or simple leaves, that is, having the terminal leaflet only remaining, which is jointed at the top of the petiole. Scapes ascending. Flowers umbellate, red, or violaceous. Perhaps Astrágalus Sínicus of Lin. belongs to this genus.

1 G. MONOPHY'LLA (Fisch. in litt. D. C. prod. 2. p. 307.) leaves simple, kidney-shaped, clothed with silky-pubescence; umbels 2-5-flowered. ♃. H. Native of the Altaian mountains. Leaves glaucous, sometimes trifoliate. Flower purplish.

One-leaved Güldenstædtia. Pl. ¼ to ½ foot.

2 G. PAUCIFLÒRA (Fisch. mss. D. C. prod. 2. p. 307.) leaves impari-pinnate, silky; umbels 2-3-flowered. ♃. H. Native of the Altaian mountains, in humid meadows. Astrágalus pauciflòrus, Pall. astr. no. 88. t. 66. B. Willd. spec. 3. p. 1319. Astrag. biflòrus, Pall. itin. 3. p. 205.—Gmel. sib. 4. p. 54. no. 70. t. 26. f. 1. Flowers purple.

Var. β, subglabràta (D. C. prod. 2. p. 307.) leaves almost glabrous at length. ♃. H. Native of Dahuria. Astrágalus brevicarinàtus, D. C. astr. p. 128. t. 49. Flowers flesh-coloured. Legumes villous.

Few-flowered Güldenstædtia. Fl. June, July. Clt. 1827. Pl. ¼ to ½ foot.

3 G. LATIFÒLIA (Fisch. in litt.) plant hoary: leaflets 1-7, ovate, terminal one largest; legumes terete, subulate, a little incurved, clothed with adpressed pubescence. ♃. H. Native of Persia and Armenia. Astrágalus latifòlius, Lam. dict. 1. p. 319. D. C. astr. no 133. t. 46. Flowers purple.

Broad-leaved Güldenstædtia. Pl. ¼ to ½ foot.

Cult. See *Oxýtropis* for culture and propagation, p. 253.

CXXXIII. BISE'RRULA (from *bis*, twice, and *serrula*, a little saw; in allusion to the legumes, which are toothed on both sides, giving them the appearance of a little saw). Lin. gen. no. 893. Lam. ill. t. 622. D. C. astr. no. vi. prod. 2. p. 307.

Lin. syst. *Diadélphia, Decándria.* Calyx 5-cleft. Keel obtuse. Stamens diadelphous. Legume flat, 2-celled, having the valves carinately compressed, and sinuately-toothed on the back.—A diffuse pubescent herb, with impari-pinnate leaves, having many pairs of obcordate leaflets. Peduncles shorter than the leaves. Spikes ovate. Flowers small, blue, or purple.

1 B. PELE'CINUS (Lin. spec. 1073. Gisek. icon. fasc. 1. t. 17.) ⊙. H. Native of the south of Europe, and the north of Africa, in waste places and corn-fields. Lam. ill. f. 22. Pelécinus vulgàris, Tourn. inst. 417. t. 234.

Corn-weed Biserrula. Fl. July, Aug. Clt. 1640. Pl. ½ to 1 ft.

Cult. The seeds of this plant only require to be sown in the open border in spring.

Tribe III.

HEDYSA'REÆ (plants agreeing with *Hedýsarum* in some important characters). D. C. legum. mem. vii. prod. 2. p. 307. Embryo with the radicle bent back upon the edge of the cotyledons (f. 21. *e. f.*). Corolla papilionaceous (f. 42. *b.*). Stamens rarely free, but usually monadelphous (f. 43. *c.*) or diadelphous, 9 joined together, and one free (f. 44. *d.*), or 5 in each bundle. Legumes dividing transversely into 1-seeded cells or joints (f. 41. *e.*). Cotyledons flat, changing into leaves at the time of germination. This tribe is very natural, and easily distinguished from the rest by the legumes being divided transversely into joints, unless in the following genera, *Onobrýchis*, *Eleiòtis*, and *Lespedèza*, which have only 1-celled, 1-seeded legumes, and in a few others, which have the legumes divided into transverse cells from membranous or spongy dissepiments, but not separating into joints.

Subtribe I. Coronílleæ (plants agreeing with *Coronilla* in some characters). D. C. prod. 2. p. 308. Flowers disposed in umbels (f. 41. *b.* f. 42. *b.*). Legumes terete (f. 41. *e.*) or compressed. Stamens diadelphous, 9 joined and 1 free.

CXXXIV. SCORPIU'RUS (from σκορπιος, *scorpios*, a scorpion, and ουρα, *oura*, a tail; in reference to the twisted form of the legumes). Lin. gen. 876. Gært. fruct. 2. t. 155. D. C. prod. 2. p. 308.—Scorpioìdes, Tourn. inst. 226.—Scórpius, Lois. fl. gall. Mœnch.

Lin. syst. *Diadélphia, Decándria.* Calyx 5-cleft, with equal acute lobes. Corolla with a 2-edged keel. Stamens diadelphous, the 5 longest dilated a little under the anthers. Ovary sulcated. Style filiform, acute. Legume revolute, rather spiral, constantly of 3-6 1-seeded joints, which are furrowed lengthwise, with the nerves usually prickly or muricated. Embryo replicate. Cotyledons linear.—Annual herbs, with membranous linear-lanceolate stipulas, simple entire leaves, which taper into the petiole, axillary 1-4-flowered peduncles, which are longer than the leaves, and yellow, rarely purple flowers.

1 S. LÆVIGA'TA (Smith, fl. græc. t. 718. ex prod. 2. p. 81.) legumes glabrous, with ribs unarmed. ⊙. H. Native of the islands in the Archipelago of Europe. S. bupleuri-folio siliquis lævibus, Tourn. inst. 402. Flowers yellow. Perhaps only a variety of *S. muricàta*.

Smooth-podded Caterpillar. Fl. June, July. Clt. 1818. Pl. prostrate.

2 S. MURICA'TA (Lin. spec. 1050.) legumes glabrous, with the inner ribs unarmed, and the outer ones muricated with minute bluntish tubercles. ⊙. H. Native of the region of the Mediterranean, in fields.—Moris. oxon. sect. 2. t. 11. f. 4. S. echinàta *α*, Lam. dict. 726. Peduncles 2-flowered. Flowers yellow.

Muricated-podded Caterpillar. Fl. June, July. Clt. 1640. Pl. trailing.

3 S. SULCA'TA (Lin. spec. 1050.) legumes glabrous; inner ribs smooth, 4 outer ones bearing stiff distant prickles, which are hooked at their apex. ⊙. H. Native of the region of the Mediterranean, in fields. Gært. fruct. 2. t. 155. Desf. atl. 2. t. 4. S. echinàta *β*, Lam. dict. 1. p. 726. Peduncles usually 3-flowered. Flowers yellow.

Furrowed-podded Caterpillar. Fl. June, July. Clt. 1596. Pl. prostrate.

4 S. SUBVILLÒSA (Lin. spec. 1050.) legumes glabrous, the inner ribs naked, but 6 or 8 of the outer ones bear stiff, crowded prickles, which are a little hooked at the apex. ⊙. H. Native along with the preceding species. S. echinàta *γ*, Lam. dict. 1. p. 726.—Moris. hist. sect. 2. t. 11. f. 2. Legumes thicker, and more revolute than those of *S. sulcàta*. Flowers yellow. Plant rather villous. Peduncles usually 4-flowered.

Sub-villous Caterpillar. Fl. Ju. July. Clt. 1731. Pl. proc.

5 S. acutifòlia (Viv. fl. lyb. p. 43. t. 19. f. 4.) legumes clothed with short hairs, having the inner ribs naked, and 6 or 8 of the outer ones bearing crowded, stiff, very short prickles. ⊙. H. Native of Cyreniaca, in sandy places, and of Corsica, about Bonifacio. Flowers yellow.

Acute-leaved Caterpillar. Fl. Ju. July. Clt. 1825. Pl. proc.

6 S. vermicula'ta (Lin. spec. 1050.) legumes glabrous, with the inner ribs almost obsolete, but the 10 outer ones bear crowded stipitate tubercles, which are obtusely dilated at the apex. ⊙. H. Native of the region of the Mediterranean, in corn-fields. Moris. hist. sect. 2. t. 11. f. 3. Gærtn. fruct. 2. p. 155. Flowers yellow, but with the vexillum streaked with red, solitary on the peduncles. Legumes thick.

Vermicular-podded Caterpillar. Fl. June, July. Clt. 1621. Pl. prostrate.

7 S. purpu'rea (Desf. atl. 2. p. 174.) stem and leaves hairy; peduncles 1-flowered; legumes covered all over with very short tubercles. ⊙. H. Native of Algiers. Flowers purple. Plant with the habit of the preceding species.

Purple-flowered Caterpillar. Fl. June, July. Pl. trailing.

Cult. These plants are preserved in gardens more for the oddness of the shape of their pods than for their beauty, and being all hardy annuals the seeds of them only require to be sown in the open border in spring, where they are intended to remain, and thinned afterwards if they rise too thick.

CXXXV. CORONI'LLA (from *corona*, a crown; in reference to the disposition of the flowers in heads or umbels at the tops of the peduncles). Neck. elem. no. 1319. Lam. ill. t. 630. D. C. prod. 2. p. 309.—Coronílla species of Lin. and others.

Lin. syst. *Diadèlphia, Decándria.* Calyx campanulate, short, 5-toothed (f. 41. *a.*), the 2 superior teeth approximate, and joined together higher up than the rest. Claws of petals usually longer than the calyx. Carina acute. Stamens diadelphous. Legume nearly terete, slender, at length separating into oblong 1-seeded joints (f. 41. *e.*). Seeds ovate or cylindrical (f. 41. *f.*)—Shrubs or herbs, with impari-pinnate leaves, and axillary peduncles, bearing at their tops umbels of pedicellate flowers.

Sect. I. E'merus (from ἥμερος, *emeros*, pure, agreeable; the shrub is very pretty). Tourn. inst. t. 418. Desv. journ. bot. 3. p. 121. t. 4. f. 9. D. C. prod. 2. p. 309. Legume nearly terete, separating into joints slowly and obscurely, but decidedly. Claws of petals 3 times the length of the calyx. Flowers yellow.

1 C. E'merus (Lin. spec. 1046.) shrubby, glabrous; stipulas small; leaflets 5-7, obovate; peduncles 3-5-flowered. ♄. H. Native of middle and south Europe, and of Tauria, in hedges, and among bushes. Sims, bot. mag. 445. E'merus màjor, Mill. fig. t. 132. f. 1. and minor, f. 2. C. pauciflòra, Lam. fl. fr. Flowers yellow.

Agreeable Coronilla or Scorpion-Senna. Fl. April, June. Clt. 1596. Shrub 3 to 4 feet.

Sect. II. Coroni'lla (see genus for derivation). Tourn. inst. t. 419. Desv. journ. bot. 3. p. 119. t. 4. f. 3. Legume rather compressed, evidently separating into joints (f. 41. *e.*). Claws of petals hardly longer than the calyx.

* *Flowers yellow.*

2 C. ju'ncea (Lin. spec. 1047.) shrubby, glabrous; stipulas small; leaflets 3-7, linear-lanceolate, obtuse, rather fleshy, lower ones remote from the stem; umbels 5-7-flowered. ♄. H. Native of the south of France. Ker. bot. reg. 820. Lodd. bot. cab. 235.—Barrel. icon. t. 133.—J. Bauh. hist. 1. p. 2. t. 383. f. 2. Branches rush-like, terete, almost naked, slender. Flowers bright yellow.

Rushy-branched Coronilla. Fl. June, July. Clt. 1656. Shrub 2 to 3 feet.

3 C. stipula'ris (Lam. dict. 2. p. 120.) shrubby, glabrous; stipulas roundish, large, deciduous; leaflets 7-9, obovate, mucronulate, glaucous, lower ones remote from the stem; umbels 6-8-flowered. ♄. F. Native of the south of Italy, in Goat's Island, in Sicily near Palermo, and probably of Spain. C. orbiculàris, Mœnch. C. Valentìna, Lin. spec. 1047. exclusive of the synonyme of Clusius, and therefore the name. Curt. bot. mag. 185. C. Hispánica, Mill. dict. no. 4.? Flowers deep yellow, very fragrant at night.

Large-stipuled Coronilla. Fl. Mar. Nov. Clt. 1596. Sh. 3 ft.

4 C. pentaphy'lla (Desf. atl. 2. p. 171.) shrubby, glabrous; stipulas ovate, mucronate, deciduous; leaflets 5-7, cuneiform, mucronate, usually emarginate; umbels 10-20-flowered. ♄. F. Native of Algiers on hills. Mill. fig. t. 289. f. 2.?

Five-leafletted Coronilla. Fl. June, July. Clt. 1700. Shrub 2 to 4 feet.

5 C. arge'ntea (Lin. spec. 1048.) shrubby; leaflets 11, silky, terminal one largest. ♄. F. Native of Candia. Mill. fig. t. 289. f. 1.? ex Ait. hort. kew. 4. p. 332. This is a very doubtful plant. Flowers beautiful yellow, sweet-scented.

Silvery Coronilla. Fl. May, June. Clt. 1664. Sh. 2 feet.

6 C. glau'ca (Lin. spec. 1047.) shrubby, glabrous; stipulas small, lanceolate; leaflets 5-7, obovate, very obtuse, glaucous, lower ones remote from the stem; umbels 7-8-flowered. ♄. F. Native of France about Narbonne, and of Sicily, and probably of Spain. Curt. bot. mag. t. 13. Mill. fig. 289. f. 1. Flowers beautiful yellow, fragrant in the day time, but scentless at night.

Glaucous Coronilla. Fl. May, Sept. Clt. 1722. Sh. 2 to 4 ft.

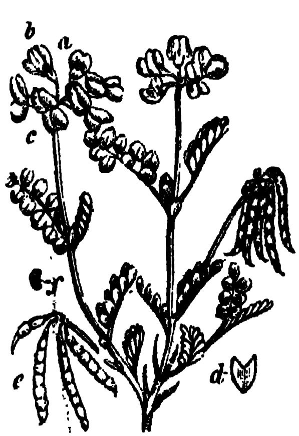
7 C. mi'nima (Lin. spec. 1048.) suffruticose, procumbent, glabrous; stipulas concrete, small, opposite the leaves, bidentate at the apex, the upper ones largest, membranous, and deciduous; leaflets 7-13, ovate-roundish, obtuse or retuse, lower ones remote from the stem; umbels 7-8-flowered; legume 4-winged, toothed. ♃. H. Native of the southern parts of Europe, on the lower mountains in sandy places. Jacq. fl. austr. t. 271. D. C. fl. fr. 4. p. 608. Sims, bot. mag. 2178.—J. Bauh. hist. 2. p. 351. f. 2. Flowers yellow, sweet-scented. Plant erect or prostrate, evergreen. (f. 41.)

Least Coronilla. Fl. June, July. Clt. 1658. Pl. prostrate or ½ foot.

8 C. vagina'lis (Lam. dict. 2. p. 121.) plant suffruticose, prostrate; stipulas concrete, large; leaflets roundish; legumes 4-winged, toothed. ♃. H. Native of the southern parts of Europe, on the lower mountains. Flower yellow. This species is usually confused with *C. mínima.*

Sheathing-stipuled Coronilla. Pl. prostrate.

FIG. 41.



9 C. corona'ta (Lin. spec. 1048.) plant suffruticose, erect, or ascending, glabrous; stipulas concrete, small, opposite the leaves, bidentate at the apex; leaflets 5-11, obovate, rather mucronate, glaucous, lower ones approximating the stem; umbels many-flowered; legumes compressed, tetragonal, erect. ♃. H. Native of the southern parts of Europe, in arid places. Jacq. austr. 1. t. 95. D. C. fl. franc. 4. p. 608. but not of Bieb. nor Sims. C. Clùsii, Dufour, ann. sc. phys. 7. p. 307. C. Valentìna, Lam. fl. fr. 2. p. 663. but not of Lam.—Clus. hist. 1. p. 98. f. 2. (fig. 41.)

Crown-flowered Coronilla. Fl. July, Aug. Clt. 1776. Pl. 1 to 2 feet.

10 C. monta'na (Scop. carn. ed. 2. p. 912. t. 44.) plant herbaceous, erect, glabrous; stipulas concrete, opposite the leaves, oblong, emarginate, deciduous; leaflets 7, ovate, mucronate, rather glaucous, lower ones approximating the stem; umbels 15-20-flowered. ♃. H. Native of Germany, Carniola, and Switzerland, on the mountains. C. coronàta, Bieb. fl. taur. 1434. Sims, bot. mag. 907.—Riv. tetr. t. 207. (f. 41.)

Mountain Coronilla. Fl. Ju. July. Clt. 1776. Pl. 1 to 1½ ft.

11 C. Ibe'rica (Bieb. fl. taur. 2. p. 173.) plant herbaceous, prostrate, glabrous; stipulas distinct, membranous, orbicular, denticulated; leaflets 9-11, obcordate, ciliated; umbels 7-8-flowered; legumes tetragonal, incurved. ♃. H. Native of Iberia and Cappadocia. Willd. spec. 3. p. 1152. Sweet, fl. gard. 25. Lodd. bot. cab. 789. C. orientàlis, Mill. Flowers large, yellow. Root creeping.

Iberian Coronilla. Fl. July, Aug. Clt. 1822. Pl. ascending.

12 C. squama'ta (Cav. icon. t. 155.) plant herbaceous, erect; stipulas lanceolate-ovate, membranous, somewhat ciliated; leaflets 9-11, obovate, pubescent, lower ones remote from the stem; umbels 7-8-flowered; legumes scurfy from scales. ♃. H. Native of Spain, near the town of Lamota del Cuervo. Flowers yellow.

Scaly-podded Coronilla. Fl. June, July. Clt. 1820. Pl. ½ foot.

13 C. parviflòra (Willd. spec. 3. p. 1155.) plant herbaceous, much branched, rather scabrous from reflexed stiff hairs; leaflets 9, cuneate, emarginate, glabrous; stipulas ovate, very minute; umbels 5-flowered; peduncles longer than the leaves; legumes terete, arched. ♃. H. Native of Candia and Tauria, on exposed hills. C. Crética herbàcea, &c. Tourn. cor. 44. C. Valentìna, Pall. ined. Bieb. fl. taur. 2. p. 173. Very like C. *Crética*, but differs in the flowers being yellow.

Small-flowered Coronilla. Pl. ¼ foot.

* * *Flowers purple, pink, or white.*

14 C. vimina'lis (Salisb. par. t. 13. Ait. hort. kew. ed. 2. vol. 4. p. 331.) suffruticose; stipulas ovate, membranous, soon falling off; leaflets 13-21, obovate, retuse, mucronate, glaucous, lower ones approximating the stem; umbels 6-10-flowered. ♃. H. Native of Mogodor. Branches hardly angular. Flowers large, pale, having the vexillum lined with red lengthwise, changing from pale to deeper purple.

Twiggy Coronilla. Fl. May, Nov. Clt. 1798. Sh. 2 to 4 ft.

15 C. Cre'tica (Lin. spec. 1048.) plant herbaceous, ascending, glabrous; stipulas small, acute; leaflets 11-13, cuneated, retuse, the lower ones remote from the stem; umbels 3-6-flowered. ⊙. H. Native of Candia, Tauria, and Italy, on hills. Flowers white, having the vexillum streaked with red, and the keel dark purple. Jacq. hort. vind. t. 25. C. parviflòra, Mœnch. Astrolòbium Créticum, Desv.

Cretan Coronilla. Fl. June, July. Clt. 1731. Pl. ascending.

16 C. va'ria (Lin. spec. 1048.) plant herbaceous, diffuse, flexuous, glabrous; stipulas distinct, lanceolate; leaflets 9-13, oblong, elliptic, mucronate, lower ones approximating the stem; umbels 16-20-flowered; legumes angular, very long, straight. ♃. H. Native of Europe and Tauria, in fields and meadows. Curt. bot. mag. 258. Mill. fig. t. 106.—Clus. hist. 2. p. 237. f. 2. Astrágalus glaucoìdes, Gmel. itin. 1. t. 21. ex Bieb. Flowers pink, rarely white, at length drooping. Root creeping. This plant was formerly proposed to be cultivated as a proper food for cattle; and it was found that it grew very readily, and might be very beneficial to the farmer. In a good soil the stems will grow even 5 feet long, and be tender their whole length, so that a small spot of ground will supply a considerable quantity of fodder, especially in dry seasons. Horses and cows seem to eat it greedily. However, Mr. Curtis remarks that its bitterness will be an objection to its being cultivated for cattle.

Various-flowered Coronilla. Fl. June, Nov. Clt. 1640. Pl. diffuse.

17 C. globòsa (Lam. dict. 2. p. 122.) herbaceous, glabrous; stipulas small, acute; leaflets oblong-elliptic, 11-13, obtuse, lower ones distant from the stem; umbels globose, 20-30-flowered; legumes pendulous. ♃. H. Native of Candia in fields. C. Crética herbacea flore magno candido, Tourn. cor. 44. Flowers pink or white. Perhaps only a variety of *C. vària*.

Globose-flowered Coronilla. Fl. July, Nov. Clt. 1800. Pl. diffuse.

† *Doubtful species.*

18 C.? sca'ndens (Lin. spec. 1048.) stem scandent, flaccid; leaflets 5, ovate; peduncles axillary, twin, 1-flowered, prickly; legumes terete, articulated, glabrous.—Native of South America. —Plum. ed. Burm. t. 107. f. 3. Perhaps a species of *Poirètia*. Flowers large, pale yellow.

Climbing Coronilla. Pl. cl.

19 C. multiflòra (D. C. prod. 2. p. 310.) plant suffruticose, glabrous; stipulas small, lanceolate; leaflets 7-9, oblong-cuneate, obtuse, lower ones approximating the stem; umbels 15-20-flowered. ♄. F. Native of Spain. Branches terete, spreading, flexuous. Flowers pale, perhaps yellow, perhaps white.

Many-flowered Coronilla. Shrub 1 to 2 feet.

20 C. hirsu'ta (D. C. prod. 2. p. 310.) stem herbaceous, erect, clothed with white hairs, as well as the peduncles and leaves; leaves with 6-8 pairs of oval obcordate leaflets; stipulas leafy, roundish-cordate; peduncles longer than the leaves; umbels globose, 8-12-flowered; calyx beset with black hairs. ♃. G. Native of the Cape of Good Hope. Coronilla argéntea, Burm. cap. 22. Thunb. fl. cap. 592.? Legume unknown.

Hairy Coronilla. Pl. 1 foot.

Cult. All the species of *Coronilla*, both shrubby and herbaceous, are worthy of cultivation in every collection, for the beauty of their flowers, as well as for the neatness of their herbage. The hardy shrubby kind, *C. E'merus*, is very proper for the front of shrubberies. It thrives in any kind of soil, and flowers the greater part of the year. Ripened cuttings of it root freely if planted in autumn in the open ground. The frame and greenhouse shrubby kinds are beautiful plants of easy culture; they grow best in a mixture of loam and peat, and cuttings of them strike readily in sand under a hand-glass; they may be turned out into the open border in spring, where they will make shewy bushes and flower all the summer, and if the winters are not very severe they will live with very little protection. The hardy perennial herbaceous kinds are most handsome when cultivated in pots, and placed among other alpine plants. *C. vària globòsa* and *Ibérica* are very hardy, but become troublesome if planted in the open ground, as their roots run so much as to injure every other plant near them, and they are afterwards difficult to eradicate. *C. coronàta minima* and *montàna* are well adapted for rock-work, but do not long exist in such a situation, as they are apt to be killed in severe winters. The annual species, *C. Crética*, requires the treatment of other hardy annuals.

CXXXVI. ASTROLO'BIUM (from αστρον, *astron*, a star, and λοβος, *lobos*, a pod; in reference to the disposition of the pods like the rays of a star). Desv. journ. bot. 3. p. 121. t. 4. f. 10. D. C. prod. 2. p. 311.—Orníthopus species of Lin. and others.

Lin. syst. *Diadélphia, Decándria.* Calyx bractless, tubular, nearly equally 5-toothed. Keel of corolla small, compressed. Stamens diadelphous. Legume nearly terete, constantly composed of numerous 1-seeded, indehiscent, cylindrical joints, which are truncate at both ends.—Smooth European herbs, with impari-pinnate leaves. Stipulas wanting or very small, when present they are joined in one, opposite the leaves, and therefore bidentate at the apex. Flowers yellow, capitate, destitute of the bractea to the head of the flowers.

1 A. **ebracteàtum** (D. C. prod. 2. p. 311.) peduncles about equal in length to the leaves, bractless at the apex; leaves all pinnate; leaflets elliptic-oblong, many-pairs, equal in size and shape, lower ones distant from the stem; legumes terete, arched. ⊙. H. Native of Portugal, Spain, south of France, and Italy, in gravelly places. Oríthopus lævigàtus, Smith in Rees' cycl. no. 3. Ornith. exstipulàtus, Thore, chl. land. 311. O. ebracteàtus, Brot. fl. lus. 2. p. 159. Scorpiùrus pinnàtus, Mill. dict. no. 5.? O. nudiflòrus, Lag. varied. esp. 2. p. 40. O. dùrus, D. C. fl. fr. no. 4039. but not of Cav. O. pygmæ'us, Viv.—Dalech. hist. 1. p. 487. f. 1. Flowers small, yellow.

Bractless Star-Vetch. Fl. June, July. Clt. 1700. Pl. pros.

2 A. **du'rum** (D. C. prod. 2. p. 311.) peduncles a little longer than the leaves, almost bractless at the apex; stipulas concrete, sheathing; lower leaves simple, the rest pinnate, with few pairs of obcordate leaflets, the lower ones approximating the stem; legumes arched, rather tetragonal. ⊙. H. Native of Spain, about Valentia and Madrid in bushy places, and of Portugal in vineyards. Orníthopus dùrus, Cav. icon. 1. p. 31. t. 41. O. heterophy'llus, Brot. phyt. t. 67. fl. lus. 2. p. 160. Flowers yellow.

Hard-podded Star-Vetch. Fl. Ju. July. Clt. 1816. Pl. ¼ to ½ foot.

3 A. **repa'ndum** (D. C. prod. 2. p. 311.) peduncles a little shorter than the leaves, bractless at the apex; stipulas concrete, sheathing; lower leaves simple, ovate, and emarginate, upper ones pinnate; leaflets oblong, lower ones roundish, approximating the stem; legumes rather nodose, a little incurved. ⊙. H. Native of Barbary in fields towards Lacalle. Orníthopus repándus, Lam. ill. t. 631. f. 4. Poir. dict. 4. p. 620. O. lotoìdes, Viv. Flowers yellow.

Repand-podded Star-Vetch. Fl. June, July. Clt. 1805. Pl. prostrate.

4 A. **scorpioìdes** (D. C. prod. 2. p. 311.) peduncles longer than the leaves, bractless; stipulas concrete, sheathing; leaves trifoliate; lower leaflets small, roundish, approximating the stem, terminal one large, oval; legume a little incurved, rather nodose. ⊙. H. Native of the south of Europe, in corn-fields. Orníthopus scorpioìdes, Lin. spec. 1049. Cav. icon. t. 37. Orníthopus trifoliàtus, Lam. fl. fr. 2. p. 659. Ornithopòdium scorpioìdes, All. Ornithopòdium triphy'llum, Mœnch. Flowers yellow.

Scorpion-like-podded Star-Vetch. Fl. June, July. Clt. 1506. Pl. ½ foot.

Cult. The seeds of these plants only require to be sown in the open border in spring.

CXXXVII. ORNI'THOPUS (from ορνις ορνιθος, *ornis ornithos*, a bird, aud πους, *pous*, a foot; the legumes are like the claws of a bird, and are disposed somewhat in the same manner).

Desv. journ. bot. 3. p. 121. t. 5. f. 14. D. C. prod. 2. p. 311.—Ornithopus species Lin. and others. Lam. ill. t. 631.—Ornithopòdium, Tourn. inst. t. 224. Mœnch. meth.

Lin. syst. *Diadélphia, Decándria.* Calyx tubular, almost equally 5-toothed, bracteate. Keel of corolla small, compressed. Stamens diadelphous. Legume compressed, with many 1-seeded indehiscent joints, which are truncate at both ends, but having parallel margins.—European, villous, annual herbs, with impari-pinnate leaves, small stipulas which are adnate to the petioles, axillary peduncles, bearing a few-flowered umbel at the top of each. Flowers small, white or rose-coloured. All the species have a pinnate bractea under each head of flowers.

1 O. **compre'ssus** (Lin. spec. 1049.) peduncles shorter than the leaves; leaves villous, upper ones having the lower pair of leaflets approximating the stem; legumes compressed, pubescent, wrinkled, incurved at the apex; the joints oval. ⊙. H. Native of the south of Europe and the north of Africa, in sandy places. Berg. phyt. t. 191. Ornithopòdium compréssum, All. ped. no. 1245. Flowers small, yellow.

Compressed-podded Bird's-foot. Fl. June, July. Clt. 1781. Pl. prostrate.

2 O. **perpusíllus** (Lin. spec. 1049.) peduncles longer than the leaves; leaves rather villous, upper ones having the lower pair of leaflets approximating the stem; legumes rather compressed, glabrous, curved upwards, the joints elliptic, moderately compressed. ⊙. H. Native of every part of Europe and the North of Africa, on heaths and gravelly pastures; plentiful in Britain. Smith, engl. bot. 369. Oed. fl. dan. 307. Curt. lond. 6. t. 53. Flowers small, usually 2-3 or 5 in a head, having the vexillum and wings white, and beautifully veined with crimson, and the keel green.

Var. β, *nodòsus* (Mill. dict. no. 2.) root bearing ovoid tubercles; legumes pubescent. ⊙. H. Native of Europe, in several parts of Britain and of France, very common about Paris. The tubercles, which are said to be on the roots of this variety, are to be found on the roots of almost all leguminous plants, which arise from morbid excrescences.

Common or *Very small* Bird's-foot. Fl. May, July. Britain. Pl. prostrate.

3 O. **satìvus** (Brot. fl. lus. 2. p. 160.) peduncles longer than the leaves; leaflets pubescent; oval in the lower leaves, and lanceolate in the superior ones, the lower pairs approximating the stem; legumes hardly arched, with roundish compressed knots. ⊙. H. Native of Portugal and other parts of the south of Europe, in rather wet sandy places and meadows. O. ròseus, Dufour. in litt. O. perpusíllus β, intermèdius, Roth. fl. germ. 2. p. 215. Ornithopòdium màjus, C. Bauh. pin. 350. Ger. emac. 1241. f. 3.—Moris. hist. sect. 2. t. 10. f. 13. Flowers white and red, mixed.

Cultivated Bird's-foot. Fl. May, July. Clt. 1818. Pl. pr.

Cult. The seeds of these plants only require to be sown in the open ground, in spring. None of the species are worth cultivating, except in botanical gardens.

CXXXVIII. HIPPOCRE'PIS (from ιππος, *hippos*, a horse, and κρηπις, *krepis*, a shoe; in reference to the shape of the recesses of the pods, which are curved in such a manner as to give them a likeness to a horse's shoe).

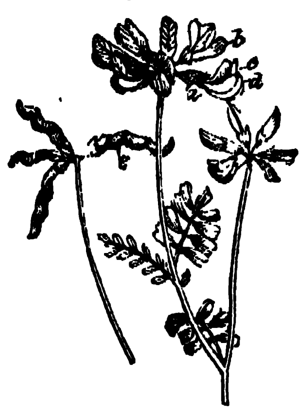
Lin. gen. 885. Lam. ill. t. 630. D.C. prod. 2. p. 312. Férrum-equìnum, Tourn. inst. t. 225.

Lin. syst. *Diadélphia, Decándria.* Calyx 5-cleft (f. 42. *a.*) with the lobes equal and acute. Carina of corolla 2-edged (f. 42. *b.*). Stamens diadelphous. Style filiform, acute. Legume having numerous, 1-seeded joints, curved (f. 42. *e.*), hence the upper side of the legume appears as if it were cut, from having numerous rounded recesses. Seeds cylindrical or compressed, oblong, curved, fixed to the middle part of the joint, and therefore the umbilicus is in the middle of the curve.—Herbs or subshrubs, with impari-pinnate leaves and yellow flowers, which are sometimes solitary and axillary, sometimes sessile, but usually disposed in umbels on the tops of the axillary peduncles.

§ 1. *Roots perennial. Legumes sinuated, with the joints curved, forming a broad open recess between each pair.*

1 H. **Balea'rica** (Jacq. misc. 2. p. 305. icon. rar. 1. p. 149.) shrubby, erect; peduncles longer than the leaves, bearing an

FIG. 42.



umbel of flowers at the apex; legumes glabrous, a little arched. ♄. F. Native of the Island of Minorca. Lam. ill. 620. f. 2. Curt. bot. mag. t. 427. Leaves and calyxes either glabrous or pilose.

Minorca Horse-shoe-Vetch. Fl. May, Ju. Clt. 1776. Sh. 1 to 2 ft.

2 H. comòsa (Lin. spec. 1050.) stem herbaceous, prostrate; peduncles longer than the leaves, bearing an umbel of flowers at the apex; legumes arched, sinuated on both margins, rough from minute prominent tubercles. ♃. H. Native of Europe, in Germany, Italy, France, Austria, Britain, in calcareous soils; plentiful in Kent, Cambridgeshire, and Berkshire, and in most chalk countries, as well as of the north of Africa. Smith, engl. bot. t. 31. Jacq. austr. 5. t. 431. Riv. tetr. 97. H. perénnis, Lam. fl. fr. 2. p. 657. Leaflets 7-11, obovate, obtuse, very minutely mucronate. Legumes with their joints neither dilated nor bordered. (fig. 42.)

Tufted Horse-shoe-Vetch. Fl. April, Aug. Brit. Pl. pr.

3 H. Helve'tica (G. Don, in Loud. hort. brit. p. 308.) stems herbaceous, procumbent; peduncles longer than the leaves, bearing an umbel of flowers at the apex; legumes compressed, curved, smooth; leaflets 9-11, obovate, obtuse, mucronate. ♃. H. Native of Switzerland. H. comòsa, Schleich. Legume broad, arched. An elegant plant, much larger in every part than the last species.

Swiss Horse-shoe-Vetch. Fl. May, Aug. Clt. 1819. Pl. pr.

4 H. glau'ca (Ten. fl. neap. 2. p. 165. t. 69.) stems herbaceous, ascending; leaves glaucous; peduncles longer than the leaves, bearing an umbel of flowers at the apex; legumes arched, rather scabrous, constantly of 5 joints. ♃. H. Native of Naples, on the rocks of Magella. Calyx pubescent. Allied to *H. comòsa*.

Glaucous Horse-shoe-Vetch. Fl. May, Jul. Clt. 1819. Pl. asc.

§ 2. *Roots annual. Legumes with roundish recesses.*

5 H. sca'bra (D. C. prod. 2. p. 312.) peduncles twice the length of the leaves, bearing an umbel of flowers at the apex; legumes arched, scabrous at the seeds, the rest clothed with a kind of lepidoted pubescence. ⊙. H. Native of Spain, in the kingdom of Murcia, near the city. Style long, compressed, permanent at the top of the legumes.

Scabrous-podded Horse-shoe-Vetch. Pl. prostrate.

6 H. bicontórta (Lois. not. in ann. soc. Lin. par. vol. 4. 1827.) stem branched, spreading; leaflets linear; peduncles length of leaves, usually bearing 3 flowers at the apex; legumes scabrous, twisted into a double circle. ⊙. H. Native of Montpelier.

Twice-twisted-podded Horse-shoe-Vetch. Pl. spreading.

7 H. multisiliquòsa (Lin. spec. 1050.) peduncles a little shorter than the leaves, 2-4-flowered; legumes quite smooth, circularly incurved. ⊙. H. Native of Spain, Italy, south of France, and Barbary, in exposed stony or sandy places. Mill. fig. 278. f. 2. Férrum equìnum polyceràtum, Col. ecphr. p. 300. with a figure. F. multiflòrum, Mœnch. meth. 119. Plant smooth.

Many-podded Horse-shoe-Vetch. Fl. Ju. Aug. Clt. 1683. Pl. pr.

8 H. monoca'rpa (Bieb. fl. taur. suppl. p. 480.) flowers axillary, almost sessile, solitary; legumes quite glabrous. ⊙. H. Native of Eastern Caucasus, on hills about Schamachi. H. unisiliquòsa, Bieb. fl. taur. 2. p. 174. exclusive of the synonymes.

One-fruited Horse-shoe-Vetch. Fl. June, Aug. Clt. 1824. Pl. prostrate.

9 H. unisiliquòsa (Lin. spec. 1050.) flowers axillary, sessile, solitary; legumes a little incurved, hairy in the middle part of the joints. ⊙. H. Native of the south of Europe, Barbary, and the Levant, in exposed stony places. Lam. ill. t. 630. f. 3. Mill. fig. 278. f. 1. Férrum equìnum vulgàre, Col. ecphr. p. 300. with a figure. F. uniflòrum, Mœnch. meth. 119.

One-podded Horse-shoe-Vetch. Fl. June, July. Clt. 1570. Pl. prostrate.

10 H. cilia'ta (D. C. prod. 2. p. 313.) peduncles rather shorter than the leaves; legumes arched, hispid at the seeds, and ciliated on one side. ⊙. H. Native of Spain and Italy.

Var. α; peduncles 4-6-flowered. ⊙. H. Native of Spain, near Aranjuez. H. ciliàta, Willd. berl. mag. nat. ges. 1808. p. 173.

Var. β; peduncles 3-flowered. ⊙. H. Native of Spain, in the provinces of Granada and Murcia. H. ánnua, Lag. nov. spec. 23. p. 299.

Var. γ; peduncles 2-flowered. ⊙. H. Native of Italy, about Naples, as well as of Sicily and Tauria. H. dicárpa, Bieb. suppl. 480.

Ciliated-podded Horse-shoe-Vetch. Fl. June, July. Clt. 1818. Pl. prostrate.

11 H. biflòra (Spreng. pug. 2. p. 73.) peduncles very short, 2-flowered; legumes minutely ciliated on both margins. ⊙. H. Native country unknown. Flowers twin, axillary, almost sessile, but the peduncles becomes elongated after flowering. Ciliæ of legume very short.

Two-flowered Horse-shoe-Vetch. Fl. June, July. Clt. 1816. Pl. prostrate.

Cult. All the species of this genus are worthy of cultivation in every garden, on account of their neatness and beauty. The *H. Baleàrica* is the only species which requires protection in a greenhouse in winter. It thrives in a mixture of loam and peat, and cuttings of it strike root readily under a hand-glass. The perennial herbaceous kinds are well fitted for ornamenting rock-work or banks: they are propagated by dividing at the root or by seeds. The annual species are also well fitted for rock-work, where their seeds should be sown early in spring.

CXXXIX. SECURI'GERA (from *securis*, a hatchet, and *gero*, to bear; in reference to the form of the pods). D. C. fl. fr. 4. p. 609. prod. 2. p. 313. Securidàca, Tourn. inst. t. 224. Lam. ill. t. 629. but not of Lin.—Bonavèria, Scop. Neck. elem. no. 1320. Desv. journ. vol. 3. p. 60. t. 4. f. 7.—Securílla, Pers. ench. 2. p. 314.

Lin. syst. *Diadélphia, Decándria.* Calyx short, bilabiate, lower lip 3-parted, upper one bidentate. Claws of petals rather longer than the calyx. Keel acute. Stamens diadelphous. Legume compressed, flat, with rather prominent sutures, the seeds separated by spongy substance, not articulated, linear, ending in a long beak at the apex. Seeds 8-10, compressed. Herb, with the habit of *Coronilla.*

1 S. coronílla (D. C. l. c.). ⊙. H. Native of the south of Europe, from Spain to Tauria. Coronílla securidàca, Lin. spec. 1048. Securidàca lùtea, Mill. dict. no. 1. fig. 232. Securidàca, legítima, Gærtn. fruct. 2. t. 153. Flowers yellow, 3 or 4 in an umbel.

Coronilla-like Hatchet-Vetch. Fl. July, Aug. Cl. 1562. Pl. prostrate.

Cult. The seeds of this plant only require to be sown in the open ground in any kind of soil.

Subtribe II. Euhedisa'reæ (plants agreeing with *Hedýsarum* in important characters). D. C. prod. 2. p. 313. Flowers disposed in racemes (f. 43. *g.* f. 44. *c.*). Legumes compressed (f. 43. *i.* f. 44. *g.*).

CXL. DI'PHACA (from δις, *dis*, twice, and φακη, *phake*, a lentil or pea; in reference to the pods being composed of 2 1-seeded joints). Lour. coch. p. 454. D. C. prod. 2. p. 313.

Lin. syst. *Diadélphia, Decándria.* Calyx 5-cleft, permanent, propped by 2 lanceolate bracteas, the lowest lobe longest. Corolla papilionaceous. Keel of 2 distinct petals. Stamens joined into 2 5-anthered bundles. Carpels 2, 1-styled. Legume compressed, straight, articulated; joints striated, 1-seeded. This genus is allied to *Dalbérgia* and *Æschinómene*, in the stamens being equally diadelphous, but the fruit is articulated as in *Hedýsarum*, and the plant is therefore placed in the same tribe.

1 D. Cochinchine'nsis (Lour. l. c.). ♄. G. Native of Cochin-china, China, and the Moluccas, where it is cultivated in gardens. Dalbérgia díphaca, Pers. ench. 2. p. 276.—Rumph. amb. 3. p. 200. t. 128. according to Loureiro. Leaves impari-pinnate. Peduncles 2, axillary, 1-flowered. Flowers white.

Cochin-china Diphaca. Shrub 8 feet.

Cult. To be treated as other greenhouse plants.

CXLI. PICTE'TIA (in honour of Charles Pictet, a celebrated French physician, author of Traite des Assolemens, 1 vol. 8vo. Geneva, 1788.). D. C. in ann. sc. nat. 4. jan. 1825. p. 93. legum. mem. vii. prod. 2. p. 314.

Lin. syst. *Diadélphia, Decándria.* Calyx furnished at the base with 2 caducous bracteoles, campanulate, 5-cleft, 2 superior lobes obtuse and shorter than the others, 3 inferior ones acuminated and somewhat spinose. Vexillum of corolla roundish, complicated. Keel obtuse, a little shorter than the wings. Stamens diadelphous. Style filiform, glabrous. Legume stipitate, compressed, few-seeded, sometimes continuous, having the seeds separated by a kind of spongy substance, sometimes articulated, the joints 1-seeded, but some of them are abortive, never striated nor warted. Seeds compressed, flat, ovate, rather truncate at the base. Cotyledons flat, green. Radicle lying above the commissure formed by the cotyledons.—Quite glabrous American shrubs, having the cauline stipulas usually spinescent, rarely unarmed. Leaves impari-pinnate, the leaflets exstipellate, having the middle nerve of each drawn out in a spine-like mucrone. Flowers axillary, disposed in loose racemes or solitary, yellow, the pedicels jointed at the apex, and bibracteolate; bracteoles caducous.

1 P. squama'ta (D.C. l. c. t. 47. f. 3.) leaves with 7-10 pairs of orbicular leaflets, each leaflet ending in a long spine-like mucrone, having the lateral veins hardly evident; stipulas spinose, erect; scales at the base of the branchlets, imbricated, and rather spinose; racemes loose, 3-7-flowered. ♄. S. Native of the island of St. Thomas, by the sea-side. Robínia squamàta, Vahl. symb. 3. p. 88. t. 69. Robínia squamòsa, Poir. dict. 6. p. 224. Caragàna spinòsa, Rich. herb. Pedicels distant, elongated, nearly opposite. Flowers yellow. Legumes unknown.

Scaly-branched Pictetia. Fl. June, Jul. Clt. 1824. Sh. 6 ft.

2 P. arista'ta (D. C. legum. mem. vii. t. 47. f. 5.) leaves with 7-10 pairs of obovate-orbicular, usually alternate leaflets, each leaflet ending in a long straight spine-like mucrone, having the lateral nerves prominent; stipulas spinose, spreading; racemes loose, 3-7-flowered. ♄. S. Native of St. Domingo, Santa Cruz, and Krabben Island. Æschinómene aristàta, Jacq. hort. schœnbr. t. 237. Poirètia aristàta, Desv. journ. bot. 3. p. 122. Flowers yellow. Legume of 3-4 joints. Very like the preceding species.

Awned-leafletted Pictetia. Fl. June, July. Clt. 1816. Sh. 5 to 10 feet.

3 P. obcorda'ta (D. C. l. c. t. 47. f. 1. prod. 2. p. 314.) leaves with 10-12 pairs of nearly opposite obcordate leaflets, each leaflet ending in a short, recurved, spine-like mucrone; stipulas ovate-lanceolate, unarmed. ♄. S. Native of St. Domingo. Racemes few-flowered. Legumes oblong, compressed, and perhaps 1-celled and 1-seeded from abortion, each standing on a longish stipe. Flowers unknown, but most probably yellow.

Obcordate-leafletted Pictetia. Shrub 3 to 6 feet.

4 P. Jussiæ'i (D. C. l. c.) leaves with 3-4 pairs of alternate or opposite, oblong leaflets, each leaflet ending in a straight spine-like mucrone, the odd one longest; stipulas spinose, erect, small. ♄. S. Native country unknown. Robínia aculeàta, Juss. herb. where a specimen of it is preserved without either flower or fruit.

Jussieu's Pictetia. Shrub 3 to 6 feet.

5 P. Desvau'xii (D. C. l. c. t. 47. f. 4.) leaves with 1-2 pairs of approximate oblong leaflets, which taper to both ends, and terminate in a straight spine-like mucrone; stipulas spinose, straight; pedicels axillary, 1-flowered; legume linear-oblong, obtuse, continuous. ♄. S. Native of St. Domingo. Robínia spinifòlia, Desv. journ. bot. 1814. 1. p. 78. Flowers small, yellow. Legume an inch long and about 3 lines broad, 5-6-seeded.

Desvaux's Pictetia. Shrub 3 to 6 feet.

6 P. terna'ta (D. C. l. c. t. 47. f. 2.) leaflets 3, approximate, cuneate-oblong, terminating in a short, straight, spine-like mucrone; stipulas spinose, straight; pedicels axillary, 1-flowered; legume torulose, linear-oblong, acute. ♄. S. Native of St. Domingo. Æschinómene ternàta, Spreng. syst. in herb. Balb. Flowers yellow.

Ternate-leaved Pictetia. Shrub 3 to 4 feet.

Cult. A mixture of loam, peat, and sand will suit the species of this genus, and young cuttings will root in sand under a hand-glass, in heat.

CXLII. ORMOCA'RPUM (from ορμος, *ormos*, a necklace, and καρπος, *carpos*, a fruit; in allusion to the shape of the pods, which are jointed, and may be likened to a necklace). Beauv. fl. d'ow. 1. p. 95. Desv. journ. bot. 3. p. 122. t. 5. f. 16. D. C. prod. 2. p. 314.

Lin. syst. *Diadélphia, Decándria.* Calyx furnished with 2 permanent bracteoles at the base, 5-cleft, somewhat bilabiate, with all the lobes acute. Corolla papilionaceous, with a broad entire vexillum, and an obtuse 2-edged keel. Stamens diadelphous. Legume stipitate, many-jointed, with the joints attenuated at both ends, usually striated and warted lengthwise, 1-seeded, distinctly separating.—Smooth shrubs, with simple leaves, having the petiole jointed at the apex, or impari-pinnate, or abruptly-pinnate leaves. Racemes short, axillary.

* *Leaves simple, with the petiole jointed at the apex.*

1 O. verrucòsum (Beauv. l. c. t. 58.) leaves simple, ovate-lanceolate, acuminated; joints of legume striated and warted. ♄. S. Native of western Africa, in the kingdom of Waree. Mullèra verrucòsa, Pers. ench. 2. p. 311. Leaves 3 inches long, but hardly an inch and a half broad. Flowers red.

Warted-podded Ormocarpum. Shrub 3 to 6 feet.

2 O.? sulca'tum (Beauv. l. c. in a note) leaves simple, small; joints of legume furrowed, but not warted. ♄. S. Native of St. Domingo. Perhaps *Pictètia Desvaúxii.* Flowers red.

Furrowed-podded Ormocarpum. Shrub 3 to 4 feet.

* * *Leaves impari-pinnate.*

3 O. sennoïdes (D. C. prod. 2. p. 315.) leaves impari-pinnate, with 6-7 pairs of obovate, retuse mucronulate leaflets; joints of legume striated and beset with prickly tubercles. ♄. S.

Native of the East Indies. Hedýsarum sennoìdes, Willd. spec. 3. p. 1207. O. cassioìdes, Desv. l. c. Flowers red?
Senna-like Ormocarpum. Fl. July, Aug. Clt. 1816. Sh. 3 to 6 feet.

4 O. CORONILLOÌDES; shrubby, erect, branched; leaves impari-pinnate; leaflets oblong, emarginate, glaucous; flowers lateral, pedunculate; legumes with 6-7 furrowed, glabrous joints, which taper at both ends. ♄. S. Native of the island of St. Thomas, in Guinea, on a little island in Man-of-War Bay.
Coronilla-like Ormocarpum. Shrub 6 feet.

* * * *Leaves abruptly pinnate.*

5 O. E'LEGANS; shrubby, smooth except the young leaves, which are silky; leaves abruptly pinnate, with 8-10 pairs of ovate-lanceolate, mucronate leaflets; racemes axillary, not so long as the leaves; calyx smooth, slightly 5-lobed; vexillum large. ♄. S. Native of Mexico. Legumes stipitate, 3-jointed; joints tapering to both ends. Calyx permanent. Flowers purple.
Elegant Ormocarpum. Shrub 3 to 6 feet.

6 O. COCCI'NEA; shrub rather villous, with 10-16 pairs of obovate-lanceolate, obtuse, mucronate leaflets; racemes shorter than the leaves; calyx campanulate, almost truncate. ♄. S. Native of Mexico. Flowers apparently scarlet.
Scarlet-flowered Ormocarpum. Shrub 3 to 4 feet.
Cult. See *Pictètia*, p. 278. for culture and propagation.

CXLIII. AMI'CIA (in honour of Joseph Baptiot Amici, a celebrated French physician). H. B. et Kunth, nov. gen. amer. 6. p. 511. t. 600. D. C. prod. 2. p. 315.—Zygómeris, Moc. et Sesse, fl. mex. icon. ined.

LIN. SYST. *Monadélphia, Decándria.* Calyx campanulate, 5-cleft, 2 upper lobes roundish, large, 2 lateral ones minute, the lowest one oblong, keeled, and concave. Corolla with an orbicular vexillum, and with the wings applied to the keel. Stamens 10, monadelphous, with the tube or sheath cleft in front. Legume linear, compressed, many-jointed, with the joints truncate at both ends.—Climbing shrubs. Branches and petioles pubescent. Leaves abruptly pinnate, with 2 pairs of leaflets, full of pellucid dots. Peduncles axillary, 5-6-flowered. Bracteas 2, orbicular, opposite, at the origin of the pedicels. Flowers yellow. This genus is nearly allied to *Poirètia*, but is easily distinguished by the form of the calyx.

1 A. GLANDULÒSA (H. B. et Kunth, l. c.) leaflets obovate, somewhat emarginate; vexillum obcordate; legume with 5 joints. ♄. ◡. S. Native of New Granada, near Loxa.
Glandular Amicia. Shrub cl.

2 A. ZYGÓMERIS (D. C. prod. 2. p. 315.) leaflets cuneate-obcordate, mucronate; vexillum broadly obovate, mucronate; legumes having 2 joints. ♄. ◡. S. Native of Mexico. Zygómeris flàva, Moc. et Sesse, fl. mex. icon. ined. According to the figure there are 2 of the stamens longer than the rest.
Two-jointed-podded Amicia. Clt. 1826. Shrub cl.
Cult. See *Pictètia*, p. 278. for culture and propagation.

CXLIV. POIRE'TIA (in honour of J. L. M. Poiret, a French botanist and traveller in Barbary, editor of the supplement to Lamarck's Dictionnaire de Botanique, 4 vols. 4to). Vent. choix. t. 42. but not of Gmel. nor Smith, nor Cav. D. C. prod. 2. p. 315.—Turpínia, Pers. ench. 2. p. 314. but not of Bonpl. nor Rafin.

LIN. SYST. *Monadélphia, Decándria.* Calyx campanulate, bilabiate, upper lip somewhat bidentate, lower one tridentate. Corolla with a semi-orbicular, emarginate vexillum, thrown back from the keel, with reflexed sides; wings spreading. Stamens 8-10, monadelphous, with the tube or sheath cleft in front. Stigma capitate. Legume with 3-4, compressed, 1-seeded, straight, truncate joints, separating at maturity.—Climbing shrubs, having the habit of *Glýcine*, with abruptly pinnate leaves, bearing 2 pairs of leaflets. Stipulas distinct from the petiole. Racemes short, axillary. Flowers covered with glandular dots.

1 P. SCA'NDENS (Vent. l. c.) stems climbing, glabrous; leaves with 2 pairs of obovate retuse leaflets, full of pellucid dots; racemes few-flowered, shorter than the petioles. ♄. ◡. S. Native of St. Domingo, and near Caraccas, among bushes. H. B. et Kunth, nov. gen. amer. 6. p. 510. Glýcine, Lam. ill. t. 609. f. 2. Turpínia punctàta, Pers. l. c. P. punctàta, Desv. journ. bot. 3. p. 122. t. 5. f. 17. Glýcine punctàta, Willd. spec. 3. p. 1066.
Climbing Poiretia. Clt. 1823. Shrub cl.

2 P. PSORALEOÌDES (D. C. prod. 2. p. 315.) stem erect, angular; leaves with 4 obovate leaflets, full of pellucid dots; flowers almost terminal, glomerate. ♄. S. Native of Monte Video, at the bottom of mountains. Psoràlea tetraphýlla, Poir. suppl. 4. p. 589. The leaves are sometimes composed of 3 or 5 leaflets from some cause or other.
Psoralea-like Poiretia. Shrub 2 to 3 feet.
Cult. See *Pictètia*, p. 278. for culture and propagation.

CXLV. PLANA'RIUM (from *planarius*, plain; in reference to the broad flat legumes). Desv. obs. legum. in Schlecht. Linnæa. 2. p. 511.

LIN. SYST. *Diadélphia, Decándria.* Calyx campanulate. Stamens diadelphous. Legume on a short stipe, compressed, 8-jointed, having a prominent longitudinal nerve in the middle of the valves.—A climbing shrub, with impari-pinnate leaves.

1 P. LATISI'LIQUUM (Desv. l. c.). ♄. ◡. S. Native of Peru. Poirètia latisiliquòsa, Desv. journ. bot. and D. C. prod. 2. p. 316? Hedýsarum latisiliquòsum, Juss. herb. Poir. dict. 6. p. 432. Stems pubescent. Leaves with 5 oval, acute leaflets. Racemes axillary, few-flowered, longer than the petioles.
Broad-podded Planarium. Shrub cl.
Cult. See *Pictètia*, p. 278. for culture and propagation.

CXLVI. MYRIADE'NUS (from μυριος, *myrios*, innumerable, and αδην, *aden*, a gland; in reference to the leaves being beset with numerous glands). Desv. journ. bot. 3. p. 121. t. 4. f. 11. D. C. prod. 2. p. 316. but not of Cass.

LIN. SYST. *Diadélphia, Decándria?* Calyx tubular, 5-toothed, and appearing as if hidden within 2 opposite bracteas. Corolla and stamens unknown. Legume constantly composed of numerous, terete, somewhat obconical, 1-seeded, indehiscent joints.—An erect smooth herb, having 4 dotted, obovate, emarginate leaflets at the top of each petiole, with very short, axillary, solitary, 1-flowered pedicels, and yellow flowers. This genus is not sufficiently known, but it appears to be nearest allied to *Poirètia*, in the leaves being of 4 glandular leaflets.

1 M. TETRAPHY'LLUS (D. C. prod. 2. p. 316.). ⊙. S. Native of Jamaica.—Sloan. jam. 1. p. 186. t. 116. f. 3. Ornithopus tetraphýllus, Lin. amœn. 5. p. 402. Lunan. hort. jam. 1. p. 94. Leaflets cuneated, obtuse, or emarginate, glabrous, dotted beneath, all rising from the apex of the petiole.
Four-leafletted Myriadenus. Fl. Ju. Jul. Clt. 1818. Pl. 1 ft.
Cult. The seeds of this plant require to be sown in pots and placed on a hot-bed in spring, and when the plants are strong enough they may be removed to the stove or greenhouse, or they may remain in the frame, where they will ripen seeds.

CXLVII. ZO'RNIA (in honour of John Zorn, once an apothecary at Kempten in Bavaria, author of Icones plantarum medicinalium, 8vo. Nuremberg, 1779 and 1784). Gmel. syst. 1076. Michx. fl. bor. amer. 2. p. 76. Desv. journ. bot. 3. p. 124. t. 5. f. 25. D.C. prod. 2. p. 316.—Anónyma, Walt. car. 181.

LIN. SYST. *Monadélphia, Decándria.* Calyx campanulate, bilabiate, upper lip emarginate, lower one 3-cleft. Corolla inserted in the bottom of the tube of the calyx. Vexillum having revolute sides. Keel bifidly lunulate. Stamens monadelphous. Anthers alternately globose and ovate. Legume compressed, 3-5-jointed; joints nearly orbicular, usually hispid.—Glabrous herbs, full of pellucid dots. Stipulas sagittate, lower ones lanceolate, upper ones the largest, and forming girding bracteas. Leaflets 2 or 4, rising from the top of the petiole. Flowers yellow, surrounded by the large stipulas.

* *Leaves having 2 leaflets rising from the top of each petiole.*

1 Z. ANGUSTIFÒLIA (Smith, in Rees' cycl. no. 1.) stems diffuse; leaflets oblong-lanceolate; bracteas ovate-sagittate, 5-nerved, ciliated, shorter than the legumes, full of glandular dots; prickles of legume covered with retrograde stiff hairs. ⊙. S. Native of the Mauritius and the East Indies, in sandy places.—Rheed. mal. 9. t. 82. Z. diphýlla *α*, Pers. 2. p. 318. Hedýsarum diphýllum, var. *α*, Lin. syst. 560. exclusive of the synonyme of Sloane. In some specimens of this plant the legumes are prickly their whole length, in others only at their apex.

Narrow-leafletted Zornia. Fl. July, Aug. Clt. 1733. Pl. ½ to 1 foot.

2 Z. GLOCHIDA'TA (Reichb. in Sieb. pl. exsic. seneg. no. 40.) stems erect, branched; leaflets linear; bracteas ovate-sagittate, 5-nerved, dotless, and ciliated with long hairs, a little shorter than the legumes; legume with 3-4 joints, beset with glochidate prickles, which are covered with retrograde stiff hairs. ⊙. S. Native of Senegal.

Glochidated-podded Zornia. Fl. July, Aug. Clt. 1823. Pl. ¼ to ½ foot.

3 Z. BIARTICULA'TA; stem branched; leaflets lanceolate, acute; spikes few-flowered; stipulas ovate, membranous, acute, 4-5-nerved, ciliated; legumes 2-jointed, echinated; prickles hooked at apex. ⊙. S. Native of the Gold Coast, in sandy places.

Two-jointed-podded Zornia. Pl. ½ foot.

4 Z. GRA'CILIS (D. C. prod. 2. p. 316.) stems erect; leaflets oblong-lanceolate; bracteas linear-sagittate, acuminated at both ends, 5-nerved, a little ciliated, full of glandular dots; prickles of legume beset with stiff retrograde bristles. ⊙. S. Native of Guiana.

Slender Zornia. Pl. ¼ to ½ foot.

5 Z. RETICULA'TA (Smith, in Rees' cycl. no. 2.) stems erect; leaflets lanceolate, glabrous, lower ones elliptic; bracteas ovate, acute, ciliated, glandless, 5-nerved, reticulated, length of legumes; legumes pubescent, as well as furnished with a few downy prickles. ⊙. S. Native of Jamaica, Cayenne, Porto Rico, and Santa Cruz. Hedýsarum diphýllum *β*, Lin. Swartz. and Willd. Z. diphýllum *β*, ciliàtum, Pers.

Var. β, pubérula (D. C. prod. 2. p. 316.) branches pubescent at the apex; bracteas ovate-lanceolate, acuminated, longer than the legumes. ⊙. S. Native of Cayenne. Perhaps a proper species. Perhaps only a variety of *Z. pubéscens.*

Reticulated-bractead Zornia. Fl. Jul. Aug. Clt. 1800. Pl. 1 ft.

6 Z. THYMIFÒLIA (H. B. et Kunth, nov. gen. amer. 6. p. 514.) stems diffuse, and are as well as the petioles pubescent; leaflets oblong, glabrous above, but puberulous beneath, having the margins dotted as well as the calyxes; bracteas ovate, 5-nerved, puberulous and glandular beneath; legumes rather pilose, the joints reticulated with veins. ♄.? ♃.? S. Native of Mexico, near Santa Rosa.

Var. β, clandestìna; plant larger and more branched; leaves dotless; bracteas a little dotted, glabrous, ciliated. ⊙. S. Native of Mexico, near Jalapa. Z. thymifòlia, Schlecht. et Cham. in Linnæa. 5. p. 582. Perhaps a proper species.

Thyme-leaved Zornia. Pl. ¼ to ½ foot.

7 Z. LÆ'VIS (Schlecht. et Cham. in Linnæa. 5. p. 582.) plant smooth; bracteas somewhat 7-nerved, sparingly dotted, ciliated; legumes smooth, but rather puberulous between the joints; leaflets variable, ovate, or ovate-lanceolate, acute. ⊙. S. Native of Mexico, near Jalapa.

Smooth Zornia. Pl. ½ foot.

8 Z. PUBE'SCENS (H. B. et Kunth, nov. gen. amer. 6. p. 515.) stem erect, dichotomously branched, glabrous; branches and petioles clothed with villous pubescence; leaflets oblong-lanceolate, pubescent on both surfaces, and are glandless as well as the calyxes; bracteas ovate, acute, ciliated, dotted; legumes hispid and muricated, having 5-6 joints. ⊙. S. Native of South America, on the banks of the river Magdalena, near Honda.

Pubescent Zornia. Pl. 1 to 2 feet.

9 Z. LATIFÒLIA (D. C. prod. 2. p. 317.) plant ascending, clothed in every part with villi; bracteas ovate, acute, many-nerved. ⊙. H. Native of Brazil. Leaflets ovate, 12-18 lines long and 8-9 broad, longer than the petioles. Flowers large. Legume unknown.

Broad-leafletted Zornia. Pl. ½ to ¾ foot.

10 Z. MARANHAME'NSIS; stems erect, branched, pubescent at the apex; leaflets lanceolate, acute; stipulas subulate; bracteas lanceolate, 3-nerved, acute, villous; legume with 3-4 hispid joints. ⊙. S. Native of Maranham.

Maranham Zornia. Pl. ½ foot.

11 Z. ZEYLONE'NSIS (Pers. ench. 2. p. 318.) leaflets ovate; bracteas ovate, ciliated; legumes prickly; stem erect. ⊙. S. Native of Ceylon.—Burm. zeyl. t. 50. f. 1. Pluk. alm. t. 102. f. 1. Hedýsarum conjugàtum, Willd. spec. 3. p. 1178. H. diphýllum, var. Lin. Z. conjugàta, Smith, in Rees' cycl. no. 3.

Ceylon Zornia. Fl. July, Aug. Clt. 1825. Pl. ½ foot.

12 Z. DICTYOCA'RPA (D. C. prod. 2. p. 317.) leaflets lanceolate; bracteas ovate-sagittate, acuminated, shorter than the legumes, a little ciliated and rather glandular, hardly 5-nerved; joints of legume unarmed, glabrous, reticulated. ⊙. H. Native of New Holland. Sieb. pl. exsic. nov. holl. no. 610.

Net-fruited Zornia. Fl. July, Aug. Clt. 1820. Pl. ½ foot.

* * *Leaves bearing 4 leaflets at the apex of each petiole.*

13 Z. TETRAPHY'LLA (Michx. fl. bor. amer. 2. p. 76. t. 41.) leaflets 4, digitate, oblong, acuminated; bracteas glabrous, length of legumes, 5-nerved; prickles of legume rather scabrous. ♃. F. Native of Carolina, in sandy fields. Anónymos bracteàta, Walt. car. 181. Z. bracteàta, Gmel. syst. 1096. Hedýsarum tetraphýllum, Lam. dict. 2. p. 405. but not of Thunb.

Four-leafletted Zornia. Fl. June, July. Clt. 1824. Pl. 1 ft.

14 Z. CAPE'NSIS (Pers. ench. 2. p. 317.) leaflets 3-4, oblong, rather acute, dotted beneath; bracteas semisagittate at the base, but ovate at the top; legumes 4-jointed, reticulately scabrous. ⊙. G. Native of the Cape of Good Hope, in the interior of the country. Hedýsarum tetraphýllum, Thunb. nov. act. ups. 6. p. 44. t. 3. fl. cap. 595. Z. heterophýlla, Smith, in Rees' cycl. no. 5.

Cape Zornia. Fl. July, Aug. Clt. 1824. Pl. ¼ to ½ foot.

Cult. See *Myriadènus*, p. 279. for culture and propagation.

CXLVIII. STYLOSA'NTHES (from στυλος, *stylos*, a style, ανθος, *anthos*, a flower; in allusion to the flower having a long style). Swartz, prod. 108. act. holm. 1789. p. 296. fl. ind. occ. 1280. t. 25. Lam. ill. t. 627. D. C. prod. 2. p. 317.

LIN. SYST. *Monadélphia, Decándria.* Tube of calyx very long and slender, with a 5-parted limb; the lobes unequal. Corolla inserted in the throat of the tube of the calyx. Keel minute, bifid at the apex. Stamens monadelphous, having the tube or sheath cleft in front. Ovary sessile. Style filiform, very long and straight, crowned by a capitate, hispid stigma. Legume having 2 1-seeded joints, the upper joint acuminated and hooked at the apex from the permanent base of the style.—Small herbs or subshrubs, with branching stems, trifoliate leaves, having the middle leaflet almost sessile. Stipulas adnate to the petioles. Spikes of flowers terminal, dense, imbricated by the stipulas and bracteas. Flowers small, yellow.

1 S. PROCU'MBENS (Swartz, in act. holm. l. c. t. 11. f. 1. fl. ind. occ. 3. p. 1282.) stem suffruticose, procumbent, clothed with adpressed pubescence at the apex; leaflets oblong, acute, glabrous, lined; spikes many-flowered. ♄. S. Native of Jamaica, St. Domingo, Porto Rico, and Guadaloupe, in waste grassy fields.—Sloan. hist. 1. t. 119. f. 2. Hedýsarum hamàtum α, Lin. spec. 1056. Onònis cerrifòlia, Reichb. in Sieb. pl. exsic. seneg. no. 37.

Procumbent Stylosanthes. Fl. June, Aug. Clt. 1821. Sh. pr.

2 S. ERE'CTA (Beauv. fl. d'ow. 2. p. 28. t. 77.) stem erect, glabrous; leaflets ovate-oblong, glabrous, as well as the stipulas; spikes many-flowered, elongated. ⊙. S. Native of tropical Africa, on the western coast.

Erect Stylosanthes. Fl. July, Aug. Clt. 1825. Shrub 1 ft.

3 S. VISCÒSA (Swartz, in act. holm. l. c. t. 9. f. 2. fl. ind. occ. 3. p. 1285.) shrubby, erect; branches clothed with clammy hairs; leaflets elliptic, mucronate, ciliately serrulated, hairy; spikes few-flowered. ♄. S. Native of the south of Jamaica and Mexico, in sandy mountainous places.—Sloan. hist. 1. t. 119. f. 1. Hedýsarum hamàtum β, Lin. spec. 1056.

Clammy Stylosanthes. Fl. July, Aug. Clt. 1818. Sh. 1 ft.

4 S. MUCRONA'TA (Willd. spec. 3. p. 1166.) stem suffruticose; branches pubescently hairy; leaflets oblong-ovate, pubescent beneath, ciliately serrulated; spikes few-flowered; bracteas ciliated. ♃. S. Native of Ceylon and Tranquebar, in sandy places.—Burm. zeyl. t. 106. f. 2. Hedýsarum hamàtum, Burm. ind. 167. Aràchis fruticòsa, Retz. obs. 5. p. 26., but the stems are said to be erect, but in the specimens which have been examined they appear to be diffuse, but according to the description of Burmann, they are procumbent.

Mucronate Stylosanthes. Fl. July, Aug. Clt. 1817. Pl. diff.

5 S. RÍGIDA (Spreng. syst. 3. p. 310.) stem shrubby; branches straight; leaflets almost sessile, oblong, mucronate, coriaceous, shining above, rather tomentose and reticulately wrinkled beneath; spikes short, few-flowered; bracteas ovate, minute. ♄. S. Native of Brazil.

Stiff Stylosanthes. Shrub 1 to 2 feet.

6 S. HU'MILIS (H. B. et Kunth, nov. gen. amer. 6. p. 506. t. 594.) stems tufted and somewhat dichotomously branched, and marked with a hairy line; leaflets oblong, and are as well as the calyxes ciliated; stipulas hispid, falcate, subulate at the apex; flowers axillary, sessile; legumes ending in a hooked awn, reticulated, hispid. ♄. S. Native of South America, on the Orinoca, near Carichana, in very warm places.

Humble Stylosanthes. Shrub procumbent.

7 S. GLUTINÒSA (H. B. et Kunth, l. c.) plant procumbent and clothed with clammy hairs; leaflets spatulate or obovate-oblong; flowers axillary, solitary, sessile: stipulas ovate-lanceolate, 4-nerved. ♃. S. Native of Mexico, near Acapulco, in sandy places. Flowers red.

Glutinous Stylosanthes. Pl. procumbent.

8 S. TENUIFÒLIA; stem erect, branched; leaflets linear, acute, stiff; flowers numerous, disposed in terminal spikes. ⊙. S. Native of Maranham.

Fine-leaved Stylosanthes. Pl. 1 foot.

9 S. ELA'TIOR (Swartz, in act. holm. l. c. t. 11. f. 2.) stem herbaceous, erect, with one side pubescent only; leaflets lanceolate, glabrous; spikes few-flowered; bracteas lanceolate, ciliated. ♃. F. Native of North America, from Pennsylvania to Carolina, and of Guadaloupe.—Pluk. alm. t. 447. f. 7. Trifòlium biflòrum, Lin. spec. 1088. Aràchis aprica, Walt. carol. 182. S. híspida, Michx. but not of Rich.

Taller Stylosanthes. Fl. July, Aug. Clt. 1816. Pl. 1 to 2 ft.

10 S. GRA'CILIS (H. B. et Kunth, l. c. t. 596.) stem erect, marked with a pubescent line, rather hispid at the apex; leaflets linear, puberulous; young stipulas and bracteas hispid; flowers disposed in terminal glomerate heads, which are involucrated with bracteas; legumes glabrous, ending in a hooked mucrone, and having a few glandular tubercles at the apex. ⊙. H. Native of Mount Turimiriquiri, in the province of New Andalusia.

Slender Stylosanthes. Pl. 3 to 4 feet.

11 S. HI'SPIDA (Rich. in act. soc. h. n. par. 1792. p. 112.) stems herbaceous, glabrous, diffuse; leaflets lanceolate, mucronate, hispid; stipulas and bracteas ciliated, hispid; spikes many-flowered. ♃. S. Native of Cayenne.

Hispid Stylosanthes. Pl. diffuse.

12 S. GUINEE'NSIS; plant suffruticose, much branched, ascending; leaflets small, oblong-lanceolate, mucronate; stipulas sheath-formed, mucronate; pedicels short, 1-flowered, axillary. ♄. S. Native of Cape Coast.

Guinea Stylosanthes. Shrub 1 foot.

13 S. GUIANE'NSIS (Swartz, in act. holm. l. c.) stem herbaceous, erect, hairy; leaflets lanceolate, pubescent, longer than the petioles; stipulas and bracteas hispid; spikes many-flowered. ⊙. S. Native of French Guiana, in meadows, and near Mariquito, in New Granada. H. B. et Kunth, nov. gen. amer. 6. p. 508. Trifòlium Guianénse, Aubl. guian. 2. p. 776. t. 309.

Guiana Stylosanthes. Fl. July, Aug. Clt. 1820. Pl. 3 ft.

Cult. This genus contains plants of no beauty, and are therefore not worth cultivating, unless in botanical gardens. The annual species should be treated like the species of *Zórnia.* The shrubby and perennial herbaceous kinds like other stove plants. They are all most easily increased by seeds.

CXLIX. ADE'SMIA (from α, priv. and δεσμος, *desmos*, a bond; in reference to the stamens being free). D. C. ann. sc. nat. 4. p. 94. jan. 1825. legum. mem. vii. prod. 2. p. 318.

LIN. SYST. *Decándria, Monogýnia.* Calyx 5-cleft, with the segments acute and nearly equal. Corolla papilionaceous. Vexillum complicated above the rest of the petals when young. Keel curved and truncate at the apex. Stamens distinct, approximate. Legume compressed, transversely many-jointed, having the upper suture straight and thickish, but the lower suture is sinuately lobed; joints 1-seeded, nearly orbicular, at length separating from each other. Seeds compressed, reniformly orbicular.—South American herbs, with lanceolate stipulas, abruptly pinnate leaves, ending in a bristle, axillary, 1-flowered pedicels, or the flowers are disposed in something like racemes at the tops of the branches, in consequence of the upper leaves being abortive. Dr. Hooker's arrangement of the species of this genus is here adopted.

SECT. I. A'NNUÆ. Annual herbs, having the lower flowers axillary, solitary, and pedicellate, but the upper ones form a panicle at the tops of the branches, in consequence of the upper leaves being abortive. Flowers yellow. The plants contained in this section have the habit of *Smíthia.*

1 A. MURICA'TA (D. C. in ann. sc. nat. 4. p. 94. jan. 1825.) stem decumbent, scabrous from glands; leaves with 5-7 pairs of obovate, emarginate leaflets, having scabrous margins; pedicels axillary, and also disposed in terminal racemes; legumes with 6-8 muricated joints. ⊙. H. Native of Patagonia. Hedýsarum muricàtum, Jacq. icon. rar. t. 568. coll. 5. p. 145. Æschinómene Patagónica, Hortul. Patagònium hedysaroìdes, Schranck. in munch. denschr. 1808. p. 91. Hedýsarum pimpinellæfòlium, Poir. dict. 6. p. 447.

Muricated-podded Adesmia. Fl. June, July. Clt. 1793. Pl. decumbent.

2 A. Smíthiæ (D. C. l. c.) stems decumbent, pubescent: leaves with 5 pairs of cuneate, emarginate, pubescent leaflets; pedicels axillary, 1-flowered, shorter than the leaves; joints of legume 4-8, pilose. ⊙. S. Native of South America. Like *A. muricàta*, but the down on the stems is soft, not glandular, and clammy, and the pedicels are all axillary. Habit of *Smíthia*.

Smith's Adesmia. Pl. decumbent.

3 A. hispídula (D. C. l. c. t. 48.) stems diffuse, puberulous, and with the petioles and peduncles scabrous from a few retrograde spines; leaves with 4-6 pairs of oblong, obtuse leaflets, which are a little toothed at the apex and pilose on the margins; pedicels axillary, 1-flowered; joints of legume 4-8, furnished in the centre with feathery bristles. ⊙. S. Native of Peru. Æschinómene hispídula, Lag. nov. gen. et spec. p. 22. no. 297. Hedýsarum péndulum, var. β, Poir. dict. 6. p. 449. ex Desv. Hedýsarum uniflòrum, Domb. herb.

Hispid Adesmia. Pl. diffuse.

4 A. tene'lla (Hook, in Beech. voy. p. 19.) plant pubescently-hairy, glandless; stems procumbent, simple; leaves with 3-4 pairs of obovate, obtuse, or retuse leaflets, and sometimes furnished with a terminal one; pedicels axillary, 1-flowered, lower ones equal in length to the leaves; calycine segments ovate-lanceolate; legume with 2-3 muricated joints, equal in length to the calyx. ⊙. H. Native of Chili, on hills near Valparaiso.

Tender Adesmia. Pl. procumbent.

5 A. angustifòlia (Hook, in Beech, voy. p. 19.) plant pubescently hairy, glandless; stems procumbent; leaves with 4-5 pairs of remote, linear, bluntish leaflets; pedicels 1-flowered, lower ones shorter than the leaves; calycine segments lanceolate; legume 5-6-jointed, beset with a few plumose stiff bristles, twice the length of the calyx. ⊙. H. Native about Valparaiso.

Narrow-leafletted Adesmia. Pl. procumbent.

Sect. II. Pere'nnes. Perennial herbs, with very long, terminal leafless racemes, and panicles. Flowers yellow. Plants with the habit of *Onobrýchis*.

6 A. denta'ta (D. C. in ann. sc. nat. 4. p. 94. jan. 1825. legum. mem. t. 49.) stem erect, beset with glandular pubescence; leaves with 4-5 pairs of obovate, truncate leaflets, which are deeply serrated at the apex, when young rather villous; joints of legume 4-8, muricated. ♃. S. Native of South America. Æschinómene dentàta, Lag. nov. gen. et spec. p. 22. no. 296.

Toothed-leafletted Adesmia. Pl. 1 to 2 feet.

7 A. bícolor (D. C. l. c.) stems prostrate; leaves with 9-12 pairs of lanceolate, acute, entire, pubescent leaflets; stipulas conforming to the leaves; racemes very long, opposite the leaves; joints of legume 6-8, rounded in front, and clothed with very short pubescence. ♃. S. Native of Monte Video, on rocks by the sea-side and in the sand. Hedýsarum bicolòrum, Poir. dict. 6. p. 448. Pedicels 6-8 lines long. Flowers rather large, red on the outside but yellow on the inside.

Two-coloured-flowered Adesmia. Pl. prostrate.

8 A. pe'ndula (D. C. l. c.) stems diffuse, hardly pubescent; leaves with 7-9 pairs of oval-oblong, entire, pubescent leaflets; racemes elongated; lower flowers distant; legumes pendulous, with 7-8 rather hispid joints. ♃. S. Native of Monte Video and Buenos Ayres. Hedýsarum péndulum, Poir. dict. 6. p. 449. var. α. Flowers yellow, but reddish on the outside.

Pendulous-podded Adesmia. Fl. June, July. Clt. 1825. Pl. diffuse.

9 A. puncta'ta (D. C. l. c.) stems procumbent, beset with glandular pili; leaves with 9-12 pairs of linear, obtuse, entire, rather mucronate, pubescent, ciliated leaflets; racemes spicate, crowded with flowers; joints of legume 4-8, oblong, hairy, and dotted with black. ♃. S. Native of Monte Video and Buenos Ayres. Hedýsarum punctàtum, Poir. dict. 6. p. 447. Calycine segments linear-subulate. Flowers apparently purplish on the outside.

Dotted-podded Adesmia. Pl. procumbent.

10 A. pappòsa (D. C. l. c. with a figure) stem ascending, leafy and villous at the base; leaves with 8-10 pairs of obovate, retuse, mucronate, entire, rather pilose leaflets, when young pubescent beneath; racemes terminal, compound, very long, glabrous, pedunculate, many-flowered; calyx glandless; base of vexillum with a tuft of hairs; legume with 2 joints, beset with soft plumose bristles. ♃. G. Native of Chili. Æschinómene pappòsa, Lag. nov. gen. et spec. p. 23. no. 298. Hedýsarum pappòsum, Lher. ined. Flowers small, with a reflexed vexillum. Stamens probably only 5. Habit almost of *Oxýtropis defléxa*.

Downy-bristled Adesmia. Fl. Ju. Jul. Clt. 1823. Pl. asc.

11 A. longise'ta (D. C. l. c.) plant decumbent, villous; leaves with 6-7 pairs of obovate, mucronulate leaflets, which are villous on both surfaces; racemes almost terminal; flowers distant, on long pedicels; calyxes glandular; legumes 2-jointed, beset with long, plumose stiff bristles. ♃. S. Native of South America. Herb almost with the habit of *Anthýllis montàna*, the flowers of *Onònis*, the legumes of *Onobrýchis*, and the stamens of *Sophòra*.

Long-bristled-podded Adesmia. Pl. decumbent.

12 A. confe'rta (Hook, in Beech. voy. p. 20.) plant ascending, pubescent; leaves with 6 pairs of obovate-oblong, retuse, mucronate leaflets; racemes terminal, compound, beset with black glands, many-flowered; fructiferous pedicels deflexed; calycine segments ovate; legume 3-4-jointed, muricated, and glandular. ♃. G. Native of Chili.

Crowded-flowered Adesmia. Pl. ascending.

13 A. fruticulòsa; stem decumbent, pilose, as well as the petioles; leaves with numerous pairs of small, lanceolate, mucronate leaflets; peduncles few-flowered, shorter than the leaves; legumes 3-4-jointed, hairy, and muricated. ♃. S. Native of Mexico. Æschinómene fruticulòsa, N. E. herb. Lamb.

Fruticulose Adesmia. Pl. decumbent.

14 A. mimosoìdes; plant procumbent; branches and petioles villously pubescent; leaves with numerous, linear, alternate, sessile, obtuse, mucronate leaflets, which are oblique at the base; pedicels short, 1-flowered. ♃. S. Native of Mexico. Æschinómene mimosoìdes, N. E. in herb. Lamb.

Mimosa-like Adesmia. Pl. procumbent.

Sect. III. Spinòsæ. Stems shrubby, spinose. There are numerous unpublished species belonging to this section in Dr. Gillies's herbarium.

15 A. microphy'lla (Hook, in Beech. voy. p. 19. t. 9. Lodd. bot. cab. 1691.) stem shrubby, much branched; branches striated, pubescent, divaricate, spinose; leaves with 6 pairs of small, orbicular leaflets, on short petioles, pubescent; racemes of flowers somewhat capitate, terminal, simple, spinescent; bracteas orbicular; legumes 3-jointed, covered with long plumose bristles, which are stiff and naked at the base. ♄. G. Native of Valparaiso. Plant dichotomous, resembling furze. Stamens and petals free.

Small-leaved Adesmia. Fl. summer. Clt. 1826. Sh. 1 to 2 ft.

16 A. glutinòsa (Hook, in Beech. voy. p. 19.) stem shrubby, branched; branches spreading, beset with glandular, glutinous hairs, spinose; leaves with about 3 pairs of elliptic, hairy leaflets; racemes elongated, terminal, simple, spinescent, and are as well as the linear bracteas clothed with white hairs; legumes

3-jointed, very long, clothed with plumose bristles. ♄. G. Native of Chili, about Coquimbo.

Glutinous Adesmia. Shrub 1 to 2 feet.

SECT. IV. FRUTICÒSÆ. Plants shrubby, unarmed.

17 A. BALSAMÍFERA (Hook, in Beech. voy. p. 20.) plants densely beset with resinous glands; stem much branched; leaves with usually 10 pairs of cuneate-oblong leaflets, usually ending in an odd one; legume 6-jointed, silky when young. ♄. G. Native of Chili, where it is called *Jarilla*. Mimòsa balsámica, Feuill. chil. 1. p. 134. The plant, besides being of great beauty, yields a balsam of a highly agreeable odour, which is perceptable at a great distance, and is found to be of great efficacy in healing wounds.

Balsam-bearing Adesmia. Shrub.

18 A. FLORIBU'NDA; plant erect, shrubby; branches pubescent; leaves with numerous pairs of lanceolate-oblong, mucronate, villous leaflets, which are obtuse at both ends and villous beneath as well as the petioles; peduncles axillary, few-flowered, aggregate, short, forming a panicled raceme at the tops of the branches, in consequence of the upper leaves being abortive. ♄. G. Native of Mexico. Æschinòmene, spec. nov. N. E. in herb. Lamb. An elegant shrub.

Bundle-flowered Adesmia. Shrub 2 to 4 feet.

Cult. The annual species should be treated in the same manner as that recommended for *Myriadènus*, see p. 279. The shrubby and perennial kinds will grow well in a mixture of loam, peat, and sand, and they may be propagated either by young cuttings, planted in sand, with a hand-glass placed over them; those of the stove species in heat, or by seeds, the latter mode is to be preferred.

CL. ÆSCHYNO'MENE (from *αισχυνω*, *aischuno*, to be ashamed: in reference to the leaves of some of the species falling on the slightest touch, like those of the sensitive plant). Lin. gen. 888. Lam. ill. 629. Beauv. fl. d'ow. 1. p. 88. R. Brown, in hort. kew. ed. 2. vol. 4. p. 336. Desv. journ. bot. 3. p. 124. t. 6. f. 26. D. C. prod. 2. p. 320, but not of Jaum.

LIN. SYST. *Diadélphia, Decándria.* Calyx 5-cleft, bilabiate, upper lip bifid, lower one trifid or tridentate. Corolla papilionaceous. Stamens 10, joined into 2 equal bundles or sets. Legume compressed, transversely articulated, straight, and exserted. Seeds compressed, solitary in the joints.—Tropical herbs and shrubs, with impari-pinnate leaves, having many pairs of leaflets, semisagittate stipulas, axillary racemes of yellow flowers, each furnished with 2 opposite bracteas just under the calyx.

1 Æ. A'SPERA (Lin. spec. 1060.) stem herbaceous, erect, terete; leaves with 30-40 pairs of linear leaflets, which are smooth as well as the legumes; racemes compound; peduncles, bracteas, calyxes, and corollas hispid. ♄. S. Native of the East Indies and Cochin-china. Æ. lagenària, Lour. cochin. p. 446. Æ. paludòsa, Roxb. Æ. lagenàrium, Roxb. hort. beng. p. 57. Breyn. cent. 51. t. 52. Stipulas ending in a long acumen each. The centres of the joints of the legume are scabrous from tubercles.

The substance known by the name of rice-paper is the produce of *Æ. áspera*; when held between the eye and the light its beautiful cellular tissue is discoverable. Dr. Livingstone first brought from China to Europe a quantity of this substance, which he presented about 26 years ago to Miss Jane Jack, who was celebrated for the beauty and accuracy of her artificial flowers. Formed of rice-paper they obtained additional celebrity, fetched very high prices, and were eagerly sought for by persons of the greatest rank and most acknowledged taste. For a bouquet which Miss Jack presented to the late Princess Charlotte of Wales, she received the regal present of 70*l*. When Dr. Livingstone first procured the rice-paper from the Chinese, the pieces did not exceed 4 inches square; they were dyed of various shades and colours, and cost about 6*d*. each square. Since that time the price has been much reduced, and the size of the pieces increased, so as to be upwards of a foot long and 5 inches across. The tinted pieces are employed by the Chinese for their artificial flowers, and the plain white for making drawings upon. Now this material is so much esteemed in Europe, that it is in request with people of all nations who visit Canton. The same substance is also known in our possessions in the East Indies, where it grows abundantly in the marshy plains of Bengal, and on the borders of the jeels, or extensive lakes in every province between Calcutta and Hurdwar. The plant is perennial and of low growth, and seldom exceeds a diameter of 2½ inches in the stem. It is brought to the Calcutta bazaars in great quantities in a green state, and the thickest stems are cut into laminæ, from which the natives form artificial flowers and various fancy ornaments to decorate their shrines at Hindoo festivals. The Indians make hats of rice-paper, by cementing together as many leaves as will produce the requisite thickness; in this way any kind of shape may be formed, and when covered with silk or cloth the hats are strong and inconceivably light. It is an article of great use to fishermen; it forms floats of the best description to their nets. The slender stems of the plant are bundled into fascines, about 3 feet long, and with one of these under his arm, does every fisherman go out to his daily occupation. With his net on his shoulders he proceeds to work without a boat, and stretches it into the deepest and most extensive lakes, supported by his buoyant faggot.

The cutting the material into laminæ is performed vertically round the stem. The most perfect stems are selected for this purpose, but few are found sufficiently free from knots to produce a cutting of more than 9 or 10 inches in length. The Bengalee name of the plant is *Shola*, commonly pronounced *Sola*, *Kath-shola*, and *Phool-shola*.

Rough Æschynomene. Fl. June, Jul. Clt. 1759. Sh. 6 to 8 ft.

2 Æ. SENSITI'VA (Swartz, fl. ind. occ. 3. p. 1276.) stem shrubby, smooth, terete; leaves with 16-20 pairs of linear leaflets; legumes and racemes glabrous; peduncles branched, few-flowered; joints of legume 6-10, nearly quadrangular, smooth in the middle, but rather pilose at the upper suture. ♄. S. Native of Jamaica, Martinico, and Brazil, in sandy places, and on the banks of rivulets. Leaves falling on being touched. Flowers white.

Sensitive Æschynomene. Fl. June, July. Clt. 1733. Sh. 3 to 6 feet.

3 Æ. MACRO'PODA (D. C. prod. 2. p. 320.) stem herbaceous, terete, scabrous at the apex as well as the branches, peduncles, and petioles; leaves with 10-12 pairs of linear leaflets; peduncles few-flowered; joints of legume 5-7, smooth, the stipe 3 times the length of the lower joint. ⊙. S. Native of Senegal. Stamens monadelphous at the base, but easily separated into 2 bundles, even in a dried state. Stipulas small.

Var. β, *Belvìsii* (D. C. prod. 2. p. 320.) leaves with 10 pairs of glabrous leaflets; peduncles branched, few-flowered, clothed with glandular pubescence; joints of legume 4-6, scabrous in the middle. ♄. S. Native of Prince's Island, on the western coast of Africa. Æ. sensitiva, Beauv. fl. d'ow. 1. p. 89. t. 53.

Long-footed-podded Æschynomene. Shrub 2 to 3 feet.

4 Æ. SULCA'TA (H. B. et Kunth, nov. gen. amer. 6. p. 530.) arborescent; branches striated from furrows, rather flexuous, glabrous, when young hispid as well as the peduncles; leaves with 17-21 pairs of linear, mucronate leaflets, which are glabrous as well as the calyxes; bracteas ciliated; joints of legume 7-9,

glabrous. ♄. S. Native of New Andalusia, near Bordones, in shady woods.

Furrowed-stemmed Æschynomene. Shrub 10 to 12 feet.

5 Æ. HISPI'DULA (H. B. et Kunth, nov. gen. amer. 6. p. 530.) arborescent; branches striated and rather flexuous; rachis, peduncles, and legumes hispid from tubercles; peduncles few-flowered; leaves with 15-20 pairs of oblong-linear, somewhat mucronulate leaflets, which are glabrous as well as the calyxes; stipulas and bracteas ciliated. ♄. S. Native of South America, on the banks of the river Magdalena, near Badilla.

Hispid-legumed Æschynomene. Shrub 6 to 10 feet.

6 Æ. I'NDICA (Lin. spec. 1061.) stem herbaceous, erect, terete, glabrous as well as the leaves; leaves with 15-20 pairs of linear leaflets; peduncles few-flowered; legumes glabrous, dotted; joints 10-12, straight on one side and rounded on the other. ⊙. S. Native of the East Indies and Guinea. Hedýsarum, Neli Tali. Roxb. hort. beng. 57.—Rheed. mal. 9. t. 18. Flowers yellow.

Indian Æschynomene. Fl. June, Jul. Clt. 1799. Pl. 2 to 3 ft.

7 Æ. GLABE'RRIMA (Poir. suppl. 4. p. 76.) stem erect, terete, glabrous as well as the leaves; leaves with 30-35 pairs of linear leaflets; peduncles few-flowered; legumes glabrous, dotted, having 10-12 joints, which are straight on one side and rounded on the other. ⊙. H. Native of Carolina, where it is perhaps spontaneous.

Quite-smooth Æschynomene. Pl. 2 to 3 feet.

8 Æ. AMERICA'NA (Lin. spec. 1061.) stem erect, terete, hispid; leaves with 10-20 pairs of linear, mucronate, rather ciliated leaflets; racemes simple, few-flowered; legumes glabrous, dotless, having 4-8 joints, which are straight on one side and rounded on the other. ⊙. S. Native of the West Indies. Lam. ill. t. 629. f. 2.—Sloan. jam. 1. t. 118. f. 3. There is a variety of this plant having a dwarfer, almost glabrous stem. Flowers brownish-yellow.

American Æschynomene. Fl. Jul. Aug. Clt. 1732. Pl. 3 ft.

9 Æ. GUAYAQUILE'NSIS; shrubby; plant hispid; leaves with numerous pairs of linear, obtuse, mucronate, smooth leaflets, which are serrated at the apex; peduncles few-flowered, shorter than the leaves; bracteas ovate, cordate, cuspidate, ciliately serrated; joints of legume 6-8, smooth, straight on one side and rounded on the other; stipulas semisagittate. ♄. S. Native of Guayaquil. Æschynómene species, Guayaquil, Ruiz et Pav. in herb. Lamb. along with the two following.

Guayaquil Æschynomene. Shrub 2 to 3 feet.

10 Æ. PLURIARTICULA'TA; plant herbaceous, smooth, erect; leaflets linear, obtuse, glabrous; peduncles few-flowered; joints of legume 14-18, smooth; bracteas large, serrated. ⊙. S. Native of Guayaquil. Stipulas large, semisagittate.

Many-jointed-legumed Æschynomene. Pl. 2 to 3 feet.

11 Æ. SCA'BRA; plant herbaceous, hispid; leaves with numerous pairs of linear leaflets, which are obtuse at both ends; peduncles few-flowered; bracteas serrated; joints of legume muricated in the centre. ⊙. S. Native of Guayaquil.

Scabrous Æschynomene. Pl. 2 to 3 feet.

12 Æ. PA'TULA (Poir. suppl. 4. p. 78.) stem suffruticose; branches spreading, hispid at the apex; leaves with 10-15 pairs of glabrous, linear, obtuse, hardly mucronulate leaflets; racemes simple, few-flowered; joints of legume 4-5, semi-orbicular, puberulous. ♄. S. Native of the Mauritius. Perhaps a variety of *Æ. Americàna.*

Spreading Æschynomene. Fl. July, Aug. Clt. 1826. Shrub trailing.

13 Æ. PU'MILA (Lin. spec. 1061.) stem herbaceous, smooth, rather diffuse; leaflets linear, obtuse, mucronulate, 10-15 pairs; racemes few-flowered; legumes glabrous, having a few joints which are straight on one side and rounded on the other, and scabrous in the centre. ⊙. S. Native of the East Indies.—Rheed. mal. 9. t. 21.

Dwarf Æschynomene. Fl. July, Aug. Clt. 1818. Pl. ½ ft.

14 Æ. PLEURONE'RVIA (D. C. prod. 2. p. 321.) stem terete, almost erect, clothed with adpressed pubescence, as well as the petioles and nerves; leaves with 20 pairs of semi-lanceolate leaflets, having almost a lateral nerve; stipulas lanceolate, striated, not produced at the base; racemes few-flowered, almost terminal; legumes pubescent, with a few distinct joints, which are straight on one side and rounded on the other. ⊙. ? S. Native of St. Domingo. Smíthia Domingénsis, Balb. herb. In some specimens of this plant the stamens are monadelphous, but in others they are diadelphous.

Side-nerved-leafletted Æschynomene. Pl. 2 to 3 feet.

15 Æ. DIFFU'SA (Willd. spec. 3. p. 1164.) stem herbaceous, smooth, diffuse; leaflets linear, obtuse; peduncles hispid, 1-flowered; joints of legume straight on one side and rounded on the other, and scabrous in the centre. ⊙. S. Native of Tranquebar. Stem branched much at the base.

Diffuse Æschynomene. Pl. 1 to 2 feet.

16 Æ. SUBVISCÒSA (D. C. prod. 2. p. 321.) stem herbaceous, erect, scabrous from small tubercles and pili, which are tipped with glands; leaflets linear, obtuse, glabrous; peduncles usually 2-flowered, and are as well as the legumes beset with glandular hairs. ⊙. S. Native of the East Indies. Æ. viscídula, Roxb. hort. beng. in Willd. enum. 776. but not of Mich. Æ. Roxbúrgii, Spreng. syst. 3. p. 322. Flowers having the vexillum streaked and spotted with red, the wings of a dirty-yellow colour, and the keel violaceous at the apex.

Rather-clammy Æschynomene. Fl. July, Aug. Clt. 1816. Pl. 1 to 2 feet.

17 Æ. GLANDULÒSA (Poir. suppl. 4. p. 76.) stem shrubby, beset with glandular hairs; leaflets linear, mucronate; peduncles few-flowered; joints of legume 4-5, semiarticulated, furnished with small prickles in the centre. ♄. S. Native of Porto Rico. Very like *Æ. Americàna.*

Glandular Æschynomene. Shrub 1 to 2 feet.

18 Æ. VILLÒSA (Poir. suppl. 4. p. 76.) stem suffruticose, terete, villous; leaflets linear, obtuse, nearly glabrous; racemes axillary, divaricate; legumes clothed with glandular pili. ♄. S. Native of Porto Rico. Corolla small, white. Perhaps not sufficiently distinct from *Æ. glandulòsa.*

Villous Æschynomene. Shrub 1 to 2 feet.

19 Æ. HÍSPIDA (Willd. spec. 3. p. 1163.) stem herbaceous, erect, hispid; leaves with 20-25 pairs of linear obtuse leaflets; racemes simple, 3-5-flowered; legumes distinctly stipitate, 6-9-jointed, hispid. ⊙. H. Native of North America, from Philadelphia to Carolina. Hedýsarum Virgínicum, Lin. ex Pursh. Flowers yellow, veined with red. Nutt. gen. amer. 2. p. 111. The hairs on the legume are scattered, and tubercularly glandular at the base.

Hispid Æschynomene. Fl. Aug. Clt. 1803. Pl. 2 to 3 ft.

20 Æ. LATIFÒLIA (Spreng. syst. 2. p. 322.) leaflets oblong, mucronate, glabrous; racemes many-flowered, bracteate, and are as well as the legumes hispid. ⊙. S. Native of Monte Video.

Broad-leaved Æschynomene. Pl. 1 to 2 feet.

21 Æ. PUBE'RULA (D. C. prod. 2. p. 321.) stem, leaves, and peduncles beset with scabrous down; leaves with 10 pairs of elliptic-linear, obtuse, mucronate leaflets; racemes short, branched, crowded, many-flowered; stipulas linear-subulate, striated; legumes with few joints. ♄. S. Native of South America. Branches terete, and probably suffruticose. Calyxes and bracteoles small.

Puberulous Æschynomene. Shrub 1 to 2 feet.

22 Æ. HY'STRIX (Poir. suppl. 4. p. 77.) stem terete, and is as well as the petioles and peduncles rough from long, yellow bris-

tles; leaves with 10 pairs of oval-linear, obtuse, mucronate leaflets; peduncles compound, many-flowered, shorter than the leaves; pedicels recurved; legumes glabrous, having few joints. ♄. ? S. Native of Cayenne. Æ. cassioìdes, Desv.

Porcupine Æschynomene. Shrub 1 to 2 feet.

23 Æ. PAUCI'JUGA (D. C. prod. 2. p. 321.) stem terete, beset with bristly, rather glandular hairs, as well as the petioles, peduncles, and bracteas; leaves with 4-5 pairs of obovate, obtuse, rather mucronate leaflets, which are hardly pubescent; racemes many-flowered, compound; stipulas and bracteas ovate, acute, striated; legumes smoothish. ♄. ? S. Native of Cayenne.

Var. β, subscàbra (D. C. l. c.) legume scabrous from short stiff down. Native of South America.

Few-paired-leafletted Æschynomene. Shrub 2 to 3 feet.

24 Æ. MICRA'NTHA (D. C. prod. 2. p. 321.) stems herbaceous, procumbent, pubescent; leaves with 2-4 pairs of small obovate-roundish, rather mucronate leaflets, which are scarcely pubescent; pedicels axillary, 1-2-flowered, length of leaves; joints of legume glabrous, compressed, nearly orbicular. ♃. S. Native of Madagascar. Hedysarum micrànthos, Poir. dict. 6. p. 446. Leaves impari-pinnate.

Small-flowered Æschynomene. Pl. prostrate.

25 Æ. VISCI'DULA (Michx. fl. bor. amer. 2. p. 75. but not of Willd.) plant clothed with clammy pubescence; stems herbaceous, slender, prostrate; leaves with 3-4 pairs of obovate leaflets; peduncles 1-2-flowered; legumes pubescent, with 2 oval-roundish joints. ⊙. H. Native of Florida and Cumberland Island, in sandy places. Nutt. gen. amer. 2. p. 111. Æ. prostràta, Poir. suppl. 4. p. 76. This plant has very much the habit of a species of *Smíthia*.

Viscid Æschynomene. Fl. July, Aug. Clt. 1816. Pl. pros.

26 Æ. FALCA'TA (D. C. prod. 2. p. 322.) stem much branched, villous; leaves with 2-3 pairs of obovate, cuneated, villous leaflets; peduncles usually 2-flowered, elongated; legumes falcate, with roundish pubescent joints.—Native of Brazil, at Rio Janeiro. Hedysarum falcàtum, Poir. dict. 6. p. 448.

Falcate-podded Æschynomene. Pl. 1 foot.

27 Æ. BRASILIA'NA (D. C. prod. 2. p. 322.) stems diffuse, clothed with glandular pili; leaves with 5-6 pairs of ovate-elliptic, pubescent, rather ciliated leaflets; racemes divaricate, loose; joints of legume rather inflated, hispid, and clammy.—Native of Brazil, at Rio Janeiro. Hedysarum Brasiliànum, Poir. dict. 6. p. 448.

Brazilian Æschynomene. Pl. diffuse.

28 Æ. MICROPHY'LLA (Desv. ined. in herb. mus. paris. D. C. prod. 2. p. 322.) stem terete, clothed with stiff villi; leaves with 20-30 pairs of pubescent, oblong, obtuse, much crowded, small leaflets; racemes much longer than the leaves; legumes glabrous, having 1-2 semi-ovate joints.—Native of Brazil. Bracteas 3, permanent at the origin of the pedicels, and 3 times shorter than them. Bracteoles 2, adpressed under the bilabiate calyx.

Small-leaved Æschynomene. Pl. 1 foot.

29 Æ. E'LEGANS (Schlecht. et Cham. in Linnæa. 5. p. 583.) plant herbaceous; stems diffuse, weak, terete, beset with spreading pili at the apex; leaves with 5-8 pairs of elliptic, obtuse, mucronate leaflets, which are clothed with adpressed pili; stipulas lanceolate, ciliately-serrated; racemes 5-7-flowered, much longer than the leaves; legume on a long stipe, which is one-half the length of the legume, puberulous, and usually with 6 joints. ⊙. S. Native of Mexico, on hills near Jalapa, and at Hacienda de la Laguna. Æ. mimosoìdes, Sesse et Moc. mss. Stems rather flexuous.

Elegant Æschynomene. Pl. 3 feet.

30 Æ. FASCICULA'RIS (Schlecht. et Cham. in Linnæa. 5. p. 584.) shrubby, erect, clothed with somewhat strigose, adpressed, cinereous down; branches angular; leaves with 20 or more pairs of linear, acute, mucronate leaflets, which are almost glabrous above; racemes short, axillary; flowers in fascicles, on short pedicels; legume on a short stipe, 4-jointed. ♄. S. Native of Mexico, between La Laguna verde and Actopan. Leaves small. Legumes large. Stipe of legume hardly exserted from the calyx. Stipulas lanceolate, acuminate, nerved. Flowers yellow.

Fascicular-flowered Æschynomene. Shrub 2 to 3 feet.

† *Little known or doubtful species.*

31 Æ. DIVI'SA (Nees et Mart. in nov. act. bonn. 12. p. 31.) stem shrubby, smooth; petioles strigose; leaves with 12-15 pairs of linear acute leaflets; peduncles 2-3-flowered, shorter than the leaves; joints of legume semi-orbicular, hispid; vexillum of 2 petals. ♄. S. Native of Brazil. The vexillum is said to be obcordate, and constantly composed of 2 petals, which is a circumstance not to be found in any other papilionaceous flower, but perhaps the vexillum is only profoundly bipartite, or perhaps the flower is resupinate, and the 2-petalled keel has been taken for the vexillum.

Divided Æschynomene. Shrub 2 to 3 feet.

32 Æ. HONE'STA (Nees et Mart. l. c. p. 32.) branches hispid at the apex; leaves with 10-11 pairs of linear, obtuse, glabrous leaflets; legumes disposed in something like a corymb, when young clothed with hispid pubescence, but glabrous in the adult state; vexillum broad, entire. ♄. S. Native of Brazil. Said to be nearly allied to *Æ. sensitìva*. Flowers yellow.

Honest Æschynomene. Shrub 2 to 4 feet.

33 Æ. SCOPA'RIA (H. B. et Kunth, nov. gen. amer. 6. p. 532.) plant diffuse; branches elongated, twiggy, straight, angular, and are, as well as the calyxes, clothed with silky-silvery down; leaves with 10-14 pairs of oblong, mucronulate, half-cordate leaflets, which are clothed with adpressed down on both surfaces; peduncles axillary, twin, few-flowered; legumes puberulous, usually 3 jointed. ♄. S. Native of Peru, near Guancabamba. Flowers yellow.

Broom Æschynomene. Shrub diffuse.

34 Æ. MOLLI'CULA (H. B. et Kunth, l. c.) suffruticose; branches elongated, clothed with yellowish-silky down; leaves with 18-20 pairs of oblong-linear, mucronate, semi-cordate leaflets, which are pubescent on both surfaces, as well as the rachis and calyx; peduncles axillary, short, few-flowered; legumes falcate, 1-6-jointed, pubescent. ♄. S. Native of South America, in the province of Jaen de Bracamoros. Flowers yellow.

Soft Æschynomene. Shrub 2 to 3 feet.

35 Æ. PILÒSA (Poir. dict. 4. p. 450.) stem herbaceous, pilose, compressedly tetragonal at the apex; leaflets oval, retuse, mucronate, glabrous; racemes hairy, many-flowered; joints of legumes scabrous in the centre. ⊙. S. Native of the East Indies. Nerves of leaves blackish.

Pilose Æschynomene. Pl. 1 to 2 feet.

36 Æ. PUBE'SCENS (Poir. dict. 4. p. 451.) stem herbaceous, glabrous; branches spreading; leaflets elliptic, retuse, mucronate, pubescent; racemes terminal, glabrous, many-flowered; calyx 5-cleft; joints of legume rather scabrous. ⊙. ? S. Native of the East Indies.

Pubescent Æschynomene. Pl. 1 to 2 feet.

37 Æ. BREVIFÒLIA (Poir. dict. 4. p. 451.) plant glabrous, and dwarf; stems filiform; leaves with 2 pairs of roundish, mucronate, glaucous leaflets; peduncles 1-2-flowered; calyx 5-toothed; legumes on long stipes; having 3-4 rather remote joints.—Native of Madagascar. Flowers small, yellow.

Short-leaved Æschynomene. Pl. ½ foot.

38 Æ. HIRSU'TA (D. C. prod. 2. p. 322.) stem scabrous and

hairy; racemes 3-flowered: bracteas ciliately serrated; legumes hairy. ⊙. S. Native of New Spain. Æ. hírta, Lag. nov. gen. et spec. 22. but not of Lam.

Hirsute Æschynomene. Pl. 1 foot.

39 Æ. HI'RTA (Lam. ill. 629. f. 1. Poir. dict. 4. p. 450.) plant hispid in every part; stem herbaceous; branches terete; leaves with 7-9 pairs of oval-linear mucronulate leaflets; racemes terminal, many-flowered; calyx 5-parted, having the lobes nearly equal, and subulate at the apex; legumes hairy, with the joints tumid and tubercled in the centre. ⊙. S. Native of the East Indies.

Hairy Æschynomene. Pl. 1 to 2 feet.

40 Æ. ARBÒREA (Lin. spec. 1060.) stem arboreous, smooth; joints of legume semi-cordate, glabrous. ♄. S. Native of the East Indies. Flowers large, copper-coloured. Perhaps a species of *Desmòdium*. Perhaps *D. Mauritiànum*.

Arboreous Æschynomene. Shrub 6 to 7 feet.

41 Æ.? HETEROPHY'LLA (Lour. cochin. p. 446.) shrubby; branches tomentose; lower leaves ternate, with ovate leaflets, superior ones impari-pinnate, with roundish leaflets; peduncles many-flowered; calyx 4-toothed; stamens monadelphous; legumes pilose, with cordate joints. ♄. G. Native of the north of Cochin-china. Flowers small, white. This plant ought certainly to be removed from the present genus.

Variable-leaved Æschynomene. Shrub 7 to 8 feet.

42 Æ.? CRE'PITANS (Jacq. fragm. 37. t. 42. f. 2.) stem arboreous; leaves glabrous, young ones decompound; legumes stipitate, glabrous, linear, the seeds intercepted by cellular substance; the sutures prominent, but retaining the joints. ♄. S. Native of Caraccas. Perhaps a species of *Mimòsa*.

Rattling Æschynomene. Tree.

Cult. The species of this genus require more than an ordinary degree of heat to preserve them through the winter, so that they are seldom kept alive through the winter in this country, and consequently never grow to a flowering state. Rich loam suits them best, and cuttings may be rooted in sand under a hand-glass in heat; however, they are not worth growing except in botanical gardens.

CLI. SMI'THIA (in honour of the late Sir James Edward Smith, M.D. F.R.S. and P.L S. founder of the Linnæan society, and possessor of the Linnæan herbarium; author of English Botany, English Flora, Flora Britannica, and the botanical part of Rees' cyclopædia; died in 1829, in the 69th year of his age). Ait. hort. kew. ed. 1. vol. 3. p. 496. ed. 2. vol. 4. p. 336. Lam. ill. 627. Desv. journ. bot. 3. p. 121. t. 4. f. 12. D. C. prod. 2. p. 323.

LIN. SYST. *Diadélphia, Decándria.* Calyx bipartite. Corolla papilionaceous. Stamens divided into 2 equal bundles. Legume transversely articulated, plicate, inclosed in the calyx. This genus is nearly allied to *Æschynómene*, but is distinguished from it in the legume being inclosed with incumbent joints. The calyx, stamens, and habit are that of *Æschynómene*, but the pods are that of *Loúrea*.

1 S. SENSITI'VA (Ait. l. c. t. 13. Sal. par. lond. t. 92.) lips of calyx entire; racemes pedunculate, 3-5-flowered. ⊙. S. Native of the East Indies. Petagnàna sensitìva, Gmel. syst. p. 1119. Coronílla Surattensis, Garc. in herb. Burm. confused with Galèga senticòsa, Burm. fl. ind. 172. Leaves with many pairs of small leaflets. Plant trailing. Flowers yellow.

Sensitive Smithia. Fl. July, Sept. Clt. 1785. Pl. procumbent.

2 S. CONFE'RTA (Smith, in Rees' cycl. 33. no. 2.) lips of calyx toothed at the apex; racemes sessile, shorter than the leaves. ⊙.? S. Native of New Holland, within the tropic. Smíthia capitàta, Desv. l. c. Flowers yellow.

Crowded-flowered Smithia. Fl. July. Clt. 1820. Pl. proc.

3 S. GEMINIFLÒRA (Roth. nov. spec. 352.) lips of calyx entire; racemes pedunculate, 2-flowered. ⊙. S. Native of the East Indies. Flowers probably purple. Calyxes or bracteas ending in a setose mucrone. On the pagina of the leaf the supine bristles or hairs are more copious than in *S. sensitìva*.

Twin-flowered Smithia. Fl. July. Clt. 1810. Pl. proc.

† *A doubtful species.*

4 S. SPICA'TA (Spreng. neue entd. 2. p. 160.) spikes of flowers on very short peduncles, secund, distich, very hairy; leaves impari-pinnate: stem shrubby; stamens monadelphous. ♄. S. Native of Senegambia. In every particular this plant differs from *Smíthia*, but its legitimate genus is unknown.

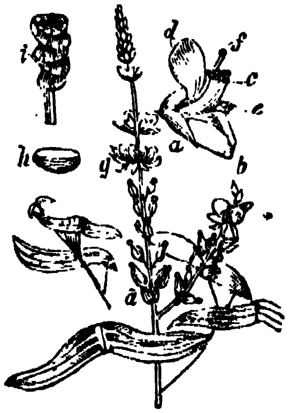
Spike-flowered Smithia. Shrub.

Cult. See *Loúrea* for culture and propagation.

CLII. LOU'REA (the meaning of this name is unknown to us, but it is apparently the name of some person). Neck. elem. no. 1318. Desv. journ. bot. 3. p. 122. t. 5. f. 18. D. C. prod. 2. p. 323. but not of Jaum.

LIN. SYST. *Diadélphia, Decándria.* Calyx campanulate, permanent, 5-cleft (f. 43. *a.*), with equal spreading lobes, when in fruit inflated and conniving at the apex. Corolla papilionaceous, with an obcordate vexillum (f. 43. *d.*), and an obtuse keel (f. 43. *b.*). Stamens diadelphous (f. 43. *c.*). Legume with 4-6 flat 1-seeded joints (f. 43. *i.*), bent backward into plaits (f. 43. *i.*), which nestle within the calyx —Erect Indian plants, with setaceous stipulas, simple or trifoliate leaves, and long terminal racemes of purple or white flowers.

FIG. 43.



1 L. VESPERTILIÒNIS (Desv. l. c.) lateral leaflets wanting or very small, terminal one large, transversely and falcately oblong, 10-times the breadth of the length. ⊙. S. Native of Cochin-china. Hedýsarum vespertiliònis, Lin. fil. suppl. 331. Jacq. icon. rar. 3. t. 566. Chrístia lunàta, Mœnch. suppl. 39. Corolla white, spreading. Leaves crescent-shaped, 4 lines long, and 2 inches broad, variegated with yellow, red, and green (f. 43.).

Bat-wing-leaved Lourea. Fl. July, Sept. Clt. 1780. Pl. 2 to 4 feet.

2 L. OBCORDA'TA (Desv. l. c.) leaves rather pubescent; lateral leaflets small, ovate-obcordate, rarely wanting, terminal one shorter than broad. ⊙. S. Native of Java and Timor. Hedýsarum obcordàtum, Poir. dict. 6. p. 425.

Obcordate-leafletted Lourea. Pl. 2 to 4 feet.

3 L. RENIFÓRMIS (D. C. prod. 2. p. 324.) leaves simple, transversely-reniform, others trifoliate, with the lateral leaflets smaller and oval; racemes opposite the leaves, and longer than them. ⊙. S. Native in the suburbs of Canton. Hedýsarum renifórme, Lour. coch. p. 447. exclusive of the synonymes. Hedys. Lourèirii, Spreng. syst. append. p. 292. Flowers violaceous. Very like the first species.

Reniform-leaved Lourea. Fl. Jul. Aug. Clt. 1818. Pl. proc.

Cult. The species of *Loúrea* have a rather singular appearance from their kidney-shaped painted leaves. Being annuals their seeds should be sown in pots, filled with a mixture of peat and sand, with a little loam, and placed in a hot-bed, and when the plants have grown 2 inches high, they should be planted into separate small pots, and afterwards shifted into larger ones as they grow.

CLIII. URA'RIA (a name not explained by its author). Desv. journ. bot. 3. p. 122. t. 5. f. 19.—Doòdia, Roxb. hort. beng. p. 99. but not of R. Br.—Hedýsarum species of Lin. and others.

LIN. SYST. *Diadélphia, Decándria.* Calyx profoundly 5-cleft, with setaceous segments. Corolla papilionaceous. Stamens diadelphous. Legume with a few ovate 1-seeded joints, bent back into plaits, nestling within the calyx.—Herbs, rarely shrubs, with impari-pinnate, ternate, or simple leaves, stipellate leaflets, lanceolate membranous acuminated stipulas, which are striated lengthwise, the upper ones answering the purpose of bracteas to the flowers, but soon falling off. Pedicels 1-flowered, rising in pairs from the axils of the bracteas, forming long, dense, simple, many-flowered racemes.

* *Leaves impari-pinnate, with 2-4 pairs of leaflets.*

1 U. PI'CTA (Desv. l. c.) stem shrubby, erect, velvety; leaves with 2-4 pairs of long lanceolate leaflets, which are smoothish above, and blotched with white, but pubescent and reticulately-nerved beneath; racemes very long and spicate; bracteas ciliated; segments of the calyx setaceous, and very hairy. ♄. S. Native of Guinea, among grass all along the coast, and of the East Indies. Hedýsarum píctum, Jacq. icon. rar. 3. t. 567. coll. 2. p. 262. Flowers purple.

Painted-leaved Uraria. Fl. July, Aug. Clt. 1788. Shrub 2 to 3 feet.

2 U. COMÒSA (D. C. prod. 2. p. 324.) stem shrubby; branches and petioles villous; leaves with 3 pairs of linear-lanceolate glabrous leaflets; racemes elongated, cylindrical; bracteas villous; segments of the calyx setaceous, and very hairy. ♄. S. Native of the East Indies. Hedýsarum comòsum, Vahl. symb. 2. p. 84.

Tufted Uraria. Fl. July, Aug. Clt. 1818. Shrub 2 feet

3 U. CRINI'TA (Desv. l. c.) stem shrubby, erect; leaves with 2-3 pairs of oblong leaflets; racemes elongated; pedicels hispid, recurved; the 3 largest segments of calyx pilose and reflexed; legumes smooth. ♄. S. Native of the East Indies. Hedýsarum crinìtum, Lin. mant. 102. Burm. ind. p. 169. t. 56.

Hairy-calyxed Uraria. Fl. July, Aug. Clt. 1780. Shrub 3 to 4 feet.

* * *Leaves trifoliate, the terminal leaflets stalked.*

4 U. LAGOPOÌDES (D. C. prod. 2. p. 324.) stem shrubby, rather velvety; leaflets ovate, mucronate, almost naked; racemes oblong, about the length of the common petiole; segments of calyx setaceous, and very hairy. ♄. S. Native of the East Indies and China. Hedýsarum lagopodioìdes, Lin. spec. 1057. Lespedèza lagopoìdes, Pers. ench. 2. p. 308.—Burm. ind. p. 168. t. 53. f. 2. Flowers purple.

Hare's-foot-like Uraria. Fl. June, July. Clt. 1790. Sh. 2 ft.

5 U. LAGO'PUS (D. C. in ann. sc. nat. 4. p. 100.) stem shrubby, very hairy at the apex; leaflets ovate, obtuse, mucronate, clothed with soft velvety pubescence beneath; racemes cylindrical, twice the length of the petiole; segments of the calyx setaceous, and very hairy; bracteas hairy on the back. ♄. G. Native of Nipaul. Flowers purple.

Hare's-foot Uraria. Fl. June, July. Clt. 1824. Sh. 2 to 4 ft.

6 U. ARBÒREUM; arboreous; leaflets oval, retuse, and are, as well as the branches, very hairy; stipulas cordate, stem-clasping, cuspidate; racemes elongated, bractless, densely clothed with stiff hairs; calycine segments lanceolate, feathery; legumes 3-seeded, plaited within the calyx. ♄. G. Native of Nipaul. Hedýsarum arbòreum, Hamilt. in D. Don, prod. fl. nep. 243. Erythrìna arborèscens, Roxb. hort. beng. p. 52. ?

Tree Uraris. Tree 12 feet.

7 U. LAGOCE'PHALA (D. C. prod. 2. p. 324.) stem herbaceous; leaflets roundish, pilose beneath; panicle terminal, contracted, bracteate; peduncles and calyxes very pilose; calycine segments long and linear; legumes deflexed, glabrous, 3-jointed. ♃. S. Native of Brazil. Hedýsarum lagocéphalum, Link. enum. 2. p. 248. Flowers yellow.

Hare's-headed Uraria. Fl. July. Clt. 1824. Pl. 1 to 2 feet.

* * * *Leaves simple.*

8 U. CERCIFÒLIA (Desv. l. c. f. 19.) leaflet solitary at the top of the petiole, furnished with 2 stipels, roundish, and rather velvety beneath; racemes oblong, dense, terminal. ♄. S. Native of the East Indies. Hedýsarum cercifòlium, Steud. nom. 392.

Judas-tree-leaved Uraria. Shrub 2 to 3 feet.

9 U. CORDIFÒLIA (Wall. pl. rar. asiat. p. 33. t. 37.) leaves simple, broadly ovate, cordate, villous on the under surface as well as the branches; racemes terminal, panicled, elongated, hairy; legume 2-3-jointed, villous, inclosed in the calyx; bracteas ovate, acuminated, clothed with silky pili. ♄. S. Native of the Burman Empire, near Prome and Meaong, on the banks of the Irawaddi. Flowers small, of a whitish-rose colour.

Heart-leaved Uraria. Shrub 2 to 3 feet.

Cult. A mixture of loam, peat, and sand will answer the species, and young cuttings will root in sand under a hand-glass in heat, but the species are more easily propagated by seeds.

CLIV. NICOLSO'NIA (in honour of M. Nicolson, author of Essai Sur L'Histoire Naturelle de Saint Domingue, 1 vol. 8vo. Paris, 1776). D. C. legum. mem. vii. prod. 2. p. 325.—Perrotètia, D. C. ann. sci. nat. jan. 1825. p. 95. but not of Kunth.

LIN. SYST. *Diadélphia, Decándria.* Calyx 5-parted, with lanceolate, subulate, bearded segments. Corolla papilionaceous, shorter than the calyx. Stamens diadelphous. Legume straight, exserted, constantly composed of numerous, compressed, semi-orbicular, 1-seeded joints, which open at the convex suture.—American herbs, with pinnately trifoliate leaves, the leaflets oval or oblong, and stipellate. Stipulas distinct from the petioles, rather scarious. Bracteas like the stipulas, but broader. Pedicels twin in the axils of the bracteas. Racemes terminal, crowded, almost constituting a panicle. Flowers small, bluish-purple. This genus differs from *Urària* in the legume being straight and exserted, and from *Desmòdium* in the calyx being 5-parted and bearded.

1 N. BARBA'TA (D. C. l. c.) leaflets elliptic-oblong; calyx closed after flowering; legumes glabrous. ♃.? ♄.? S. Native of Jamaica and St. Domingo, in arid sandy places. Hedýsarum barbàtum, Lin. spec. 1055. Swartz, obs. 287. Flowers bluish-purple.

Bearded-calyxed Nicolsonia. Fl. June, July. Clt. 1818. Pl. procumbent.

2 N. CAYENNE'NSIS (D. C. leg. t. 51.) leaflets elliptic-obovate; calyx spreading after flowering; legumes smoothish. ♃. S. Native of Cayenne. Flowers bluish-purple. Racemes looser, and the pedicels are longer than the first species, but very similar.

Var. β, laxiúscula (D. C. prod. 2. p. 325.) leaflets elliptic-obovate, and a little more villous beneath than the species; legumes rather scabrous; stamens monadelphous. ♃. S. Native of Cayenne. Perhaps a proper species.

Cayenne Nicolsonia. Pl. procumbent.

3 N. VENU'STULA (D. C. prod. 2. p. 325.) stems suffruticose, erect, and are, as well as the petioles, clothed with adpressed pubescence; leaflets oblong-elliptic, clothed with silky, glaucescent pubescence beneath; racemes terminal, short, sessile; calyx pilosely bearded; legumes with 1-3 semi-orbicular hairy joints. ♄. S. Native of Cumana, on the declivity of mount Turimiquiri. Hedýsarum venústulum, H. B. et Kunth, l. c.

Pretty Nicolsonia. Shrub 2 feet.

4 N. VILLÒSA (Schlecht. et Cham. in Linnæa. 5. p. 584.) plant herbaceous; stems erect, clothed with rusty spreading hairs; leaflets elliptic, silky and glaucous beneath, but almost glabrous above; legumes puberulous, 3-jointed. ♃. G. Native of Mexico. Axillary branches bearing the flowers at the apex, hardly longer than the leaves. Flowers disposed in dense racemes.

Villous Nicolsonia. Pl. 3 feet.

Cult. For culture and propagation see *Urària*, p. 287.

CLV. DESMO'DIUM (from δεσμος, *desmos*, a band; in reference to the stamens being connected). D. C. legum. mem. vi. prod. 2. p. 325.—Desmòdium and Hedýsarum, Desv. journ. bot. 3. p. 122. t. 5. f. 15 and 22. H. B. et Kunth, nov. gen. amer. 6. p. 516 and 527.—Hedýsarum species of Lin. and others.

LIN. SYST. *Diadélphia, Decándria.* Calyx bibracteolate at the base, obscurely bilabiate to the middle, upper lip bifid, lower one 3-parted (f. 44. *a.*). Corolla papilionaceous, with a roundish vexillum (f. 44. *b.*) and an obtuse keel (f. 44. *c.*), which is shorter than the wings. Stamens diadelphous (f. 44. *d.*), with the filaments almost permanent (f. 44. *f.*). Legume of many 1-seeded, compressed, membranous or coriaceous, hardly dehiscent joints (f. 44. *g.*), which separate at maturity.—Herbs or small shrubs, for the most part natives within the tropics, with pinnately-trifoliate leaves, sometimes the lateral leaflets absent altogether, or very small, then the leaves in such cases are called simple. Stipels 2 at the base of the terminal leaflet, and one at the base of each lateral leaflet. Racemes of flowers terminal, usually loose. Pedicels filiform, 1-flowered, rising singly, but usually by threes from the axils of the bracteas. Flowers purple, blue, or white, smaller than those of *Hedýsarum*. The plants belonging to this genus are not well defined.

SECT. I. EUDESMÒDIUM (from *eu*, good or well, and *Desmòdium*; this section contains the genuine species of the genus). D. C. legum. vi. prod. 2. p. 325. Joints of legume coriaceous, indehiscent, rather elliptic and somewhat truncate at both extremities. Leaves pinnately-trifoliate. Peduncles axillary, shorter than the petioles. Flowers disposed in corymbose umbels.

1 D. UMBELLA'TUM (D. C. prod. 2. p. 325.) stem shrubby, branched, terete, smooth; branches pubescent; leaflets ovate, obtuse, glabrous above, but canescent beneath from short down; peduncles axillary, shorter than the petioles, bearing umbels of flowers at their apexes; legumes clothed with adpressed villi. ♄. S. Native of Malacca, Ceylon, Javà, and Madagascar. Hedýsarum umbellàtum, Lin. spec. 1053. Burm. ind. 166. Jacq. hort. schœnbr. 297.—Rumph. amb. 4. t. 52. Flowers white.

Var. β, hirsùtum (D. C. prod. 2. p. 326.) branches and petioles hairy; leaflets ovate, rather glabrous above, but hairy beneath; racemes shorter than the petioles, umbelliferous; legumes hairy. ♄. S. Native of the East Indies.

Umbellate-flowered Desmodium. Clt. 1801. Sh. 3 to 6 feet.

2 D. AUSTRA'LE (D. C. prod. 2. p. 326.) stem shrubby, branched, terete, glabrous; branchlets pubescent; leaflets elliptic, acute, glabrous above, but canescent beneath from short down; peduncles axillary, shorter than the leaves, somewhat umbelliferous; legumes smooth. ♄. S. Native of New Caledonia, and the island of Tanna. Hedýsarum umbellàtum, Forst. prod. no. 274. but not of Lin. Hedýsarum austràle, Willd. spec. 3. p. 1183. Very like the preceding species.

Southern Desmodium. Shrub 2 to 4 feet.

3 D. LUTE'SCENS (Desv. l. c.) stem terete, pubescent; leaflets obovate-roundish, pubescent; racemes terminal, and are as well as the legumes clothed with velvety villi. ♄. G. Native of China. Hed. lutéscens, Poir. dict. 6. p. 417. Zórnia lutéscens, Steud. nom. 900. Flowers yellowish.

Yellowish Desmodium. Shrub 2 to 3 feet.

SECT. II. PLEUROLÒBIUM (from πλευρον, *pleuron*, a side, and λοβος, *lobos*, a lobe; in reference to the joints of the legumes being rather convex on one side). D. C. legum. vi. prod. 2. p. 326. Joints of legume membranous, nearly square, the lower side rather convex, and at length dehiscent. Leaves furnished with one leaflet, or pinnately-trifoliate, the lateral leaflets very small. Perhaps a proper genus.

* *Pterópoda* (from πτερον, *pteron*, a wing, and πους ποδος, *pous podos*, a foot; in reference to the footstalks of the leaves being winged). *D. C. prod. 2. p. 326. Leaves having only one leaflet. Petioles winged; wing drawn out into a tooth on both sides at the apex.*

4 D. AURICULA'TUM (D. C. legum. mem. vi.) stems erect, glabrous, triquetrous; leaves ovate, acute, glabrous, 4 times longer than the winged petioles; legumes quite glabrous, and rather coriaceous. ♄. G. Native of the island of Timor. Pterolòma auriculàtum, Desv. in herb. mus. par. Joints of legume 4 or 5, easily separating at maturity.

Auricled-leaved Desmodium. Fl. July, Aug. Clt. 1819. Shrub 3 to 6 feet.

5 D. TRI'QUETRUM (D. C. prod. 2. p. 326.) stems erect, smoothish, triquetrous; leaves ovate-lanceolate, rather cordate, acuminated, 3 times longer than the winged petiole; legumes nearly sessile, hairy. ♄. S. Native of the East Indies. Hedýsarum tríquetrum, Lin. spec. 1052. Burm. ind. t. 52. f. 2. zeyl. t. 81.? Flowers purple.

Triquetrous-stemmed Desmodium. Fl. July, Aug. Clt. 1802. Shrub 3 to 6 feet.

6 D. PSEUDOTRI'QUETRUM (D. C. in ann. sc. nat. 1. p. 100. legum. mem. vi.) stems ascending, rather hairy, triquetrous; leaflets ovate-lanceolate, rather cordate, acuminated, twice the length of the winged petioles; legumes glabrous, but ciliated on both sutures with adpressed villi. ♄. G. Native of Nipaul. Flowers purple.

False-triquetrous-stemmed Desmodium. Fl. July, Aug. Clt. 1820. Shrub 3 to 6 feet.

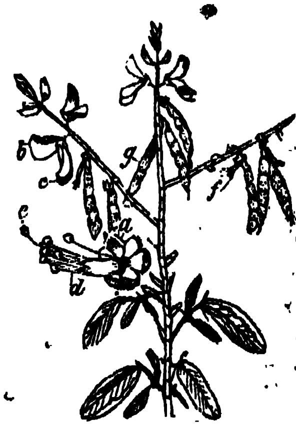
7 D. ALA'TUM (D. C. legum. mem. vi.) stems erect, somewhat tetragonal, glabrous; leaflets lanceolate, acuminated, 8 times longer than the petioles; legumes glabrous, membranous. ♄. S. Native of the East Indies, at Cawnpore. Hedýsarum alàtum, Roxb. hort. beng. 56. Joints of legume 5-6, sometimes irregularly triangular. Flowers purple.

Winged-petioled Desmodium. Fl. July, Aug. Clt. 1817. Shrub 3 to 6 feet.

* * *Gyràntia* (from *gyro*, to whirl). *D. C. prod. 2. p. 326. Leaves pinnately-trifoliate; petiole wingless.*

8 D. GY'RANS (D. C. prod. 2. p. 326.) plant glaucous; leaflets 3, elliptic-oblong, terminal one very large, but the lateral ones are very small; racemes numerous, disposed in a panicle; legumes pubescent. ♂. S. Native of Bengal. Hedýsarum gýrans, Lin. fil. suppl. 332. Jacq. icon. rar. 3. t. 562. Flowers violaceous. The singular motion with which the lateral leaflets of this plant are endued is thus described in Linnæus's supplement. " This is a wonderful plant on account of its singular motion, which is not occasioned by any touch, or irritation, or movement in the air, as in *Mimòsa O'xalis*

FIG. 44.



and *Dionæ'a;* nor is it so evanescent as in *Amórpha*. No sooner had the plants raised from seed acquired their ternate leaves than they began to be in motion in every direction; this movement did not cease during the whole course of their vegetation, nor were they observant of any time, order, or direction; one leaflet frequently revolved, whilst the other on the same petiole was quiescent; sometimes a few leaflets only were in motion, then almost all of them would be in movement at once; the whole plant was very seldom agitated, and that only during the first year. It continued to move in the stove during the second year of its growth, and was not at rest even in winter." In our climate the lateral leaflets move up and down, either steadily or by jerks, particularly if the house in which it is growing be shut up very warm. This motion is most evident when the sun's rays are on the plant, it therefore appears to us that it is the action of the sun's rays upon it which occasions the motion of the leaflets. For further particulars see Brouss. mem. acad. scienc. paris, 1784. p. 616. Silvestr. bull. philom. 1. p. 67. t. 5. (f. 44.)

Var. β; lateral leaflets almost wanting. ♂. S. Native of Nipaul. Wallich. Hedys. gỳrans, Roxb. hort. beng. p. 57.

Moving Plant or Whirling Desmodium. Fl. July, Aug. Clt. 1775. Pl. 1 to 3 feet.

9 D. GYROI'DES (D. C. legum. vi. prod. 2. p. 326.) leaflets 3, elliptic, the terminal one large, and the lateral ones small; racemes numerous, disposed in a panicle; legumes hairy. ♄. S. Native of the East Indies, in Silhet. Hedýsarum gyroìdes, Roxb. hort. beng. 57. The legume is very like that of *D. tríquctrum*, but hairy. The plant is hoary in every part.

* *Gyrans-like* Desmodium. Clt. 1817. Pl. 3 to 5 feet.

10 D. TIMORIE'NSE (D. C. leg. mem. vi. prod. 2. p. 327.) leaflets 3, rhomboid, canescent from villi beneath, and with a few scattered hairs above; lateral ones one-half smaller than the terminal one; racemes numerous, disposed in a panicle; legumes short, pubescent. ♂: S. Native of the island of Timor.

Timor Desmodium. Pl. 2 to 4 feet.

SECT. III. CHALA'RIUM (probably from χαλαω, *chalao*, to loose; from containing a loose heterogeneous mass of plants). D. C. prod. 2. p. 327. Joints of legume membranous, indehiscent, oval or orbicular, rarely oblong, convex on both sides, or with the superior side straightish, tapering to both ends.—Leaves simple or pinnately-trifoliate. Racemes loose, elongated, with 3 pedicels rising from each bractea.

§ 1. *Leaves simple, that is, only having one leaflet.*

11 D. GANGE'TICUM (D. C. prod. 2. p. 327.) stem erect; leaflets ovate, acute, clothed with adpressed silky pubescence beneath; stipulas 4 times shorter than the petiole; legumes puberulous, having 5-6 semi-orbicular joints. ♄. S. Native of the East Indies. Burm. zeyl. t. 49. Hedys. Gangéticum, Lin. spec. 1052. Æschynómene Gangética, Poir. Hedys. ochroleùcum, Mœnch. Flowers dirty purple?

Var. β, Neaìa (D. C. prod. 2. p. 327.) leaflets ovate-lanceolate, acuminated, silky beneath; stipulas exceeding half the length of the petioles. ♄. S. Native of the Philippine islands. Perhaps a distinct species.

Ganges Desmodium. Fl. July, Aug. Clt. 1762. Pl. 2 to 3 ft.

12 D. MACULA'TUM (D. C. prod. 2. p. 327.) stem erect, herbaceous; leaves ovate, obtuse or rather acute, spotted with white above, and clothed with adpressed pubescence beneath; legumes rather puberulous, having 5-6 semi-orbicular joints. ☉. S. Native of the East Indies. Hedys. maculàtum, Lin. spec. 1051. Æschynómene maculàta, Poir.—Dill. hort. elth. 1. t. 141. f. 168. Flowers pale violet, or red and yellow. (Mill.)

Spotted-leaved Desmodium. Fl. July, Aug. Clt. 1732. Pl. 1 foot.

13 D. RENIFÓRME (D. C. prod. 2. p. 327.) stem erect; leaves roundish-reniform, very blunt; joints of legume semi-orbicular. ☉. S. Native of the East Indies. Hedys. renifórme, Lin. spec. 1051. Burm. ind. t. 52. f. 1. Lower flowers solitary in the axils of the leaves. Flowers purple. Habit of *Eleiòtis monophýlla*, but the legume is very distinct.

Reniform-leaved Desmodium. Fl. Jul. Aug. Clt. 1820. Pl. 1 ft.

14 D. RU'BRUM (D. C. prod. 2. p. 327.) stem suffrutescent; branches nearly erect; leaves ovate, ciliated; racemes terminal, spicate; legumes arched, scabrous. ♄. G. Native of Cochinchina. Orníthopus rùber, Lour. coch. p. 452. Branches red. Flowers pale.

Red-branched Desmodium. Shrub 2 feet.

15 D. TERMINA'LE (D. C. prod. 2. p. 327.) stem tall, shrubby at the base; leaves large, rather tomentose; panicle loose; outer joint of legume sterile and dilated. ♄. S. Native of Guiana. Hedys. terminàle, Rich. act. soc. hist. nat. par. p. 105. Flowers purple.

Terminal Desmodium. Shrub 2 feet.

16 D. PERROTTE'TII (D. C. legum. mem. vi. prod. 2. p. 327.) stem terete, erect, scabrous from short curved hairs; leaves ovate, rather acute, puberulous beneath, but villous when young, nearly glabrous above; panicle terminal; joints of legume ovate, equal, velvety. ♄. S. Native of Guiana. The leaves appear to be spotted with white in the dried specimens.

Perrottet's Desmodium. Shrub 1 to 2 feet.

17 D. ORMOCARPOÌDES (D. C. prod. 2. p. 327.) stem suffrutescent, erect, glabrous; leaves ovate, acuminated, glabrous; racemes nodding; legumes hairy from short down, with elliptic, elongated, compressed joints. ♄. S. Native of Java. Hedys. ormocarpoìdes, Desv. in herb. Desf. Hedys. adhæ'rens, Poir. suppl. 5. p. 15. but not of Vahl. Perhaps this plant is referrible to the first section.

Ormocarpum-like Desmodium. Shrub 2 to 3 feet.

18 D. SAGITTA'TUM (D. C. prod. 2. p. 327.) leaves oblong or linear-lanceolate, cordately-sagittate, on very short petioles; flowers solitary, axillary, on long pedicels.—Native of the East Indies. Hedys. sagittàtum, Poir. dict. 6. p. 403. The legume is unknown. Flowers red. Stem triquetrous, glabrous.

Sagittate-leaved Desmodium. Fl. July, Aug. Clt. 1807. Pl. 1 to 2 feet.

19 D. LINEARIFÒLIUM (D. C. legum. mem. vi. prod. 2. p. 327.) stem herbaceous, terete, glabrous at the base; leaves linear, mucronate, glabrous, on short petioles; racemes terminal, puberulous; legumes puberulous, with 4-6 compressed, roundish-elliptic joints.—Native country unknown.

Linear-leaved Desmodium. Pl. 1 to 2 feet.

20 D. DENUDA'TUM (D. C. legum. mem. vi. prod. 2. p. 328.) stems terete, suffruticose, glabrous; branches twiggy, puberulous, bearing leaves only at the base; leaves oblong-lanceolate, acutish; stipulas and stipels setaceous; racemes elongated, naked; pedicels usually twin. ♄. S. Native of St. Domingo, in dry pastures. Flowers purple.

Naked-branched Desmodium. Shrub 1 to 2 feet.

21 D. ANGUSTIFÒLIUM (D. C. prod. 2. p. 328.) shrubby; branches twiggy; leaves linear-lanceolate, mucronate, puberulous beneath, and with the margins scabrous; racemes solitary; bracteas ciliated, with stiff hairs; joints of legume 1-6, roundish, hairy, with rather hispid margins. ♄. S. Native of Mexico. Hedýsarum angustifòlium, H. B. et Kunth, nov. gen. amer. 6. p. 517. Flowers minute, purple.

Narrow-leafletted Desmodium. Fl. June, Aug. Clt. 1824. Shrub 2 feet.

22 D. VELUTI'NUM (D. C. prod. 2. p. 328.) stem shrub terete, pubescent; leaves ovate, clothed with velvety on both surfaces, mucronate; racemes terminal and axil calyx 5-parted, villous; legumes clothed with villous tomentum, having oblong compressed joints. ♄. S. Native of South Ame

rica. Hedys. velutìnum, Willd. spec. 3. p. 1174. Flowers small, violet. Perhaps a species of *Urària*.

Velvety Desmodium. Shrub 2 to 3 feet.

23 D. latifòlium (D. C. prod. 2. p. 328.) stems shrubby, terete, when young clothed with rufous velvety down, but at length becoming smooth; leaves broad, ovate, rather cordate, mucronulate, and repand, clothed with velvety villi on both surfaces; stipulas cordate at the base, cuspidate; racemes terminal and axillary; legume hairy, with 3-5 semi-orbicular joints. ♄. S. Native of the East Indies and China. Hedys. latifòlium, Roxb. hort. beng. p. 57. Ker. bot. reg. 356. Horn. hort. hafn. suppl. 152. Roth. nov. spec. 355.—Pluk. alm. 432. f. 3. ? Flowers purple.

Broad-leafletted Desmodium. Fl. Aug. Clt. 1818. Sh. 3 ft.

24 D. lasioca'rpum (D. C. prod. 2. p. 328.) villous in every part; stem shrubby, terete, when young clothed with rufous velvety down, but glabrous in the adult state; leaves broad, ovate-lanceolate, mucronulate, rather repand, clothed with velvety villi on both surfaces; stipulas subulate, hairy; racemes long, spike-formed, terminal, and axillary, forming a panicle; legumes hispid, with 3-4 semi-orbicular joints. ♄. S. Native of Africa, in the kingdoms of Waree and Benin, and plentiful in the island of St. Thomas in the gulf of Guinea. Hedys. lasiocàrpum, Beauv. fl. d'ow. 1. p. 32. t. 18. Poir. suppl. 5. p. 15. Hedys. deltoìdeum, Poir. suppl. 5. p. 15. Flowers small, red.

Woolly-fruited Desmodium. Fl. June, Aug. Clt. 1823. Shrub 3 to 6 feet.

25 D. ela'tum (H. B. et Kunth, nov. gen. amer. 6. p. 527.) stem erect, shrubby, and is, as well as the petioles, clothed with stiff hairs; leaves ovate, obtuse, pilose on both surfaces, very soft beneath, and glaucescent; racemes panicled; legumes hairy. ♄. S. Native of New Andalusia, near Caripe. Flowers purple. Allied to *D. áspera*.

Tall Desmodium. Shrub 3 to 6 feet.

§ 2. *Trifoliàta* (the plants contained in this division have trifoliate leaves). *Leaves pinnately trifoliate, the terminal leaflet the largest.—This section contains a great number of species which are very nearly allied to each other, but which are very difficult to extricate, or to place into any kind of order, and therefore they are here arranged geographically.*

* *Boreàli-Americàna* (the species contained in this division are all natives of North America). *Hedysari species foliis ternatis, Michx. fl. bor. amer. 2. p. 72. Pursh. fl. amer. sept. 2. p. 482. Nutt. gen. amer. 2. p.* 108.

26 D. Canade'nse (D. C. prod. 2. p. 328.) stem erect, rather pilose and striated; leaflets oblong-lanceolate, smoothish; stipulas filiform; racemes terminal; joints of legume 4-5, oval, bluntly triangular, hispid from short hairs. ♃. H. Native of North America, in sandy fields and woods; plentiful throughout Canada. Hedys. Canadénse, Lin. spec. 1054. Hedys. scàbrum, Mœnch.—Corn. can. 45. with a figure.—Moris. oxon. sect. 2. t. 11. f. 9. Flowers reddish purple, in simple or panicled, lateral or terminal racemes. Bracteas lanceolate.

Canadian Desmodium. Fl. Jul. Aug. Clt. 1640. Pl. 4 to 6 ft.

27 D. cane'scens (D. C. prod. 2. p. 328.) stem erect, angular, ciliated, hispid; leaflets ovate-roundish, canescent from adpressed hairs beneath; stipulas ovate; racemes panicled; bracteas cordate; joints of legume ovate-triangular, hispid. ♃. H. Native of Virginia and Carolina. Hedys. canéscens, Lin. spec. 1054. but not of Mill. Hedys. scabérrimum, Ell. sketch. 2. p. 217. ?—Pluk. alm. t. 308. f. 5. Flowers pale purple, middle-sized.

Var. β, *paleàceum* (D. C. l. c.) racemes almost simple. ♃. H. Native of Virginia. Hedys. paleàceum, Poir. dict. 6. p. 418.

Canescent Desmodium. Fl. July, Aug. Clt. 1733. Pl. 3 to 4 ft.

28 D. Maryla'ndicum (D. C. prod. 2. p. 328.) stem erect, pilose, branched; leaflets oblong, villous beneath; stipulas subulate; racemes panicled; joints of legume 3, rhomboid, reticulated, and rather pilose. ♃. H. Native of North America, from New York to Carolina. We have seen this plant growing in great plenty in dry sandy woods near New York and in Long Island. Hedys. Marylándicum, Lin. spec. 1055.—Dill. hort. elth. t. 174. f. 171. Flowers pale purple, fading to blue, the vexillum having a green spot at the base.

Maryland Desmodium. Fl. July, Oct. Clt. 1725. Pl. 2 feet.

29 D. obtu'sum (D. C. prod. 2. p. 329.) stem erect, pubescent; leaflets ovate, obtuse, somewhat cordate at the base: stipulas lanceolate-subulate; panicle terminal; joints of legume semi-orbicular, reticulated, and hispid. ♃. H. Native from Pennsylvania to Virginia, in woods and fields, and in dried up marshes. Hedys. obtùsum, Muhl. in Willd. Hedys. coriàceum, Poir. dict. 6. p. 418. ? Flowers violaceous.

Obtuse-leafletted Desmodium. Fl. July, Aug. Clt. 1805. Pl. 2 feet.

30 D. cilia're (D. C. prod. 2. p. 329.) stem erect, rather pilose, slender; leaves approximate, on very short petioles; leaflets small, oval, obtuse; stipulas subulate; racemes axillary, and terminal, panicled; joints of legume oval, hispid. ♃. H. Native about New York and Philadelphia. Hedys. ciliàre, Nutt. gen. amer. 2. p. 109. Flowers small, violaceous.

Ciliated Desmodium. Fl. July, Aug. Clt. 1823. Pl. 1 to 2 ft.

31 D. viridiflòrum (D. C. prod. 2. p. 329.) stem erect, branched, pubescent; leaflets ovate-oblong, scabrous beneath; stipulas lanceolate, cuspidate; racemes panicled, bracteate; joints of legume oval, rough. ♃. H. Native from New Jersey to Carolina, and of Upper Louisiana, in woods and in waste fields. Hedys. viridiflòrum, Lin. spec. 1055. but not of Burm. —Pluk. alm. t. 308. f. 5. Flowers reddish purple, but at length becoming greenish.

Greenish-flowered Desmodium. Fl. July, Sept. Clt. 1787. Pl. 3 feet.

32 D. læviga'tum (D. C. prod. 2. p. 329.) stem simple, erect, glabrous, and rather glaucous; leaves quite glabrous, on long petioles; leaflets ovate, acute; stipulas subulate; panicle terminal; flowers twin, on long pedicels; bracteas ovate, acute, shorter than the flower-buds; lower segment of calyx elongated. ♃. H. Native of the State of New York, in woods. Hedys. lævigàtum, Nutt. gen. amer. 2. p. 109. Flowers purple. Legume unknown. Allied to the following species.

Smooth Desmodium. Pl. 2 to 3 feet.

33 D. bracteòsum (D. C. prod. 2. p. 329.) stem erect, glabrous; leaflets oblong-oval, acuminated, glabrous; stipulas subulate; racemes terminal, few-flowered; bracteas ovate, acuminated, striated, glabrous; joints of legume nearly oval. ♃. H. Native of Pennsylvania and the western parts of Virginia. Hedys. bracteòsum, Michx. fl. bor. amer. 2. p. 73. Pursh, fl. amer. sept. 2. p. 482. Flowers largish, purple.

Var. β, *cuspidàtum* (D. C. l. c.) leaves with scabrous margins; stipulas ovate-lanceolate; joints of legume ovate, reticulated, glabrous, but with pubescent margins. ♃. H. Native of shady woods. Hedys. cuspidàtum, Willd. spec. 3. p. 1198. Pursh, l. c. Said by Nuttall to be hardly a variety of *D. bracteòsum.*

Large-*bracted* Desmodium. Fl. July, Aug. Clt. 1806. Pl. 1 to 2 feet.

34 D. glabe'llum (D. C. prod. 2. p. 329.) stem erect, glabrous; leaflets ovate, obtuse, rather glaucous beneath; stipulas small, subulate; panicle terminal; joints of legume triangularly-rhomboid. ♃. H. Native from Virginia to Carolina, in woods and fields. Hedys. glabéllum, Michx. fl. bor. amer. 2. p. 73. Flowers small, purple. Perhaps the same as D. paniculàtum

according to Ell. sketch. 2. p. 211. but the leaflets are said to be not half the size, and blunter.

Glabrous Desmodium. Fl. July, Sept. Pl. 1 to 2 feet.

35 D. PANICULA'TUM (D. C. prod. 2. p. 329.) stem erect, glabrous; leaflets oblong-lanceolate or elliptic, glabrous; stipulas subulate; panicle terminal; joints of legume 4, rhomboid, pubescent. ♃. H. Native from New York to Carolina, in dry woods. Hedys. paniculàtum, Lin. spec. 1056.—Pluk. alm. t. 432. f. 6. Flowers small, pale purple.

Panicled-flowered Desmodium. Fl. July. Clt. 1781. Pl. 2 ft.

36 D. STRI'CTUM (D. C. prod. 2. p. 329.) stem straight, erect, glabrous, simple; leaflets linear-elliptic, glabrous, reticulately veined, glaucous beneath; stipulas subulate; panicle terminal, pedunculate, few-flowered; joints of incurved legume somewhat lunately triangular, hispid. ♃. H. Native of woods, in New Jersey. Hedys. hírtum, Pursh, fl. amer. sept. 2. p. 483. Nutt. gen. amer. 2. p. 109. Flowers purple.

Straight Desmodium. Pl. 1 to 2 feet.

37 D. ACUMINA'TUM (D. C. prod. 2. p. 329.) stem erect, simple, pubescent, leafy at the apex; leaves on long footstalks; leaflets ample, ovate, long-acuminated, rather pilose on both surfaces, the terminal one roundish-ovate; panicle terminal, on a long peduncle; pedicels rather pilose; joints of stipitate legume 3, bluntly triangular, pubescent. ♃. H. Native from New England to Carolina, and Upper Canada at Lake Huron. Hedys. acuminàtum, Michx. fl. bor. amer. 2. p. 72. Pursh, l. c. Hedys. glutinòsum, Willd. spec. 3. p. 198. Pursh, l. c. ex Nutt. l. c. Flowers purple.

Acuminated-leafletted Desmodium. Fl. July, Aug. Clt. 1805. Pl. 1 to 2 feet.

38 D. NUDIFLÒRUM (D. C. prod. 2. p. 330.) stem erect, simple, smoothish; leaflets broad-oval, acuminated; scape panicled, glabrous, radical, higher than the leaf-bearing stems; joints of legume roundish-triangular, smoothish. ♃. H. Native from New England to Carolina, and in Canada about Quebec, in woods and in waste fields. Hedys. nudiflòrum, Lin. spec. 1056. Ell. sketch. 2. p. 209. Flowers purple.

Naked-flowered Desmodium. Fl. Jul. Aug. Clt. 1823. Pl. 1 ft.

39 D. PAUCIFLÒRUM (D. C. prod. 2. p. 330.) stem decumbent, very humble and filiform; leaves on very long petioles; leaflets broad-ovate, acuminated, ciliated with pubescence; stipulas obsolete; racemes terminal, pedunculate, few-flowered, hardly exceeding the leaves. ♃. H. Native of the woods of Ohio, Kentucky, and Tennessee. Hedys. pauciflòrum, Nutt. gen. amer. 2. p. 109. Flowers small, white.

Few-flowered Desmodium. Fl. July, Aug. Clt. 1818. Pl. decumbent.

40 D. RI'GIDUM (D. C. prod. 2. p. 330.) stem erect, much branched, tomentose; leaflets oblong-ovate, obtuse, reticulated, pubescent; panicle branched; bracteas ovate-lanceolate, acuminated. ♃.? H. Native of Carolina. Hedys. rígidum, Ell. sketch. 2. p. 215. Flowers purple.

Stiff Desmodium. Pl. 1 to 2 feet.

41 D. RHOMBIFÒLIUM (D. C. prod. 2. p. 330.) plant pubescent; leaflets rhomboid, obtuse, thickish, reticulately wrinkled; panicle compound; bracteas small: joints of legume 1-3, almost orbicular, veiny and pubescent. ♃.? F. Native of Carolina, near Beaufort. Hedys. rhombifòlium, Ell. sketch. 2. p. 215. Flowers purple.

Rhomb-leafletted Desmodium. Pl.

42 D. LINEA'TUM (D. C. prod. 2. p. 330.) stem creeping, green, and lined; leaves almost sessile; leaflets nearly orbicular, smoothish; racemes elongated, few-flowered; joints of legume lenticular. ♃. H. Native of Carolina. Hedys. lineàtum, Michx. fl. bor. amer. 2. p. 72. but not of Lin. Flowers purple.

Lineated-stemmed Desmodium. Pl. creeping.

43 D. ROTUNDIFÒLIUM (D. C. prod. 2. p. 330.) stem prostrate, hairy; leaflets orbicular, pilose on both surfaces: stipulas roundish-cordate, reflexed; racemes axillary, and forming a terminal few-flowered panicle; bracteas cordate; joints of legume rather rhomboid, reticulated, and scabrous. ♃. H. Native from Pennsylvania to Carolina, in dry rocky places. Hedys. rotundifòlium, Michx. l. c. Pursh, l. c. but not of Vahl. Hedys. canéscens, Willd. ex Ell. Flowers purple.

Round-leafletted Desmodium. Fl. July, Aug. Clt. 1733. Pl. prostrate.

† *North American species not sufficiently known.*

44 D. PEDUNCULA'TUM (D. C. prod. 2. p. 338.) stem herbaceous, erect; leaflets ovate at the base, and acuminated at the apex, smooth, middle one longer than the petiole; racemes axillary, erect, very long. ♃. F. Native of South Carolina. Hedys. pedunculàtum, Mill. dict. no. 17. Flowers pale yellow.

Peduncled Desmodium. Pl. 1 foot.

45 D. GRANDIFLÒRUM (D. C. prod. 2. p. 338.) leaflets oval, veiny, smooth on both surfaces; racemes axillary, erect; flowers large; legumes pendulous, many-jointed.—Native of Carolina. Hedys. grandiflòrum, Walt. car. 185. but not of Pall.

Great-flowered Desmodium. Pl. 2 feet.

46 D. RE'PENS (D. C. prod. 2. p. 338.) stems procumbent; leaflets obcordate; racemes lateral. ♃. H. Native of Virginia. Hedys. rèpens, Lin. spec. 1056.—Dill. hort. elth. 172. t. 142. f. 9. ex Lin. but Dillenius's plant is a native of the East Indies.

Creeping Desmodium. Pl. creeping.

* * *Mexican species.*

47 D. ALAMA'NI (D. C. prod. 2. p. 330.) stem erect, angular, smoothish, branched; leaflets ovate, acute, hardly pubescent; stipulas lanceolate, acuminated, spreadingly reflexed; racemes terminal; pedicels twin; bracteas lanceolate, acuminated, deciduous; lower segment of the calyx elongated. ♃. G. Native of Mexico. Hedys. geminiflòrum, and perhaps Hedys. mucronàtum, Moc. et Sesse, fl. mex. icon. ined. Hedys. Alamàni, Spreng. syst. append. p. 291. Flowers purple. Young legume 4-5-jointed, rather hoary.

Alaman's Desmodium. Pl. 1 to 3 feet.

48 D. STIPULA'CEUM (D. C. prod. 2. p. 330.) stem erect, branched, pilose; leaflets ovate, rather obtuse; stipulas horizontal, obliquely ovate-lanceolate, acuminated, ciliated; stipels large; racemes terminal, somewhat panicled. ♃. G. Native of Mexico, on the mountains. Hedys. stipulàceum, Moc. et Sesse, fl. mex. icon. ined. Flowers purple.

Large-*stipuled* Desmodium. Fl. July, Aug. Clt. 1824. Pl. 1 to 2 feet.

49 D. INFRA'CTUM (D. C. prod. 2. p. 330.) stem nearly erect, rather angular, bent at the leaves; leaflets ovate, acute, puberulous as well as the petioles and peduncles; stipulas ovate, acute; racemes axillary, simple; joints of legume 2, semi-orbicular, glabrous. ♃. G. Native of Mexico, on the mountains. Hedys. biarticulàtum, Moc. et Sesse, fl. mex. icon. ined. but not of Lin. Hedys. infráctum, Spreng. syst. append. 290. Flowers violaceous.

Bent-stemmed Desmodium. Pl. 1 to 2 feet.

50 D. APARI'NES (D. C. prod. 2. p. 330.) stem erect, rough from crowded hairs, which are hooked at the apex; leaflets oblong, rather pilose, painted with white above and pale beneath; racemes terminal. ♃. G. Native of Mexico. Hedys. Aparìnes, Link. enum. 2. p. 247. Hedys. ramòsum, H. W. no. 13789. ex Schlecht. et Cham. in Linnæa. 5. p. 586. Leaflets sometimes roundish. Flowers purple.

Cleaver Desmodium. Fl. June, Jul. Clt. 1823. Pl. 1 to 2 ft.

51 D. CINE'REUM (D. C. prod. 2. p. 330.) branches clothed

with white tomentum; leaflets elliptic, rather mucronate, having parallel veins, clothed with hoary silky tomentum on both surfaces; racemes elongated; joints of legume 1-5, deltoid, semi-orbicular, clothed with soft canescent pubescence. ♄. S. Native between Acapulco and the city of Mexico, near Mascala and Chilpacingo, Hedys. cinèreum, H. B. et Kunth, nov. gen. amer. 6. p. 526. Flowers purple.

Cinereous Desmodium. Fl. Jul. Aug. Clt. 1820. Sh. 1 to 2 ft.

52 D. SEROTÌNUM (D. C. prod. 2. p. 338.) stem herbaceous; leaflets elliptic, obtuse, pubescent beneath as well as the petioles; racemes terminal, simple. ♃. G. Native of Mexico, near Jalapa. Hedys. serotìnum, Willd. enum. p. 777.

Late-flowering Desmodium. Pl. 1 foot.

53 D. PLICA'TUM (Schlecht. et Cham. in Linnæa. 5. p. 585.) stem erect, terete, clothed with retrograde canescent tomentum upwards, but below with dense canescent pubescence; leaves on short petioles; leaflets oblong-elliptic, rather retuse and mucronate at the apex, pubescent above and tomentose beneath; stipulas and stipels ending in a long acumen each; spikes panicled; flowers in fascicles; bracteas very narrow and very acute, exceeding the calyx; legumes tomentose, with a few, usually 3-4, complicated joints. ♄. G. Native of Mexico, in fields, between Misantla and Colipa. The whole plant is of a yellowish-cinereous colour. Corolla violaceous. Habit of *Hedys. cajanifòlium*, H. B. et Kunth. Hedys. multiflòrum, H. W. no. 13797. et Schlecht. et Cham. l. c.

Plicate-podded Desmodium. Shrub 2 feet.

* * * *South American and West Indian species. Hedýsarum, Swartz, fl. ind. occid. 3. p. 1263. H. B. et Kunth, nov. gen. amer. 6. p. 517.*

54 D. UNCINA'TUM (D. C. prod. 2. p. 331.) stem shrubby, climbing, rough from hairs, which are hooked at the apex; leaflets ovate, villous, painted with white above; racemes terminal. ♄. ◡. S. Native of the Caraccas. Hedys. uncinàtum, Jacq. hort. schœnb. 3. t. 298. Flowers violaceous.

Hooked-haired Desmodium. Shrub cl.

55 D. CŒRU'LEO-VIOLA'CEUM (D. C. prod. 2. p. 331.) stems shrubby, terete, diffuse, and are as well as the leaves clothed with villous pubescence; leaflets elliptic; stipulas lanceolate-subulate, ciliated; racemes terminal, capitate; legumes scabrous, pilose. ♄. S. Native of Guiana. Hedys. cœrùleo-violàceum, Meyer. esseq. 246. Calyx 5-parted, with lanceolate-subulate lobes. Corolla bluish violet.

Bluish-violet-flowered Desmodium. Shrub 1 to 2 feet.

56 D. MOLLÍCULUM (D. C. prod. 2. p. 331.) stems diffuse, clothed with soft pili as well as the petioles and peduncles; leaflets pilose on both surfaces, terminal one rhomboid-orbicular, lateral ones roundish-elliptic, mucronate; racemes loose-flowered, young legumes with 2 hispid joints. ♄. S. Native of South America. Hedys. mollículum, H. B. et Kunth, nov. gen. amer. 6. p. 512. Heterolòma lanàtum, Desv. ined. Flowers purple. Allied to *D. lanàtum* and *D. rotundifòlium*.

Softish Desmodium. Shrub diffuse.

57 D. ARENA'RIUM (H. B. et Kunth, nov. gen. amer. 6. p. 527.) stems herbaceous, procumbent; stipulas ovate, acuminately-subulate; leaflets oblong-elliptic, clothed with adpressed pubescence on both surfaces, glaucescent beneath; racemes almost terminal or opposite the leaves, solitary; joints of legume few, hairy. ♃. S. Native on the banks of the Orinoco, near Atures, in sandy places. Flowers violaceous.

Sand Desmodium. Pl. procumbent.

58 D.? MULTICAU'LE (D. C. prod. 2. p. 331.) stems diffuse, slender, suffrutescent at the base, clothed with hoary-velvety down as well as the leaves; leaflets elliptic; stipulas broad, cordate, acuminated; racemes opposite the leaves and about the same length; pedicels twin; bracteas tern, acuminated. ♄. S. Native of Peru. Root thick, woody. Flowers small. Young legume slender and many-jointed, villous. Perhaps this plant does not belong to the present genus.

Many-stemmed Desmodium. Shrub diffuse.

59 D. ERYTHRINÆFÒLIUM (D. C. prod. 2. p. 331.) stems twiggy, glabrous, angular; leaflets broad-ovate, acuminated, glabrous, pale beneath; stipulas subulate; racemes terminal, somewhat panicled; joints of legume very smooth and dolabriform, acute at both ends. ♄. S. Native of South America. Hedys. erythrinæfòlium, Juss. in Poir. dict. 6. p. 408.

Erythrina-leaved Desmodium. Shrub.

60 D. CARIPE'NSE; plant erect; branches, petioles, and peduncles rather hairy; leaflets ovate-oblong, mucronate, ciliated, hairy above but glabrous beneath; racemes elongated; joints of legume 3-5, rhomboid, hairy. ♄. S. Native of Cumana, near Caripe. Hedys. Caripénse, H. B. et Kunth, nov. gen. amer. 6. p. 523. D. Cumanénse, D. C. prod. 2. p. 331. Flowers purple.

Caripe Desmodium. Shrub 2 to 3 feet.

61 D. CAJANIFÒLIUM (D. C. prod. 2. p. 331.) branches densely hairy; leaflets oblong, obtuse, full of parallel veins, glabrous and shining above, but covered with soft silky pubescence and glaucescent beneath; racemes panicled; joints of legume 2-6, semi-orbicular, and puberulous. ♄. S. Native on the banks of the river Magdalena, near Honda, and of the island of Trinidad. Hedys. cajanifòlium, H. B. et Kunth, nov. gen. amer. 6. p. 525. t. 598. Flowers bluish.

Pigeon-pea-leaved Desmodium. Fl. July, Aug. Clt. 1820. Shrub 2 to 3 feet.

62 D. WA'DE (D. C. prod. 2. p. 331.) stem shrubby; lower leaves simple, the rest trifoliate; leaflets ovate-lanceolate, ciliated; racemes very long, opposite the leaves; pedicels tern; legumes membranous, scabrous, 3-jointed. ♄. S. Native of Brazil, particularly in Para. Hedys. Wàde, Vand. in Rœm. script. 63. Flowers small, white. *Wade* is the vernacular name of the plant.

Wade Desmodium. Shrub 1 to 2 feet.

63 D. RACEMI'FERUM (D. C. prod. 2. p. 331.) stem terete, slender, hispid; leaflets oval, obtuse, glabrous above, villous beneath, and somewhat marcescent; stipulas and bracteas oblong, acuminated, villous; racemes terminal; pedicels twin at each bractea, which is caducous. ♄. S. Native of Cayenne. Hedys. racemòsum, Aubl. guian. 2. p. 774.? but not of Thunb. Flowers purple.

Raceme-bearing Desmodium. Shrub 1 to 2 feet.

64 D. ANCISTROCA'RPUM (D. C. prod. 2. p. 331.) stem frutescent, pilosely-pubescent; leaves glaucous beneath; leaflets of the lower leaves orbicular, of the upper ones elliptic; racemes opposite the leaves, elongated; joints of legume numerous, semi-orbicular, hispid from stiff hairs, which are hooked at their apices. ♄. S. Native of Brazil. Hedys. ancistrocárpum, Ledeb. ind. hort. dorp. suppl. 1823. Flowers small, purple.

Ancistrum-fruited Desmodium. Shrub 1 to 2 feet.

65 D. INCA'NUM (D. C. prod. 2. p. 332) stem suffrutescent. erect, terete, pubescent; leaflets ovate-oblong, hoary beneath; stipulas oblong, acuminated, glabrous; racemes terminal; pedicels solitary; legumes deflexed, puberulous, having semi-orbicular joints. ♄. S. Native of Jamaica and St. Domingo, among bushes and grass. Hedys. incànum, Swartz, fl. ind. occid. 1265. but not of Thunb. Hedys. canéscens, Mill. but not of Lin. Hedys. incànum, Lun. hort. jam. Æschynómene incàna, Meyer.—Plum. ed Burm. t. 149. f. 1. Flowers pale red.

Hoary Desmodium. Fl. Jul. Aug. Clt. 1818. Sh. 2 to 3 ft.

66 D. SUPÌNUM (D. C. prod. 2. p. 332.) stems frutescent, declinate, pubescent above; leaflets ovate, clothed with hoary villi beneath; stipulas lanceolate, acuminated, puberulous; racemes

terminal; pedicels solitary; legumes nearly erect, pubescent, with semi-ovate joints. ♄. S. Native of Jamaica, Guadaloupe, Santa Cruz, among grass, and of the Spanish Main, about Bordones and Cumana. Hedys. supìnum, Swartz, fl. ind. occid. 1264. H. B. et Kunth, nov. gen. amer. 6. p. 524. but not of Vill. nor Pall. Æschynómene spicàta, Poir. 4. p. 452. ex herb. mus. par. D. Cumanénse, Willd. herb.—Sloane, hist. jam. 1. t. 118. f. 2. Flowers small, bluish purple. Perhaps the plant of Kunth is distinct from that of Swartz.

Supine Desmodium. Fl. July, Aug. Clt. 1816. Sh. trail.

67 D. tortuòsum (D. C. prod. 2. p. 332.) stem erect, herbaceous, terete, pubescent, suffrutescent at the base; leaflets elliptic, smoothish; stipulas much acuminated; racemes axillary, elongated, loose; legumes erectish, pubescent, with roundish twisted joints. ♄. S. Native among bushes on the mountains of Jamaica, Porto Rico, and on the banks of the river Magdalena, near Honda. Hedys. tortuòsum, Swartz, fl. ind. occid. 1271. H. B. et Kunth, nov. gen. amer. 6. p. 521.—Sloan. jam. 1. t. 116. f. 9. Flowers pale blue.

Var. β, hirtéllum (D. C. prod. 2. p. 332.) stem beset with short hooked hairs; leaves rather villous on both surfaces. ♄. S. Native of Guadaloupe. Perhaps a proper species.

Twisted Desmodium. Fl. Jul. Aug. Clt. 1781. Sh. 2 to 3 ft.

68 D. mólle (D. C. prod. 2. p. 333.) stem erect, terete, glabrous; leaflets ovate, attenuated, clothed with soft villi beneath; racemes terminal; pedicels tern; young legumes twisted, puberulous, with rhomboid joints, the ultimate one largest and somewhat orbicular, at length all glabrous. ♄. S. Native of the islands of Santa Cruz, St. Thomas, and St. Domingo. Hedys. mólle, Vahl. symb. 2. p. 83. Flowers purple.

Soft Desmodium. Shrub 1 to 2 feet.

69 D. adscéndens (D. C. prod. 2. p. 332.) stem suffrutescent, ascending, terete, pilose; leaflets roundish, pubescent beneath; stipulas lanceolate, falcate; racemes erect, axillary, simple; pedicels solitary; legumes declinate, pubescent. ♄. S. Native of the West Indies. Hedys. adscéndens, Swartz, fl. ind. occid. 1263. but not of Sieb. Flowers small, red. Perhaps many species are confused under this name.

Var. β, Orinocénse (H. B. et Kunth, nov. gen. amer. 6. p. 520. t. 597.) legumes with 1-3 joints.

Ascending Desmodium. Fl. Ju. Aug. Clt. 1818. Sh. 1 to 2 ft.

70 D. cœrúleum; stem terete; branches declinate, ascending, pilose; leaflets roundish, pubescent beneath, mucronate, somewhat emarginate; stipulas rather falcate; racemes simple, erect, axillary, many-flowered. ♄. S. Native of Brazil. D. adscéndens var. β, cœrùleum, Lindl. bot. reg. 815. D. C. prod. 2. p. 332. Flowers large, blue. Stamens monadelphous according to the figure.

Blue-flowered Desmodium. Fl. June, Aug. Clt. 1818. Sh. 1 to 2 feet.

71 D. Liménse (Hook, bot. misc. 2. p. 215.) stem erect, furrowed, hairy; leaves on long stalks; leaflets smoothish above, and covered with adpressed hairs beneath; racemes long, terminal, and axillary; bracteas ovate, acuminated, silky; legumes flexuous, with 5-8 oval, hairy, scabrous joints. ♄. S. Native of Peru, near Lima.

Lima Desmodium. Shrub 1 to 2 feet.

72 D. trigònum (D. C. prod. 2. p. 332.) stem herbaceous, scandent, triquetrous, hairy; leaflets ovate, acute, hairy; racemes terminal, very long; legumes twisted, hispid, and inflexed. ♃. ◡. S. Native of Jamaica, in shady bushy places. Hedys. trigònum, Swartz, fl. ind. occ. 1267. Hedys. triphýllum, P. Browne, jam. 301. f. 7. Hedys. intórtum, Mill. dict. Hedys. adhæ'rens, Vahl. symb. 2. p. 82. Flowers large, pale red or bluish.

Trigonal-stemmed Desmodium. Fl. July, Aug. Clt. 1733. Pl. climbing.

73 D. oblongifòlium (D. C. prod. 2. p. 332.) stems herbaceous, diffuse, terete, and are as well as the petioles clothed with rough villi; stipulas scarious, ovate, acuminated; leaflets ovate-oblong, acuminated, villously pubescent; peduncles almost radical, elongated, loosely racemose at the apex; lower pedicels twin. ♃. ◡. S. Native of Jamaica, on the higher mountains. Hedys. oblongifòlium, Bert. ined. Flowers purplish-violet. Ovary puberulous, 2-3-jointed.

Oblong-leaved Desmodium. Pl. diffuse.

74 D. spirále (D. C. prod. 2. p. 332.) stem herbaceous, climbing, rooting at the base, angular, glabrous; leaflets ovate, glabrous; stipulas subulate; racemes terminal, elongated; pedicels twin or tern; legumes pubescent, spirally twisted. ♄. ◡. S. Native of the south of Jamaica, in shady, arid, bushy places. Hedys. spiràle, Swartz, fl. ind. occid. p. 1273. H. procúmbens, Mill. dict. Flowers small, greenish yellow. Leaflets marked with a shining spot above, sometimes obtuse and sometimes acuminated, according to Swartz.

Var. β. stoloníferum (D. C. prod. 2. p. 333.) leaflets acuminated; stipulas ovate, acute, striated. ♃.? ♄.? S. Native of Porto Rico. Hedys. stoloníferum, Poir. dict. 6. p. 421. Perhaps a proper species. Plant creeping and rooting.

Spiral-podded Desmodium. Fl. July, Aug. Clt. 1700. Pl. cl.

75 D. tenuículum (D. C. prod. 2. p. 333.) stems herbaceous, diffuse, slender, smoothish; leaflets ovate, acute, glabrous, the terminal one twice the size of the rest; stipulas spreading, subulate; racemes terminal; pedicels twin, spreading. ♃. S. Native of St. Domingo. Hedys. tenéllum, Spreng. in herb. Balb. Flowers small, purple.

Very small Desmodium. Pl. diffuse.

76 D. tenéllum (D. C. prod. 2. p. 333.) branches ascending, glabrous; floral leaves simple, the rest trifoliate; leaflets clothed with adpressed pubescence on both surfaces, glaucescent beneath, terminal one ovate-oblong, lateral ones elliptic, acute; racemes loose, rather flexuous; legumes with 2-5 joints, spirally twisted, glabrous, the joints rhomboid. ⊙. S. Native of shady humid places near Caraccas. Hedys. tenéllum, H. B. et Kunth, nov. gen. amer. 6. p. 522. Nearly allied to *D. tortuòsum* and *D. spiràle*. Flowers purple.

Slender Desmodium. Fl. July, Aug. Clt. 1818. Pl. 1 ft.

77 D. axilláre (D. C. prod. 2. p. 333.) stem herbaceous, creeping, and rooting at the joints, rather pubescent; leaflets rhomboid-roundish, pubescent beneath, and reticulately veined; racemes axillary, much longer than the leaves; pedicels 1-3-together; legumes declinate, pubescent, with 2-4 semi-ovate joints. ♃. S. Native of Jamaica, St. Domingo, and Guadaloupe. Hedys. axillàre, Swartz, fl. ind. occ. 1274. Flowers small, of a purplish blood-colour.

Axillary-flowered Desmodium. Pl. creeping.

78 D. réptans (D. C. prod. 2. p. 333.) stems creeping; leaflets obovate-roundish, lateral ones unequal-sided, rounded at both ends, glabrous above, but clothed with canescent pubescence beneath; racemes ascending, on very long peduncles; joints of legume 2, semi-orbicular, hispid. ♄. S. Native of St. Domingo and of New Granada, in very hot places, on the banks of the river Magdalena, near Nares. Hedys. réptans, Poir. dict. 6. p. 422. H. B. et Kunth, nov. gen. amer. 6. p. 518. Flowers flesh-coloured.

Creeping Desmodium. Shrub creeping.

79 D. scorpiúrus (Desv. l. c.) stems herbaceous, procumbent, rather pilose; stipulas ovate-falcate, apiculated; leaflets obovate-oblong, obtuse, pubescent beneath; racemes opposite the leaves, elongated; joints of legume 4-5, ovate. ♃. S. Native of Jamaica and St. Domingo. Hedys. scorpiùrus, Swartz, fl. ind. occid. p. 1268. Flowers purple.

Scorpion-tail-like-racemed Desmodium. Pl. procumbent.

80 D. ásperum (Desv. l. c.) stems tetragonal, hispid, fistular;

leaflets ovate, obtuse, rough above, but soft and hoary beneath; panicle terminal, diffuse; joints of legume small, ovate-globose, pubescent.—Native country unknown. Hedys. ásperum, Poir. dict. 6. p. 408.

Rough Desmodium. Fl. July, Aug. Clt. 1816. Sh. 1 to 2 ft.

† *Species natives of the same countries, but are not sufficiently known.*

81 D.? glàbrum (D. C. prod. 2. p. 338.) stems herbaceous, erect, panicled; leaflets obcordate; legumes lunulate, 1-seeded, glabrous. ⊙. H. Native of Campeachy. Hedys. glàbrum, Mill. dict. no. 12. Flowers pale purple.

Glabrous Desmodium. Pl. 1 foot.

82 D. Portoricénse (Spreng. syst. 3. p. 314. under *Hedys.*) plant herbaceous, erect; leaflets oblong, obtuse; stipulas subulate, short; panicle terminal, bractless; joints of legume reticulated and pubescent. ♃. S. Native of Porto Rico.

Porto Rico Desmodium. Pl. 1 to 2 feet.

83 D. tenéllum (Spreng. syst. 3. p. 314. under *Hedys.*) plant herbaceous, procumbent; branches filiform, smooth, as well as the leaves; leaflets ovate, glabrous; stipulas setaceous; racemes terminal. ♃. S. Native of St. Domingo.

Tender Desmodium. Pl. procumbent.

84 D. leiocárpum; shrubby; leaflets ovate-oblong, obtuse, pubescent beneath; panicle terminal; legumes glabrous, compressed, moniliform. ♄. S. Native of Brazil. Hedys. leiocárpum, Spreng. syst. 3. p. 316.

Smooth-fruited Desmodium. Shrub 1 to 2 feet.

85 D.? villòsum (D. C. prod. 2. p. 338.) stems herbaceous, diffuse, branched, villous; leaflets oval, rather hispid; racemes terminal, rather spicate; calyxes rather villous; joints of legume numerous, usually somewhat 4-horned. ⊙. S. Native of Vera Cruz. Hedys. villòsum, Mill. dict. no. 9. but not of Willd. Flowers small, pale purple.

Villous Desmodium. Pl. diffuse.

86 D. Guianénse (D. C. prod. 2. p. 338.) stem frutescent; leaflets hoary beneath; flowers crowded, racemose; legumes hairy.—Native of French Guiana. Hedys. Guianénse, Aubl. guian. 774. without a description.

Guiana Desmodium. Pl. 1 to 2 feet.

87? D. emarginàtum (D. C. prod. 2. p. 338.) stem herbaceous, angular, and rather villous; leaflets ovate, obtuse, glabrous; stipulas ovate-lanceolate; racemes axillary, simple; legumes glabrous, having only one joint, which is emarginate on one side. ♃. S. Native of Martinico. Hedys. emarginàtum, Poir. dict. 6. p. 412. Flowers small, yellow.

Emarginate-jointed Desmodium. Pl. 1 to 2 feet.

* * * * *Species, native of the Cape of Good Hope. Hedýsarum, Thunb. fl. cap. 594.*

88 D.? ciliàtum (D. C. prod. 2. p. 333.) stem suffrutescent, erect, villous; leaflets ovate, mucronate, pilose on the margins and midrib; stipulas spreading, lanceolate, glabrous; pedicels axillary, 1-flowered, shorter than the leaves; calyx 5-parted. ♄. G. Native of the Cape of Good Hope, in grassy fields. Hedys. ciliàtum, Thunb. nov. act. ups. 6. p. 43. t. 2. fl. cap. 594. Perhaps the plant belongs to a different genus: the legume is unknown.

Ciliated-leafletted Desmodium. Shrub 1 foot.

89 D. squarròsum (D. C. prod. 2. p. 333.) stem suffruticose, erect, hairy; leaflets ovate, obtuse, pubescent above, but tomentose and nerved beneath; stipulas lanceolate; flowers disposed in spikes? reflexed; legume 2-jointed, hairy. ♄. G. Native of the Cape of Good Hope, among grass. Hedys. squarròsum, Thunb. l. c.

Squarrose Desmodium. Shrub 1 foot.

* * * * * *Species natives of Guinea.*

90 D. Bullaménse; stems creeping and rooting; branches beset with rough villi; leaflets roundish-obovate, pale, and clothed with adpressed pubescence beneath; stipulas subulate; peduncles long, loose-flowered. ♄. S. Native of Sierra Leone; on the Bullam shore. Flowers purple (v. s. herb. Lamb.).

Bullam Desmodium. Shrub creeping.

91 D. lineariifòlium; stem erect, branched; branches very villous; leaflets elliptic-lanceolate, obtuse at both ends, clothed with adpressed villi beneath; peduncles few-flowered, panicled; legumes with 4-6 smooth joints. ♄. S. Native of Sierra Leone. Flowers purple (v. s. herb. Lamb.)

Linear-leafletted Desmodium. Shrub 1 foot.

92 D. símplex; stem erect, simple, clothed with adpressed villi, as well as the under side of the leaves; leaflets of the lower leaves roundish-obovate, emarginate, of the upper ones obovate, mucronate; raceme terminal, on a long naked peduncle. ♄. S. Native of Sierra Leone. Flowers purple (v. s. herb. Lamb.).

Simple-stemmed Desmodium. Shrub 2 to 3 feet.

93 D. oxalidifòlium; plant suffruticose, branched, prostrate; leaflets obovate-roundish, membranous, glabrous, mucronate, small; stipulas subulate; peduncles elongated, few-flowered; legume with rough joints. ♄. S. Native of the Island of St. Thomas. Flowers small, flesh-coloured.

Sorrel-leaved Desmodium. Shrub prostrate.

94 D. ramosíssimum; plant shrubby, erect, much branched; leaflets obovate, glabrous, rounded at the apex and mucronulate; racemes spiked, terminal, few-flowered; legumes articulated. ♄. S. Native of the Island of St. Thomas. Flowers small, flesh-coloured.

Much-branched Desmodium. Shrub 2 feet.

95 D. sparsiflòrum; shrubby, branched, erect, pilose; leaflets broad, oblong-lanceolate, acute, rather cordate at the base, pubescent beneath; racemes terminal and axillary, long and slender, few-flowered. ♄. S. Native of the Island of St. Thomas. Flowers flesh-coloured.

Scattered-flowered Desmodium. Shrub 1 to 3 feet.

96 D. ténue; stems shrubby, ascending, simple, weak; leaflets small, obovate, mucronate; racemes spiked, slender. ♄. S. Native of Sierra Leone. Joints of legume hairy. Flowers rose-coloured.

Slender Desmodium. Shrub ascending.

* * * * * * *Species, natives of the Mauritius, Madagascar, and Arabia.*

97 D. cæspitòsum (D. C. prod. 2. p. 333.) stems creeping, tufted, and smoothish; stipulas lanceolate, acuminated, scarious; leaflets obovate-roundish; racemes erect, terminating the branches; pedicels solitary; legumes pubescent, with 2-3 semi-ovate joints. ♃. S. Native of the Mauritius. Hedys. cæspitòsum, Poir. dict. 6. p. 421.

Tufted Desmodium. Pl. creeping.

98 D. Mauritiànum (D. C. prod. 2. p. 334.) stem erect, terete, pubescent; stipulas lanceolate, acuminated, scarious, clothed with adpressed down, as well as the stems, petioles, and pedicels; leaflets obovate-oblong, obtuse; raceme terminal, simple; legumes drooping, with semi-orbicular joints, when young pubescent. ♄. S. Native of the Mauritius. Hedys. Mauritiànum, Willd. spec. 3. p. 1185. Æschynómene arbòrea, Sieb. pl. maur. exsic. no. 155. and perhaps of Lin. Flowers drooping. Roots creeping.

Mauritian Desmodium. Shrub ½ to 1 foot.

99 D. Scálpe (D. C. prod. 2. p. 334.) stem erect, suffruticose; stipulas lanceolate-linear, acuminated, glabrous; leaflets ovate or rhomboid, acuminate[illegible] mucronate, with sinuately-crenated margins; racemes terminal, elongated; pedicels twin, capillary. ♄. S. Native of the island of Bourbon, and per-

haps of Madagascar. Hedys. Scálpe, Comm. herb. Hedys. repándum, Poir. dict. 6. p. 408. but not of Vahl. Æschynómene remòta, Poir. dict. 4. p. 452. Petioles nodose at the base. Stems pubescent at the apex, as well as the under side of the leaves. Legume unknown. Perhaps this and the following species would constitute a new genus. *Scalpe* is the vernacular name of the plant.

Scalpe Desmodium. Shrub 1 to 2 feet.

100 D. repa'ndum (D. C. prod. 2. p. 334.) stem shrubby, erect; stipulas lanceolate, ciliated; leaflets ovate-rhomboid, obtuse, with repandly-crenated margins; raceme terminal, elongated; pedicels 2-3 together, capillary. ♄. G. Native of Arabia Felix. Hedys. repándum, Vahl. symb. 2. p. 82.

Repand-leaved Desmodium. Shrub 1 to 3 feet.

101 D. oxybra'cteum (D. C. prod. 2. p. 334.) stem frutescent, terete, glabrous; leaflets oblong, acuminated, glabrous; stipulas and bracteas lanceolate, and very much acuminated; racemes axillary and terminal; legumes deflexed, depressed, smoothish, coriaceous. ♄. S. Native of the Mauritius, spontaneous or cultivated. Flowers purple.

Sharp-bracted Desmodium. Shrub 1 to 2 feet.

102 D. diversifòlium (D. C. prod. 2. p. 334.) stem shrubby, terete, glabrous; leaves simple and trifoliate; leaflets oval, glabrous, but puberulous on the middle nerve beneath, the terminal leaflets always twice or thrice the size of the lateral ones; racemes almost terminal; legumes villous, compressed, nearly linear. ♄. S. Native of Madagascar. Hedys. diversifòlium, Poir. dict. 6. p. 403.

Diverse-leaved Desmodium. Fl. July, Aug. Clt. 1816. Sh. 1 to 2 feet.

103 D. Abyssi'nicum (D.C. prod. 2. p. 338.) stems twining; leaflets ovate, shining, rather pubescent, lateral ones sessile; racemes terminal, loose; stamens monadelphous. ♃. S. Native of Abyssinia. Hedys. Abyssínicum, Hoffmanns. verz. 1824. p. 217. Legumes unknown.

Abyssinian Desmodium. Pl. cl.

* * * * * * * *Species natives of the East Indies, Nipaul, &c.*

104 D. polyca'rpum (D. C. prod. 2. p. 334.) stem terete, erect, clothed with adpressed pubescence; leaves trifoliate, with obovate obtuse leaflets, terminal one the largest; racemes terminal and axillary, crowded; legumes with 6-8 semi-orbicular joints. ♄. S. Native of the East Indies. Lam. ill. t. 628. f. 4. Hedys. polycárpum, Poir. dict. 6. p. 413. Flowers purple. Said to be allied to *D. latifòlium* and *D. lasiocárpum*.

Many-fruited Desmodium. Shrub 2 to 3 feet.

105 D. Pryòni (D. C. prod. 2. p. 334.) stem almost terete, smoothish, erect; leaflets oval, acute, glabrous above, but clothed with silky pubescence beneath, the terminal leaflet thrice the size of the lateral ones; racemes axillary, longer than the leaves; legumes hardly puberulous, with 6 semi-orbicular joints. ♄. S. Native of the East Indies. Hedys. viridiflòrum, Burm. ind. 167. exclusive of the synonymes. Hedýsarum spicàtum foliis acuminatis, Pryon in herb. Burm. Hedys. Prỳoni, Spreng. syst. append. 292. The legumes are like those of *D. Gangéticum*.

Pryon's Desmodium. Shrub 1 to 2 feet.

106 D. triflòrum (D. C. prod. 2. p. 334.) stems herbaceous, procumbent, filiform, puberulous; leaflets obcordate, glabrous above, but puberulous on the nerves beneath; pedicels axillary, 1-flowered, 2-3 together; legumes puberulous, with 3-4 semi-orbicular joints. ♃. S. Native of China, Malabar, the Mauritius, also of the West Indies, and Guiana. Hedys. triflòrum, Lin. spec. 1057. Swartz, obs. 288. t. 6. f. 1. Hedys. stipulàceum, Burm. ind. t. 54. f. 2. zeyl. t. 54. f. 2. Hedys. biflòrum, Willem. maur. 49.? Flowers red.

Three-flowered Desmodium. Shrub procumbent.

107 D. heterophy'llum (D. C. prod. 2. p. 334.) stem herbaceous, ascending, rather pilose; leaflets obovate, obtuse, glabrous above, and clothed with adpressed pubescence beneath; pedicels axillary, 1-flowered, 2-3 together; legumes ciliated, with the joints semi-orbicular. ♃. S. Native of Ceylon. Burm. zeyl. t. 54. f. 2. Hedys. heterophýllum, Willd. spec. 3. p. 1201. Flowers red.

Variable-leaved Desmodium. Fl. July, Aug. Clt. 1820. Pl. 1 foot, ascending.

108 D. parvifòlium (D. C. in ann. sc. nat. 4. 1825. p. 100.) stems procumbent, herbaceous, much branched, weak, and glabrous; leaflets small, obovate or roundish, emarginate or mucronate, covered beneath with adpressed hairs, but glabrous above; racemes panicled, axillary, 5-6-flowered, much longer than the leaves; pedicels capillary, diverging; legumes glabrous. with 3-4 semi-orbicular joints. ♃. G. Native of Nipaul. Hedys. tenéllum, D. Don, prod. fl. nep. p. 243. but not of Kunth. Hedys. parviflòrum, Spreng. syst. 3. p. 318. Flowers small, purple. Calycine segments lanceolate, awned.

Small-leaved Desmodium. Fl. July, Aug. Pl. procumbent.

109 D. du'bium (Lindl. bot. reg. 967.) leaflets obovate, rather retuse, mucronate, pubescently-pilose, paler beneath; racemes elongated, many-flowered, terminal; bracteas subulate, equal in length to the pedicels; stems angular, and are as well as the pedicels hairy. ♄. G. Native of the Himalaya mountains. Flowers rose-coloured.

Doubtful Desmodium. Fl. July. Clt. 1823. Shrub 2 feet.

110 D. laxiflòrum (D. C. l. c.) stem frutescent, erect, terete, glabrous; branches pubescent; stipulas lanceolate; leaflets elliptic, acuminated, glabrous above, and clothed with adpressed pubescence beneath; racemes terminal, loose; pedicels hairy, filiform, much longer than the calyx; joints of legume oblong, compressed, hardly puberulous, usually 4-5. ♄. G. Native of Nipaul. Flowers purple. Perhaps not distinct from the following.

Loose-flowered Desmodium. Shrub 1 to 2 feet.

111 D. diffu'sum (D. C. l. c.) stem shrubby, nearly erect, terete, glabrous; branches pubescent; stipulas lanceolate; leaflets elliptic, acuminated, glabrous above, but clothed with adpressed pubescence beneath; racemes terminal, elongated; pedicels twice the length of the calyx, in fascicles; young legumes villous. ♄. S. Native of the East Indies. Hedys. diffùsum, Roxb. hort. beng. p. 57. but not of Willd. Hedys. Roxbúrghii, Spreng. syst. append. 292. Flowers purple.

Diffuse Desmodium. Fl. July, Aug. Clt. 1818. Sh. 1 to 2 ft.

112 D.? e'legans (D. C. l. c.) stem shrubby, branched, terete; branches angular, pubescent; stipulas linear, acuminated; leaflets roundish-ovate, acuminated, pubescent beneath; racemes terminal, panicled; pedicels hispid, filiform; calyx obsoletely 5-toothed. ♄. G. Native of Nipaul, on Shreenagur.

Elegant Desmodium. Shrub 3 to 6 feet.

113 D. nu'tans (Wall. mss. Graham in edinb. phil. journ. Hook. bot. mag. 2867.) shrubby, branched; racemes compound, terminal, and axillary, and are, as well as the branches, pendulous; flowers twin; bracteas acute; leaves pendulous; leaflets roundish-rhomboid, tomentose on both surfaces; stipulas subulate. ♄. S. Native of the East Indies. Corolla bluish lilac. Stamens monadelphous.

Nodding-leaved Desmodium. Fl. July, Aug. Clt. 1823. Shrub 1 to 3 feet.

114 D. pe'ndulum (Wall. pl. rar. asiat. 1. p. 81. t. 94.) erect, twiggy; branches villous; leaflets cuneate-oblong, obtuse, cuspidate, villous and many-nerved beneath; stipulas and bracteas large and dry, membranous, aristately mucronate; racemes solitary, terminal, pendulous; flowers twin; legumes compressed, moniliform on one side; joints 4, reniform, lower one sti-

pitate. ♄. S. Native of Nipaul, on the mountains on the confines of the valley. Flowers purple.

• *Pendulous-racemed* Desmodium. Shrub 3-4 feet.

115 D.? MULTIFLÒRUM (D. C. l. c.) stem shrubby, terete, glabrous; branches hairy, trigonal; stipulas lanceolate, subulate; leaflets ovate, mucronate, pubescent above, and villous beneath; racemes axillary and terminal, hairy, longer than the leaves. ♄. G. Native of Nipaul. Hedys. floribúndum, D. Don, prod. fl. nep. 244.? Flowers purple. Calyx nearly smooth. Young legume with 5-6 ovate pubescent joints.

Many-flowered Desmodium. Fl. July, Aug. Clt. 1823. Sh. 3 to 4 feet.

116 D. ANGULA'TUM (D. C. l. c.) stem suffruticose; branches angular, pubescent, but villous along the angles; leaflets ovate, acutish, clothed with adpressed villi on both surfaces; racemes axillary and terminal, almost spicate; bracteas villous, very much acuminated, deciduous, longer than the flowers. ♄. G. Native of Nipaul. Hedys. retùsum, D. Don, prod. fl. nep. 243? Hedys. Wallichiànum, Spreng. syst. append. 293. Flowers purple.

Angular-stemmed Desmodium. Shrub 2 feet.

117 D. PILOSIU'SCULUM (D. C. prod. 2. p. 335.) stem angular, rather pilose; leaflets ovate-lanceolate, acute, glabrous above, and puberulous beneath; racemes terminal, somewhat spicate; bracteas deciduous, villous, somewhat acuminated; legumes a little incurved, with oval scabrous joints. ♄. S. Native of the Philippine islands.

Pilose Desmodium. Shrub 1 to 2 feet.

118 D. CONFE'RTUM (D. C. in ann. sc. nat. 4. 1825. p. 100.) stem shrubby, nearly terete, villous; leaflets ovate, acutish, rather coriaceous, glabrous above, and villous beneath; racemes crowded, short, terminal; bracteas ovate, acutish, glabrous, ciliated. ♄. G. Native of Nipaul. Flowers purple.

Crowded Desmodium. Shrub 1 to 2 feet.

119 D. SUEMBUE'NSE (D. C. prod. 2. p. 335.) leaflets roundish-oval, mucronulate, villous, canescent beneath; stipulas lanceolate, mucronate; racemes secund; calycine teeth ovate, acute, upper one broader and emarginate. ♄. G. Native of Upper Nipaul at Suembu. Hedys. Suembuénse, D. Don, prod. fl. nep. 243. Flowers flesh-coloured. Legume with 5 joints.

Suembu Desmodium. Fl. July. Shrub 1 to 2 feet.

120 D. RUFE'SCENS (D. C. in ann. sc. nat. 4. 1825. p. 100.) branches and peduncles terete, covered with rufous villi; leaflets ovate-elliptic, obtuse, mucronate, glabrous above, and pubescent beneath; racemes terminal, panicled; bracteas deciduous, villous, very much acuminated. ♄. S. Native of the East Indies. Hedys. rufèscens, Spreng. syst. append. 292. Upper leaves with one leaflet. Stipulas broad at the base, but elongated and subulate at the apex.

Rufescent Desmodium. Shrub 1 to 2 feet.

121 D. CONCI'NNUM (D. C. l. c.) stem shrubby, branched; branches terete, pubescent; leaflets elliptic-obovate, mucronate, pubescent beneath, with rather prominent nerves; stipulas lanceolate-linear, acuminated; racemes terminal; pedicels twin, hairy; bracteas deciduous, ovate, acuminated, villous. ♄. G. Native of Nipaul. Hedys. concínnum, Spreng. syst. append. 292. Allied to the preceding species, but differs in the leaflets being 1½ inch long, not 2-3, and in having fewer nerves. Flowers violaceous.

Neat Desmodium. Shrub 1 to 2 feet.

122 D. TRICHOCAU'LON (D. C. l. c.) stems procumbent, suffruticose at the base, terete, hairy; leaflets obovate, roundish, obtuse, glabrous above, pubescent beneath; stipulas scarious, lanceolate-linear, acuminated, glabrous; bracteas conforming to the stipulas, ciliated; racemes terminal; pedicels twin. ♃. G. Native of Nipaul. Flowers violaceous.

Hairy-stemmed Desmodium. Pl. procumbent.

123 D. VI'SCIDUM (D. C. prod. 2. p. 336.) stems suffruticose; branches terete, covered with adpressed villi; leaflets smoothish; terminal one obovate and larger than the lateral ones, which are ovate and acutish; racemes almost terminal, villous; stipulas and bracteas scabrous, ovate-lanceolate, acuminated, striated, glabrous. ♄. S. Native of Java. Burm. zeyl. t. 84. f. 1. Hedys. viscòsum, Burm. ind. 167. Flowers blue.

Viscid Desmodium. Shrub 1 to 2 feet.

124 D. PAUCINE'RVIUM (D. C. l. c.) stem shrubby, erect, branched, terete, smoothish; leaflets elliptic, obtuse, pubescent and veiny beneath; stipulas membranous, acuminately-awned; bracteas conforming to the stipulas, somewhat ciliated; racemes terminal; pedicels solitary or twin. ♄. S. Native of the East Indies. Very like *D. concinnum*. Flowers violaceous.

Few-nerved-leaved Desmodium. Shrub 1 to 2 feet.

125 D. LESCHENAU'LTII (D. C. l. c.) stem terete, puberulous, suffruticose; leaflets rhomboid, mucronate, puberulous on both surfaces; racemes axillary, slender; stipulas and bracteas deciduous, acuminated, and rather pilose; pedicels 2-3-together, spreading. ♄. S. Native of the East Indies. Flowers purple.

Leschenault's Desmodium. Fl. July, Aug. Clt. 1825. Sh. 1 to 2 feet.

126 D. CAPITA'TUM (D. C. prod. 2. p. 336.) stem shrubby, erect; leaflets roundish-obovate, obtuse, tomentose beneath; stipulas lanceolate, dry; racemes axillary, bracteate before the flowers expand, and of a capitate, conical figure; legumes pendulous. ♄. S. Native of Ceylon. Hedys. capitàtum, Burm. ind. 167. t. 54. f. 1. Hedys. cónicum, Poir. dict. 6. p. 419. According to the legume this species belongs to section *Pleurolòbium*. Flowers purple.

Capitate-flowered Desmodium. Fl. July. Clt. ? Sh. 1 to 2 ft.

127 D. SILIQUÒSUM (D. C. prod. 2. p. 336) stem shrubby, erect, clothed with adpressed silky pubescence above; stipulas dry, lanceolate-linear, setaceously acuminated; leaflets elliptic-obovate, obtuse, mucronate, glabrous above, but clothed with silky villi beneath; racemes terminal, dense-flowered, bracteate. ♄. S. Native of Java. Hedys. siliquòsum, Burm. fl. ind. 169. t. 55. f. 2. Perhaps a species of *Lespedèza*.

Siliquose-podded Desmodium. Shrub 1 to 2 feet.

128 D. RETROFLE'XUM (D. C. prod. 2. p. 336.) stem shrubby, erect; leaflets roundish-ovate, clothed with silky tomentum beneath; racemes axillary, erect, elongated; legumes reflexed. ♄. S. Native of the East Indies. Hedys. retrofléxum, Lin. mant. 103. Allied to *Flemíngia lineàta*, but the legume is many-jointed. It differs from *D. concínnum* in the leaflets being roundish, not elliptic, and in the racemes being axillary, &c.

Retroflexed Desmodium. Shrub 1 to 2 feet.

129 D. BIFLÒRUM (D. C. prod. 2. p. 336.) stem twining, terete, pubescent; leaflets ovate, tomentose; peduncles axillary, 2-flowered, length of petioles; legumes hairy, 5-6-jointed. ♄. ◠. S. Native of the East Indies. Hedys. biflòrum, Willd. spec. 3. p. 1200. but not of Willem.

Two-flowered-peduncled Desmodium. Sh. tw.

130 D. LA'XUM (D. C. in ann. sc. nat. 4. p. 102.) stems twining, trigonal, and are either pilose or glabrous, as well as the petioles; stipulas lanceolate, acuminated; leaflets elliptic, acuminated, glabrous, but pubescent on the nerves beneath, middle one acuminated at the base, lateral ones unequally semicordate at the base; panicle terminal, very loose; pedicels twin. ♄. ◠. G. Native of Nipaul. Hedys. láxum, Spreng. syst. append. 292. Young legume smooth and repand.

Loose-flowered Desmodium. Shrub. tw.

131 D. WILLDENÒWII; stems ascending, triquetrous; stipulas obliquely cordate; leaflets oblong-ovate, obtuse, hoary beneath; racemes erect, panicled; bracteas cordate, deciduous; legumes with 4 roundish, hairy joints. ♄. S. Native of Tranquebar.

Hedys. diffùsum, Willd. spec. 3. p. 1180. D. diffùsum, D. C. prod. 2. p. 336.

Willdenow's Desmodium. Shrub 2 to 3 feet, diffuse.

132 D. DICHÓTOMUM (D. C. prod. 2. p. 336.) stem erect, triquetrous; pubescent; stipulas and bracteas ovate; leaflets elliptic, obtuse, pubescent, hoary beneath; racemes elongated; legumes hairy, with 6 joints. ♄. S. Native of Tranquebar. Hedys. dichótomum, Willd. spec. 1180. This species is like the preceding.

Dichotomous-stemmed Desmodium. Shrub 2 to 3 feet.

133 D. OXYPHY'LLUM (D. C. in ann. sc. nat. 4. p. 102.) stem erect, terete, branched, and is rather angular and smooth, as well as the branchlets; stipulas subulate; leaflets elliptic, acuminated, glabrous, pale white beneath; panicle terminal, loose; pedicels 2-3-together, in fascicles. ♄. G. Native of Nipaul. Hedys. oxyphýllum, Spreng. syst. append. 292.

Sharp-leaved Desmodium. Shrub 1 to 2 feet.

134 D. PODOCA'RPUM (D. C. l. c.) stem ascending, terete; branches rather angular, and are as well as the petioles and peduncles pilose; stipulas subulate; leaflets broad-ovate, rather rhomboid, pale beneath, but rather puberulous above; racemes terminal, elongated, slender; pedicels twin; legume with 1-3 triangular, puberulous, distant joints, lower joint stipitate. ♄. G. Native of Nipaul. Flowers purple.

Foot-fruited Desmodium. Shrub 1 to 2 feet.

135 D. HETEROCA'RPUM (D. C. prod. 2. p. 337.) stem shrubby, erect, and is as well as the petioles scabrous; stipulas setaceous; leaflets elliptic, obtuse, glabrous; racemes axillary and terminal; legumes puberulous, erect, lower ones with only 1 joint, the rest having 5-7 orbicular joints. ♄. S. Native of Ceylon. Burm. zeyl. 117. t. 53. f. 1. Hedys. heterocárpum, Lin. spec. 1054. but not of Thunb. Flowers pale purple.

Various-fruited Desmodium. Shrub 1 to 2 feet.

136 D. SE'QUAX (Wall. pl. asiat. rar. 2. p. 46. t. 157.) plant shrubby, erect, twiggy, and branched; branches terete, and are villous, as well as the petioles; leaflets lanceolate, acuminated, clothed with adpressed pili above, and villous beneath, intermediate one double the size of the lateral ones; stipulas linear; racemes axillary, about equal in length to the leaves; flowers usually twin, on villous pedicels; legumes slender, linear, many-jointed, many-toothed on both edges, and covered with hooked pili. ♄. S. Native of the East Indies, on the mountains of Kamaon. Flowers pale red.

Sticking Desmodium. Shrub 3 feet.

137 D. LABURNIFÒLIUM (D. C. prod. 2. p. 337.) stem shrubby, branched, terete, smoothish; stipulas setaceous; leaflets ovate, acute, glabrous, shining above, clothed with adpressed pubescence beneath; racemes terminal, loose; legumes pendulous, hispid, with oblong compressed joints. ♄. S. Native of Java. Hedys. laburnifòlium, Poir. dict. 6. p. 422. but not of Sieb. This plant probably belongs to section *Eudesmòdium.*

Laburnum-leaved Desmodium. Shrub 2 to 3 feet.

138 D. SALICIFÒLIUM (D. C. prod. 2. p. 337.) stem frutescent, branched, terete, glabrous; stipulas and stipels lanceolate-setaceous, elongated; leaflets lanceolate-oblong, acuminated, glabrous; panicle terminal, diffuse; bracteas lanceolate-subulate; legumes arched, hispid. ♄. S. Native of the East Indies. Hedys. salicifòlium, Poir. dict. 6. p. 422.

Willow-leaved Desmodium. Shrub 1 to 2 feet.

139 D. ROTTLE'RI; plant herbaceous, erect; leaflets large, oblong-elliptic, acutish, rather strigose beneath; panicle terminal, elongated, diffuse; legumes linear, arched, glabrous. ♃. S. Native of the East Indies. Hedys. lineàre, Rottl. Hedys. Rottlèri, Spreng. syst. 3. p. 320.

Rottler's Desmodium. Pl. 1 foot.

† *Species, natives of Nipaul, which differ from the other species in having a 4-toothed calyx instead of being 5-toothed.*

140 D. RETU'SUM; leaflets oblong, retuse, mucronulate, villous, canescent beneath; stipulas lanceolate, acuminated; racemes many-flowered; bracteas ovate, mucronate, villous, imbricated; calycine teeth ovate, cuspidate; keel of corolla truncate at the apex. ♄. G. Native of Nipaul, at Narainhetty. Hedys. retùsum, Hamilt. mss. ex D. Don, prod. fl. nep. 243. Leaflets nearly 2 inches long and half an inch broad.

Retuse-leafletted Desmodium. Fl. July, Aug. Clt. 1820. Sh. 1 to 2 feet.

141 D. FLORIBU'NDUM; leaflets ovate, mucronate, and are as well as the branches pilosely tomentose; stipulas lanceolate, falcate; racemes many-flowered: pedicels capillary, aggregate; calycine segments ovate, acute, upper one broader and emarginate. ♄. G. Native of Nipaul, at Gosaingsthan. Hedys. floribúndum, D. Don, prod. fl. nep. p. 244. Flowers reddish. Perhaps the same as *D. multiflòrum* of D. C.

Bundle-flowered Desmodium. Shrub 2 to 3 feet.

142 D. TILIÆFÒLIUM; leaflets roundish-ovate, acuminated, pubescent; racemes terminal, panicled; calyx bluntly 4-lobed. ♄. G. Native of Nipaul, on Shreenagur. Hedys. tiliæfòlium, D. Don, l. c. Leaflets almost 3 inches long.

Lime-tree-leaved Desmodium. Shrub 2 to 3 feet.

143 D. DIOÍCUM (D. C. prod. 2. p. 338.) leaflets oval, obtuse, coriaceous, glaucous, and pilose beneath; stipulas ovate, acute; racemes many-flowered; bracteas ovate, acute, ciliated, imbricated; calycine teeth ovate, acute. ♄. G. Native of Nipaul, at Narainhetty. Hedys. dioícum, Hamilt. mss. ex D. Don, prod. fl. nep. 244. Leaflets 3-4 inches long and 2 broad. Flowers axillary, dioecious. Vexillum obovate, shorter than the falcate wings. Keel concave, mucronate at the apex. Stamens 10, monadelphous. Style bearded below. Legume 3-jointed. Perhaps a proper genus.

Diœcious Desmodium. Shrub 3 feet.

† *Doubtful species, natives of the East Indies.*

144 D. GRANDIFÒLIUM (D. C. prod. 2. p. 338.) stem frutescent, simple, trigonal; stipulas ciliated; petioles triquetrous; leaflets oblong-lanceolate, acute, racemes somewhat spicate. ♄. S. Native of the East Indies. Hedys. grandifòlium, Horn. hort. hafn. cat. 2. p. 700.

Great-leaved Desmodium. Shrub 2 to 3 feet.

145 D.? PUNCTA'TUM (D. C. prod. 2. p. 338.) stem twining, furrowed, pilose; leaflets ovate, acute, and are as well as the calyxes beset with red dots; racemes axillary, short. ♄. ⌒. S. Native of the East Indies. Hedys. punctàtum, Rottl. berl. mag. p. 231.

Dotted Desmodium. Shrub tw.

146 D.? HIPPOCRE'PIS (D. C. prod. 2. p. 338.) stem shrubby, erect; leaflets ovate, glabrous, middle one largest; spikes oblong, dense; legumes straight, bearded, jointed on the upper suture. ♄. G. Native of Cochin-china. Hippocrèpis barbàta, Lour. fl. coch. p. 453. Flowers purple.

Hippocrepis-like Desmodium. Shrub 4 feet.

147 D. MALACOPHY'LLUM (D. C. prod. 338.) stem herbaceous, erect, hairy; leaflets oblong, somewhat cordate, pale, and clothed with soft hairs beneath; racemes terminal. ♃. S. Native of Manilla. Hedys. malacophýllum, Link. enum. 2. p. 247.

Soft-leaved Desmodium. Fl. July, Aug. Clt.? Pl. 1 to 2 ft.

* * * * * * * *Species, natives of New Holland and New Caledonia.*

148 D. SPARTIOÌDES (D. C. prod. 2. p. 337.) stem slender, terete, dichotomous, glabrous; stipulas acute; leaflets oblong-linear, mucronate, glabrous above, but pale, and pubescent beneath; racemes terminal and opposite the leaves; pedicels from

1-3, in a fascicle, distant, joints of legume 4, semi-orbicular, hardly puberulous. ♄. G. Native of New Holland. The figure in Burm. ind. t. 51. f. 2. agrees with this plant, but the description does not.

Broom-like Desmodium. Shrub 1 to 2 feet.

149 D. VA′RIANS; lower leaflets ellip[illegible], upper ones oblong; racemes axillary and terminal, flexuous. ♃. ◡. G. Native of New Caledonia. Hedys. vàrians, Labill, cal. p. 71. t. 71.

Varying Desmodium. Pl. cl.

150 D. TUBERCULA′TUM; leaves simple and ternate; leaflets obovate, grey beneath; racemes terminal. ♄. G. Native of New Caledonia. Hedys. tuberculòsum, Labill. cal. p. 71. t. 72.

Tubercled Desmodium. Shrub 1 to 2 feet.

* * * * * * * * *Species, natives of Japan and China. Hedýsarum, with ternate leaves, Thunb. fl. jap.* 284.

151 D. MICROPHY′LLUM (D. C. prod. 2. p. 337.) stem shrubby, erect, glabrous; stipulas ovate, subulate, almost covering the branches; leaflets ovate, villous; panicle terminal; legumes scabrous, 3-jointed. ♄. G. Native of Japan, near Nagasaki. Hedys. microphýllum, Thunb. l. c. Flowers purple.

Small-leaved Desmodium. Shrub 1 to 2 feet.

152 D. RACEMÒSUM (D. C. prod. 2. p. 337.) stem shrubby, erect; branches angular, glabrous; stipulas setaceous; leaflets ovate-oblong, acute, glabrous, canescent beneath; racemes axillary, erect, very long; legumes glabrous. ♄. G. Native of Japan. Hedys. racemòsum, Thunb. fl. jap. p. 285. Said to be allied to *D. viridiflòrum.*

Racemose-flowered Desmodium. Shrub 1 to 2 feet.

153 D. CAUDA′TUM (D. C. l. c.) stem herbaceous, erect, glabrous; stipulas setaceous; leaflets oblong, acute, glabrous; panicle terminal, contracted, villous; legumes clothed with rusty tomentum. ♃. G. Native of Japan. Hedys. caudàtum, Thunb. fl. jap. 286. Flowers purple.

Tailed Desmodium. Pl. 1 foot.

154 D. TOMENTÒSUM (D. C. prod. 2. p. 337.) stem herbaceous, erect, angular, flexuous, tomentose, as well as the petioles, peduncles, and under sides of the leaves; stipulas broadest at the base, setaceous; leaflets ovate-oblong, obtuse, mucronate; racemes axillary. ♃. G. Native of Japan. Hedys. tomentòsum, Thunb. fl. jap. 286.

Tomentose Desmodium. Pl. 1 foot.

155 D. THUNBE′RGII (D. C. l. c.) stem herbaceous, angular, glabrous; leaflets oblong, acuminated, glabrous; stipulas setaceous; racemes axillary, drooping; legumes puberulous, some with 1 joint and others with 2 joints. ♃. G. Native of Japan. Hedys. heterocárpum, Thunb. fl. jap. 289. but not of Lin. Stems drooping. Flowers flesh-coloured.

Thunberg's Desmodium. Pl. 2 feet.

156 D. PILÒSUM (D. C. l. c.) stem herbaceous, decumbent, filiform, hairy; leaflets ovate, obtuse, villous on both surfaces, acuminated; peduncles axillary, usually 4-flowered, length of petioles. ♃. G. Native of Japan. Hedys. pilòsum, Thunb. fl. jap. 288. Perhaps a species of *Lespedèza.* Flowers purple.

Pilose Desmodium. Pl. decumbent.

157 D. STRIA′TUM (D. C. l. c.) stem herbaceous, angular; racemes erectish, pilose; stipulas ovate, membranous; leaflets obtuse and somewhat retuse, mucronate, glabrous, having a hairy line on the back of each; pedicels axillary, solitary, 1-flowered. ♃.? G. Native of Japan. Hedys. striàtum, Thunb. fl. jap. 289. Perhaps a species of *Lespedèza.* Flowers purple.

Striated Desmodium. Pl. 1 to 2 feet.

† *A doubtful species, of which the native country is unknown.*

158 D. VIOLA′CEUM; plant shrubby, erect, branched, pubescent; leaves petiolate, ovate-lanceolate, mucronate at the apex, clothed with hoary tomentum beneath; stipulas very villous; bracteas pubescent, lanceolate, acute. ♄. S. Native of Maranham. Flowers small, violaceous.

Violaceous-flowered Desmodium. Fl. Aug. Sept. Sh. 2 ft.

159 D. NEÆ′I (D. C. prod. 2. p. 338.) branches terete, rather angular at the apex, clothed with silky villi; leaflets ovate-lanceolate, acuminated, puberulous above, but clothed with silky villi beneath; racemes axillary and terminal, somewhat spicate; bracteas longer than the flowers; acuminated, rather villous at the apex. ♄. S. Native country unknown.

Nees's Desmodium. Shrub 1 to 2 feet.

† *Species only known by name, from Roxburgh's Hortus Bengalensis, p.* 57. *and p.* 98. *under Hedýsarum, many of which may be identical with some of those described above.*

1 *D. réptans.* 2 *D. orbiculàtum.* 3 *D. recurvàtum.* 4 *D. divérgens.* 5 *D. purpùreum.* 6 *D. cephalòtes.* 7 *D. pàtens.* 8 *D. tuberòsum.* 9 *D. quinquangulàtum.* 10 *D. arbòreum.*

Cult. The stove and greenhouse species of this genus grow well in a mixture of loam and peat, and young cuttings will root readily in sand, under a hand-glass in heat. The hardy kinds or those natives of North America succeed well in a light rich soil, and are increased by dividing at the root in spring, or by seeds.

CLVI. DI′CERMA (from δις, *dis*, twice, and ἑρμα, *erma*, a prop; in reference to the calyx being propped by 2 bracteas). D. C. legum. mem. vii. prod. 2. p. 339.

LIN. SYST. *Diadélphia, Decándria.* Calyx bilabiate, propped by 2 adpressed bracteas at the base; upper lip entire or hardly bidentate at the apex, lower one trifid, with the middle lobe rather longer than the lateral ones. Vexillum obovate. Carina and wings about equal in length. Keel obtuse, not obliquely truncate at the apex. Stamens diadelphous. Legume constantly of 2, rarely of 3 orbicular, regular, flat, 1-seeded joints, which are not echinated, the ultimate one bearing the permanent style.—Shrubs with trifoliate leaves. Pedicels 1-flowered, numerous, aggregate in the axils of the leaves or bracteas. Flowers yellow or purple.

SECT. I. PHYLLÒDIUM (from φυλλον, *phyllon*, a leaf; in reference to the leaflets being stipellate). Desv. journ. bot. 3. p. 123. t. 5. f. 24. D. C. prod. 2. p. 339. Leaves on long petioles, pinnately trifoliate; leaflets stipellate. Floral leaves bifoliate, the odd one being abortive, lateral ones orbicular, lined, formed like bracteas, the petiole ending in a bristle. Flowers numerous in the axils of the floral leaves, on very short pedicels. Stipulas distinct and free from the petioles.

1 D. PULCHE′LLUM (D. C. prod. 2. p. 339.) stem erect, shrubby; leaves pinnately trifoliate; leaflets elliptic-oblong, pubescent beneath, glabrous above, terminal one very large; floral leaves bifoliate, with the petiole ending in a bristle; legume straight, 2-jointed. ♄. S. Native of the East Indies, Java, Mindanao, and China. Hedys. pulchéllum, Lin. spec. 1053. Phyllòdium pulchéllum, Desv. l. c.—Burm. zeyl. t. 52.—Pluk. alm. t. 433. f. 7. Flowers purple, 2 to each pair of floral leaves.

Neat Dicerma. Fl. July, Aug. Clt. 1798. Sh. 2 to 3 feet.

2 D. E′LEGANS (D. C. prod. 2. p. 339.) stem shrubby, erect; leaves trifoliate; leaflets ovate, obtuse, tomentose on both surfaces; leaflets of floral leaves ovate and pilose; legume arched, pilose, 3-jointed. ♄. G. Native of China, near Canton. Hedys. élegans, Lour. coch. p. 450. Zórnia élegans, Pers. ench. 2. p. 318. Flowers yellow.

Elegant Dicerma. Fl. July, Aug. Clt. 1819. Sh. 2 to 3 ft.

SECT. II. APHYLLÒDIUM (from *a*, priv. and φυλλον, *phyllon*, a leaf; in reference to the leaflets being without stipels) D. C. legum. mem. vii. prod. 2. p. [illegible]39. Leaves trifoliate; leaflets about equal in size, exstipellate, rising from the top of the petiole; floral leaves reduced to stipulas, and therefore the flowers are disposed in an almost naked terminal raceme. Stipulas joined, opposite the leaves. The plant in this section is very different in habit from those species contained in the first section, but the character of the fructification is very similar.

3 D. biarticula'tum (D. C. prod. 2. p. 339.) leaflets 3, disposed in a palmate manner, obovate-oblong, obtuse, smoothish; branches and legumes clothed with adpressed pubescence. ♄. S. Native of the East Indies. Hedys. biarticulàtum, Lin. spec. 1054.—Burm. zeyl. 114. t. 50. f. 2.

Two-jointed-podded Dicerma. Fl. July, Aug. Clt. 1808. Shrub 2 feet.

Cult. This is a genus of elegant shrubs; they will grow in a mixture of loam and peat, and they may be increased by young cuttings, planted in sand, with a hand-glass placed over them, or by seeds.

CLVII. TAVERNIE'RA (in honour of J. B. Tavernier, a traveller in the Levant). D. C. legum. mem. vii. prod. 2. p. 339.

Lin. syst. *Diadélphia, Decándria.* Calyx bibracteolate at the base, half 5-cleft, and somewhat bilabiate; the segments lanceolate-linear, and acuminated. Corolla papilionaceous; vexillum nearly obovate. Wings shorter than the calyx. Keel obtuse. Stamens diadelphous, straight, or a little inflexed at the apex. Style filiform, long, flexuous, deciduous. Legume constantly of 2 orbicular, compressed, 1-seeded joints.—Shrubs, natives of the Levant, with simple and trifoliate leaves. Stipulas joined together at the base. Flowers rose-coloured or white.

1 T. nummula'ria (D. C. leg. mem. vii. t. 52.) leaves all simple, on short petioles, orbicular, mucronate, glaucous, pubescent; racemes axillary, few-flowered, much longer than the leaves. ♄. G. Native of the Levant, between Bagdad and Kermancha. Hedys. nummularifòlium, D. C. in ann. sc. nat. 4. p. 102. Hedys. Olivèrii, Spreng. syst. append. p. 290. Stem clothed with velvety-hoary down. Flowers rose-coloured, according to the dried specimen.

Money-wort Taverniera. Fl. June, July. Clt. 1826. Sh. 1 to 2 feet.

2 T. spa'rtea (D. C. prod. 2. p. 339.) leaves simple or trifoliate; leaflets oblong; racemes axillary and terminal; pedicels twin, 1-flowered, very short. ♄. G. Native of Persia. Hedys. spárteum, Burm. fl. ind. 166. t. 51. f. 2. Flowers yellow.

Broom-like Taverniera. Shrub 1 to 2 feet.

3 T. lappa'cea (D. C. prod. 2. p. 339.) stems suffruticose, procumbent, branched, divaricate, terete; leaves trifoliate; leaflets fleshy, obcordate, villous; flowers 1-2-together, axillary on short pedicels; legume beset with stiff bristles, which are hooked at the apex. ♄. G. Native of Arabia Felix, at Lohajam. Hedys. lappàceum, Forsk. descr. 136. Vahl. symb. 1. p. 54. Flowers yellow.

Burdock-podded Taverniera. Fl. Jul. Aug. Clt. 1820. Sh. pr.

Cult. See *Dicérma* for culture and propagation, p. 298.

CLVIII. HEDY'SARUM (*ἡδυσαρον, hedysaron*, is the name of a plant of Theophrastus and Dioscorides; said to be from *ἡδυς, hedys*, sweet, and *αρωμα, aroma*, perfume. The present genus, however, has nothing to do with the plant of Theophrastus, further than belonging to the papilionaceous tribe. His plant being *Trigonélla fœ'num Græ'cum*, from which an oil was extracted and mixed with ointments by the Hindoos). Jaum. journ. bot. 3. p. 61. exclusive of some species. D. C. legum. mem. vii. prod. 2. p. 340.—Echinolòbium, Desv. journ. bot. 3. p. 123. t. 5. f. 20-21.—Hedýsarum species of Lin. and others.

Lin. syst. *Diadélphia, Decándria.* Calyx 5-cleft; the segments linear-subulate and nearly equal. Corolla with a large vexillum and obliquely truncate keel, which is much longer than the wings. Stamens diadelphous, having the staminiferous tube abruptly infracted. Legume constantly of numerous, flat, orbicular or lenticular, regular, 1-seeded joints, which are connected together in the middle, and therefore the sutures are convex on both sides.—Herbs [illegible] subshrubs, with impari-pinnate leaves, axillary, simple peduncles, bearing racemose spikes of large, purple, white, or cream-coloured flowers. This genus is nearly allied to *Onobrychis*, but differs in the legumes being of many joints, not of one joint only as in that genus. All the species are very elegant when in blossom.

Sect. I. Echinolòbium (from *εχινος, echinos*, a hedge-hog, and *λοβος, lobos*, a pod; in reference to the prickly legumes). D. C. prod. 2. p. 340. Joints of legumes villous, ribbed, muricated, or glochidate in the disks.

* *Plants almost stemless. Calycine segments subulate and elongated.*

1 H. grandiflòrum (Pall. itin. 2. p. 743. t. Y. ed. gall. append. no. 367. t. 82.) plant nearly stemless: leaflets elliptic, clothed with silky hoary down beneath; wings of flower equal in length to the calyx; keel shorter than the vexillum; legumes jointed, clothed with white villi, wrinkled, having the disks of joints muricated with spinules, which are glochidate at the apex. ♃. H. Native of Iberia, the Ukraine, and south of Podolia, on calcareous hills at the Nieper, and at the Irtish. Bieb. cent. pl. ross. 3. t. 63. ex suppl. no. 1445. H. sericeum, Bieb. fl. taur. 2. p. 176. H. argénteum, Lam. in Pall. l. c. Astrágalus grandiflórus, Lin. spec. 1071.—Gmel. sib. 4. t. 31. Corolla large, cream-coloured or pale purplish.

Great-flowered Hedysarum. Fl. June, Jul. Clt. 1821. Pl. ½ to 1 foot.

2 H. arge'nteum (Lin. fil. suppl. 333.) plant almost stemless; leaflets oval or ovate, villous above and clothed with shining silky pubescence beneath; petioles and peduncles clothed with adpressed pubescence; calyx shorter than the corolla; keel twice the length of the wings and about equal in length to the vexillum; legumes articulated, tomentose, rough. ♃. H. Native of Caucasus and of Siberia, at the river Iacus. Bieb. fl. taur. 2. p. 175.—Gmel. sib. 4. p. 30. t. 13. Flowers purple.

Silvery Hedysarum. Fl. July, Aug. Clt. 1796. Pl. ½ foot.

3 H. ca'ndidum (Bieb. fl. taur. 2. p. 176. and suppl. no. 1444.) plant almost stemless; leaflets roundish, ovate, pubescent above and clothed with silky white down beneath; petioles and peduncles covered with spreading pubescence; calyx length of corolla; carina twice the length of the wings, but about equal in length to the vexillum; legumes tomentose, wrinkled, roughish. ♃. H. Native of Tauria, on calcareous hills. H. argénteum, Willd. spec. 3. p. 1205. exclusive of the synonymes. H. cretàceum, Pall. ined. taur. Flowers pale purplish, but at length changing to a cream colour.

Var. β, hùmile (D. C. prod. 2. p. 40.) scapes declinate; plant more humble than the species. ♃. H. Native of Tauria, about Sudak. H. supinum, Pall. ined. taur. H. hùmile, Hablitz, taur. 152.

White-leaved Hedysarum. Fl. May, Ju. Clt. 1824. Pl. ½ ft.

4 H. sple'ndens (Fisch. in litt. D. C. prod. 2. p. 340.) stems short; leaves with 1-3 pairs of ovate leaflets, which are clothed with adpressed silvery-silky pubescence on both surfaces; peduncles or scapes longer than the leaves; spikes racemose, oblong; wings of flowers shorter than the calyx; vexillum striated, almost the length of the carina; legumes clothed with silky pubescence, having 2 reticulately-veined joints. ♃. H. Native of Siberia, at the river Irtish. Flowers large, pale red. Leaves sometimes unifoliate. Bracteas longer than the pedicels. Stipulas joined in one, opposite the leaves.

Splendid Hedysarum. Fl. July, Aug. Clt. 1819. Pl. ½ ft.

* * *Plants with stems. Calycine segments subulate or linear. Legumes prickly.*

5 H. PA'LLIDUM (Desf. fl. atl. 2. p. 177.) stems procumbent; leaves with 6-7 pairs of elliptic-orbicular, pubescent leaflets; spikes or racemes of flowers oblong, crowded; wings of flower thrice the length of the calyx; joints of legume orbicular, prickly. ♄. H. Native of Barbary, near Mascar. Sims, bot. mag. 1251.? Flowers pale rose-coloured, about the size of those of *H. coronàrium.*

Pale-flowered Hedysarum. Fl. Ju. Jul. Clt. 1820. Pl. pr.

6 H. CORONA'RIUM (Lin. spec. 1058.) stems diffuse; leaves with 3-5 pairs of elliptic or roundish leaflets, which are clothed with pubescence beneath, and on the margins; spikes or racemes of flowers ovate, crowded; wings of flower twice the length of the calyx; legumes glabrous, with 2-5 orbicular prickly joints. ♂. H. Native of Spain and Italy, in fields and meadows. Gærtn. fruct. 2. t. 155. Mart. fl. rust. 115.—Riv. tetr. irr. t. 98. Besl. hort. eyst. 13. t. 2. f. 1. H. clypeàtum, Ger. amac. 1235. Park. parad. 339. t. 337. f. 10. Flowers deep red or white. In Calabria this plant grows wild in great luxuriance near 4 feet high, affording excellent nourishment to horses and mules, both green and made into hay; but it does not well bear the spring in the north of Italy, and therefore we may presume that it will not bear our climate well enough to answer the purposes of husbandry. Orbeck mentions that he saw great bundles of it brought to Cadiz as food for cattle. The plant is called in Italian and Spanish *Sulla.* In German it is called *Kronencklee*, *Schildklee*, and *Spanischeklee.* In French *Sainfoin d'Espagne*, and *Sainfoin à bouquets.* In Dutch *Sierlyk haanekop.* Parkinson calls it *Red satin-flower* or *Red-flowered Fitching*, but it is commonly known in British gardens under the name of *French honeysuckle.*

Garland Hedysarum or French honeysuckle. Fl. June, July. Clt. 1596. Pl. 3 to 4 feet.

7 H. HU'MILE (Lin. spec. 1058.) stem erect; leaves with 7-9 pairs of linear-cuneiform, obtuse leaflets; flowers racemose; wings one-half shorter than the carina, and with the vexillum also shorter than the carina; joints of legume 2-3, orbicular, villous, and muricated with tubercles, when in a young state they are tomentose. ♂. H. Native of the south of France, Sicily, and Spain, on dry sandy hills.—J. Bauh. hist. 2. p. 336. f. 1.—Pluk. alm. t. 50. f. 2. H. coronàrium *β*, Lam. fl. fr. 2. p. 665. Flowers purple, smaller than those of *H. coronàrium.*

Dwarf Hedysarum. Fl. July, Aug. Clt. 1640. Pl. ½ to 1 ft.

8 H. SPINOSI'SSIMUM (Lin. spec. 1058. exclusive of the synonymes,) stems diffuse; leaves with 5-7 pairs of obovate or oblong, emarginate, smoothish leaflets; spikes capitate, few-flowered; wings one-half shorter than the carina; vexillum about equal in length to the carina; joints of legume 2-3, orbicular, pubescent, and prickly; the prickles hooked at the apex. ⊙. H. Native of Spain, and the south of Italy.—Pluk. phyt. t. 50. f. 2. Flowers purple, 8 lines long.

Very-spiny-podded Hedysarum. Fl. July, Aug. Clt. 1731. Pl. diffuse.

9 H. CAPITA'TUM (Desf. atl. 2. p. 177. but not of Burm.) stems decumbent; leaves with 6-7 pairs of obovate-obtuse leaflets; spikes or racemes of flowers ovate, loose; wings of corolla twice the length of the calyx; legumes villous and prickly, with orbicular joints. ⊙. H. Native of Barbary, near Cafsa and Lacalle, also of Corsica. Sims, bot. mag. 1251, but the flowers are less erect. H. glomeràtum, Dietr. H. Córsicum, Balb. cat. hort. taur. 1813. p. 39. append. 1. p. 12. H. decúmbens, Dennsf. nom. bot. 217. ex Balb. Flowers rose-coloured, about the size of those of *H. coronàrium.*

Capitate-flowered Hedysarum. Fl. July, Aug. Pl. decum

10 H. CARNÒSUM (Desf. fl. atl. 2. p. 177. t. 200.) stems decumbent; leaves with 5 pairs of obovate, truncate, mucronate, fleshy, glabrous leaflets; spikes of flowers racemose; flowers spreading. ♃. H. Native of Barbary, in sandy places by the sides of rivulets. Flowers rose-coloured, about the size of those of *H. coronàrium.*

Fleshy-leaved Hedysarum. Fl. July, Aug. Clt. 1820. Pl. decumbent.

11 H. FLEXUÒSUM (Lin. spec. 1058.) stems diffuse; leaves with 3-4 pairs of elliptic or oblong leaflets; spikes of flowers ovate; legume jointed, rather undulated, prickly. ⊙. H. Native of Asia. H. síliqua undulàta, Riv. tetr. irr. t. 213. Flowers red, tinged with blue, about the size of those of *H. coronàrium*, of which it is perhaps only a variety.

Flexuous-stemmed Hedysarum. Fl. July, Aug. Clt. 1671. Pl. 1 foot.

12 H. VA'RIUM (Willd. spec. 3. p. 1206.) stem ascending; leaves with 7 pairs of elliptic acute leaflets, which are pubescent above, and tomentose beneath; legumes articulated, rough. ♃. H. Native of Armenia. Flowers yellowish? ex Vaill. H. orientàle incanum floribus variis magnis, siliquâ âsperâ, Tourn. cor. 27.

Various-flowered Hedysarum. Fl. July, Aug. Clt. 1820. Pl. 1 foot.

13 H. ANÒMALUM (D. C. prod. 2. p. 341.) stem suffruticose, diffuse; upper leaves trifoliate, and are, as well as the branchlets, rather villous; leaflets elliptic, mucronate, terminal one much the largest; spikes few-flowered; legumes with 2 prickly joints. ♄. H. Native country unknown. According to the legume this species belongs to section *Echinolòbium*, but its habit is very distinct from the other species.

Anomalous Hedysarum. Shrub 1 foot.

* * * *Plants caulescent. Segments of the calyx subulate. Legumes pilose or pubescent, or crestedly wrinkled, but not prickly.*

14 H. TRICHOCA'RPUM (Desv. in herb. mus. par. D. C. prod. 2. p. 341.) stem erect, clothed with adpressed silky down; leaves with 7-8 pairs of oblong-cuneated obtuse leaflets, which are clothed with silky pubescence on both surfaces; legumes with only one oval, compressed, reticulated joint, bearing on the nerves very long hair-like bristles.—Native of Persia. Perhaps the same as Onobrýchis cristàta of Desv.

Hairy-fruited Hedysarum. Pl. 1 foot.

15 H. LASIOCA'RPUM (Ledeb. in hort. dorp. suppl. 1824. p. 4.) stem erect; leaflets ovate-lanceolate, rather pubescent; racemes elongated, axillary; bracteas exceeding the pedicels; teeth of calyx lanceolate, about equal in length to the tube; vexillum length of the wings, but shorter than the carina; legumes pendulous, pilose, with somewhat quadrangular joints. ♃. H. Native of the Altaian mountains. Flowers purple.

Woolly-fruited Hedysarum. Fl. Jul. Aug. Clt. 1816. Pl. 1 ft.

16 H. RUTIDOCA'RPUM (D. C. prod. 2. p. 341.) stems ascending; leaves with 8-9 pairs of elliptic obtuse leaflets, which are pubescent beneath; spikes of flowers ovate, pedunculate, crowded; vexillum emarginate, a little longer than the keel; wings twice the length of the calyx; legumes reticulately wrinkled, and clothed with hoary pubescence, with 2-3 orbicular joints. ♃. H. Native of Siberia, in the desert between the rivers Oby and Irtisch. H. prostràtum, Pall. ex herb. Patrin. Flowers purple.

Wrinkled-fruited Hedysarum. Fl. July, Aug. Clt. 1826. Pl. prostrate.

17 H. TAU'RICUM (Pall. nov. act. petrop. 10. p. 315.) stem erect; leaves with 4-6 pairs of lanceolate-linear leaflets, which are clothed with adpressed pubescence beneath; spikes of flowers

ovate; vexillum emarginate, longer than the wings, but shorter than the keel; joints of legume reticulately veined, hoary. ♃. H. Native of Tauria, on calcareous mountains. Bieb. cent. 2. p. 85. ex fl. taur. and suppl. no. 1447. H. fruticòsum, Habl. taur. 121. H. ròseum, Sims, bot. mag. 996. Flowers rose-coloured. Leaves sometimes with 8-10 pairs of leaflets.

Taurian Hedysarum. Fl. July. Clt. 1804. Pl. ½ to 1 foot.

18 H. ròseum (Steph. ex Fisch. in litt. D. C. prod. 2. p. 342.) stem erect; leaves with 6-8 pairs of oblong-lanceolate leaflets, which are clothed with adpressed villi on both surfaces, when young they are canescent beneath; spikes of flowers oblong or ovate, pedunculate; vexillum emarginate, shorter than the carina; wings length of the calyx; legumes articulated, pubescent, reticulately veined. ♃. F. Native of Siberia, and the Altaian mountains. Flowers rose-coloured. This species is very like *H. Taúricum*, but differs in the wings of the corolla being about equal in length to the calycine segments, not longer. Bracteas longer than the pedicels.

Rose-coloured-flowered Hedysarum. Fl. July, Aug. Clt. 1803. Pl. 1 foot.

19 H. Alta'icum (Fisch. in litt. D. C. prod. 2. p. 342.) stems erect; leaves with 6-8 pairs of elliptic or oblong leaflets, which are clothed with adpressed pubescence beneath; peduncles longer than the leaves; spikes of flowers oblong or ovate; wings longer than the calyx, but about equal in length to the carina; vexillum a little longer than the keel; ovaries pubescent, 2-jointed. ♃. H. Native of Siberia, on the Altaian mountains. Flowers purple. Bracteas and segments of the calyx subulate. Stipulas concrete, opposite the leaves. Leaflets of the lower leaves oval, of the upper ones oblong, and nearly linear.

Altaian Hedysarum. Fl. July, Aug. Clt. 1818. Pl. 1 ft.

20 H. venu'stum (Fisch. in litt. D. C. prod. 2. p. 342.) stem erect; leaves with 5-7 pairs of elliptic leaflets, canescent on both surfaces from adpressed down; peduncles a little longer than the leaves; spikes of flowers oblong; vexillum rather longer than the keel, but the wings are shorter than it, and hardly exceeding the segments of the calyx; legumes villous, with 3 joints. ♃. H. Native of the Altaian mountains, in the desert of Scythia. Flowers large, purple. Bracteas a little longer than the pedicels. Stipulas concrete, opposite the leaves.

Shewy Hedysarum. Pl. ½ to 1 foot.

21 H. ni'tidum (Willd. spec. 3. p. 1205.) stems flexuous, clothed with white tomentum; leaflets elliptic, clothed with silky tomentum on both surfaces; wings length of the carina; legumes articulated, smooth. ♃. H. Native of Armenia. H. orientàle argenteum, flore luteo, siliquâ glabrâ, Tourn. cor. 27. The ovary examined in Tournefort's specimen is tomentose, and contains 3 ovula, therefore the legumes must be 3-jointed. Flowers yellow.

Shining Hedysarum. Pl. ½ to 1 foot.

**** *Plants caulescent. Calycine teeth short. Legumes wrinkled or a little crested, pubescent.*

22 H. fruticòsum (Lin. fil. suppl. 333.) stem erect, shrubby; leaves with 5-7 pairs of alternate, elliptic, obtuse leaflets, which are clothed with adpressed pubescence on both surfaces; flowers disposed in spikes, few, distant; wings hardly longer than the calyx; vexillum length of keel; joints of legume reticulately wrinkled, with the nerves a little echinated. ♄. H. Native of Siberia, beyond the Baikal, and of Dahuria, in sandy places. Pall. itin. 3. p. 763. t. 5. f. 1. ed. gall. append. no. 368. t. 92. f. 2.—Gmel. sib. 4. t. 22. Calyx with 5 short teeth. Corolla pale purple. This is a very handsome plant, very grateful to horses, and extremely useful in fixing sand.

Shrubby Hedysarum. Fl. June, July. Clt. 1782. Shrub.

23 H. Ibe'ricum (Bieb. fl. taur. 2. p. 177.) stems erect; leaves with 4-5 pairs of elliptic, mucronate, opposite leaflets, which are pubescent beneath; flowers disposed in spikes, few, rather distant; wings, vexillum, and keel about equal in length; joints of legume hoary, with crenulated margins. ♃. H. Native of Iberia. Stamens distinctly and abruptly infracted. Flowers purple.

Iberian Hedysarum. Fl. July, Aug. Clt. 1818. Pl. 1 ft.

24 H. Razoumowia'num (Helm, et Fisch. ined. D. C. prod. 2. p. 342.) stems erect; leaves with 6-7 pairs of oblong-linear, rather pubescent leaflets; spikes of flowers pedunculate, longer than the leaves; wings of flower twice the length of the calyx, and about one-half shorter than the carina; vexillum a little longer than the keel; legumes rather hoary, reticulately wrinkled, not crested. ♃. H. Native of Siberia, in the desert of Scythia in the region of Orenburg. Flowers purple. Habit of *H. fruticòsum* and *H. Ibéricum*.

Razoumow's Hedysarum. Pl. ½ to ¾ foot.

25 H. Creta'ceum (Fisch. in litt. 1825. D. C. prod. 2. p. 342,) stems erect; leaves with 4-7 pairs of oblong-linear, acute, glabrous leaflets; spikes of flowers elongated, slender; wings of flower shorter than the obcordate vexillum, but twice the length of the calyx; keel exceeding the vexillum; joints of legume 2-3, flat, pubescent. ♃. S. Native of Siberia, at the Don and the Volga, near Serotinsk. H. Volgénse, Fisch. in litt. 1810. Flowers purple.

Cretaceous Hedysarum. Fl. July, Aug. Clt. 1819. Pl. ½ to 1 foot.

Sect. II. Leiolòbium (from λειος, *leios*, smooth, and λοβος, *lobos*, a pod; in reference to the smooth pods). D. C. prod. 2. p. 343. Joints of legume smooth, not echinated, nor pilose. Calycine segments shorter than the corolla.

26 H. consangui'neum (D. C. prod. 2. p. 343.) stems erect; leaves with 6-8 pairs of elliptic leaflets, which are pubescent beneath; peduncles longer than the leaves; spikes of flowers crowded, ovate; wings longer than the calyx, but a little shorter than the carina; vexillum nearly equal to the corolla; ovary linear, glabrous, 5-6-ovulate. ♃. H. Native of Siberia, on the Altaian mountains. H. Altàica var. or species affinis, Fisch. in litt. Habit of *H. Altàicum*, but the ovary is like that of *H. subspinòsum*. Stipulas membranous, white, concrete in one, which is bidentate at the apex. Flowers purple.

Kindred Hedysarum. Fl. July, Aug. Clt. 1820. Pl. 1 ft.

27 H. obscu'rum (Lin. spec. 1057.) stems erect; leaves with 5-9 pairs of ovate glabrous leaflets; stipulas concrete, opposite the leaves, sheathing; bracteas longer than the pedicels; vexillum a little shorter than the keel; legumes pendulous, quite smooth. ♃. H. Native of the Alps of Austria and Provence. Jacq. austr. t. 168. Curt. bot. mag. 282. H. alpìnum β, Lin. spec. 1057. H. contravérsum, Crantz. aust. 425. t. 2. f. 3. Hall. enum. 1. t. 14. hist. 2. t. 12. Flowers beautiful, purple, seldom white. Root creeping.

Obscure Hedysarum. Fl. June, Aug. Clt. 1640. Pl. ½ ft.

28 H. brachyse'mum; stem erect; leaves with 5-9 pairs of ovate smooth leaflets; stipulas concrete; bracteas longer than the pedicels; vexillum one-half shorter than the keel, but about equal in length to the wings; legumes smooth, pendulous. ♃. H. Native of the Altaian mountains, at the metal mines of Riddessk. H. obscùrum Altàicum, Fisch. in litt. H. obscùrum β, brachysèmum, D. C. prod. 2. p. 343.—Gmel. sib. 4. t. 10. Flowers larger than those of *H. obscùrum*, purple, seldom white.

Short-bannered Hedysarum. Fl. Jul. Aug. Clt. 1817. Pl. 2 ft.

29 H. alpi'num (Lin. spec. 1057.) stem erect; leaflets oblong or lanceolate, pubescent beneath; upper stipulas distinct; bracteas usually shorter than the pedicels; legumes pendulous, quite glabrous. ♃. H. Native of Siberia and Dahuria. Jacq. vind.

266. H. Sibéricum, Poir. suppl. 5. p. 17. Lam. ill. t. 628. f. 3. Flowers purple, seldom white. An elegant plant.

Var. β, pedicellàre (D. C. prod. 2. p. 343.) bracteas shorter than the pedicels. H. alpìnum, Willd. spec. 3. p. 1207. Ker. bot. reg. 808. Sims, bot. mag. 2213.

Alpine Hedysarum. Fl. July, Aug. Clt. 1798. Pl. 2 to 3 ft.

30 H. Cauca'sicum (Bieb. fl. taur. 2. p. 178.) stem erect; leaflets ovate, smoothish; upper stipulas concrete, opposite the leaves; racemes on long peduncles; bracteas longer than the pedicels; legumes glabrous, pendulous. ♃. H. Native of Caucasus and Iberia, on the Alps. Flowers purple. Peduncles almost a foot long.

Caucasian Hedysarum. Fl. Ju. Aug. Clt. 1820. Pl. 2 to 3 ft.

31 H. borea'le (Nutt. gen. amer. 2. p. 110.) stem rather decumbent; leaflets oblong-obovate, villous beneath; stipulas joined, sheathing; with subulate segments; racemes on long peduncles; joints of legume smooth or pubescent, and roundish. ♃. H. Native of North America, on the naked arid plains of the Missouri at Fort Mandan, and in the north of Canada, and from the Saskatchawan to the Arctic circle, Rocky mountains, &c. H. alpinum, Michx. fl. bor. amer. 2. p. 74. Flowers purple, secund.

Northern Hedysarum. Pl. 2 to 3 feet.

32 H. Macke'nzii (Rich. in Frankl. journ. append. p. 745.) stems decumbent; leaflets oblong, clothed on both surfaces with canescent pili; stipulas sheathing; joints of legume wrinkled transversely and pilose. ♃. H. Native of Arctic America and about the Saskatchawan, on the Eagle and Red-deer hills. Flowers large, red. This is the liquorice plant mentioned by Sir Alexander Mackenzie as being indigenous to North-west America.

Mackenzie's Hedysarum. Pl. decumbent.

33 H. subspinòsum (Fisch. in litt. D. C. prod. 2. p. 343.) stems suffruticose, much branched, erect, and are as well as the leaves clothed with adpressed canescent down; branches and peduncles permanent, and becoming hardened into spines; petioles flattish; leaves with 5-7 pairs of elliptic leaflets; spikes of flowers pedunculate, longer than the leaves; wings shorter than the calyx; ovary linear, glabrous. ♄. F. Native of Siberia, at Lake Inderskoi. This is a very singular species, with the habit of *Astrágalus gibbòsus.*

Spinose Hedysarum. Shrub ½ to 1 foot.

34 H. incarna'tum (Willd. spec. 3. p. 1209.) stem erect, glabrous; leaflets oblong, acute, hoary beneath; stipulas wanting; flowers racemose, drooping.—Native of Japan. H. incànum, Thunb. fl. jap. 289. but not of Swartz. Flowers flesh-coloured. Said to be allied to *H. obscùrum*, but the plant is without stipulas.

Flesh-coloured-flowered Hedysarum. Pl. 1 foot.

† *Doubtful species.*

35 H. linea're (Lour. fl. cochin. 452.) stem suffruticose, diffuse; leaflets lanceolate-linear, glabrous; spikes terminal; legumes straight, linear, smooth, 6-seeded. ♄. G. Native of Cochin-china. Flowers pale violet. The root is esteemed to be deobstruent, emmenegogue, and to create an appetite.

Linear-podded Hedysarum. Shrub 2 feet.

36 H. uniflòrum (Lapeyr. abr. p. 436.) stems ascending; leaflets elliptic, rather silky beneath; flowers pedunculate, solitary; wings twice the length of the calyx; legumes 4-parted, villous beneath; lobes 2-horned. ♃. H. Native of the Pyrenees, among rocks. Flowers yellow.

One-flowered Hedysarum. Pl. ascending.

Cult. All the species of this genus are very handsome when in flower, being clothed with racemes of elegant pea blossoms; they are therefore well adapted for ornamenting flower borders or rock-work. They succeed well in light rich soil, and the perennial kinds are increased by dividing the plants at the roots in spring or by seeds. The seeds of the annual species only require to be sown in the open border in spring.

CLIX. ONOBRY'CHIS (from *ονος*, *onos*, an ass, and *βρυχω*, *brycho*, to gnaw; the plants are grateful to the ass). Tourn. inst. t. 211. Gærtn. fruct. 2. t. 148. D. C. fl. fr. 4. p. 511. legum. mem. vii. prod. 2. p. 344. Desv. journ. bot. 3. p. 125. t. 6. f. 33, 34. 1814. 1. p. 80. Hedýsarum species of Lin. and others.

Lin. syst. *Diadélphia, Decándria.* Calyx 5-cleft, with nearly equal subulate segments. Corolla papilionaceous, with the carina as if it was truncate, and the wings short. Stamens diadelphous. Legume sessile, of only one compressed, indehiscent, rather coriaceous, echinated, crested or winged, 1-seeded joint, which is thicker and straight on the upper suture, but convex and thinner on the lower suture.—European or Asiatic herbs, with impari-pinnate leaves, axillary elongated peduncles, bearing spikes of red or white flowers at their tops. The ovary when young is perhaps truly bi-ovulate. The legume also is sometimes 2-seeded, but only 1-celled.

Sect. I. Eubry'chis (from *ευ*, *eu*, well or good, *βρυχω*, *brycho*, to gnaw; this section contains the most useful species in agriculture). D. C. legum. mem. vii. prod. 2. p. 344. Legume oblique, wrinkled or prickly in the disk, and toothed or interruptedly crested on the back.

1 O. sati'va (Lam. fl. fr. 2. p. 652.) stem erect; stipulas usually distinct; leaflets elliptic-oblong, mucronate, glabrous; spikes of flowers elongated; keel of flower shorter than the vexillum; wings shorter than the calyx; legumes pubescent, denticulated on the back, but having the sides wrinkled, and rather prickly. ♃. H. Native of Europe, on dry calcareous hills. In Britain on all calcareous hills. Hedys. onobrýchis, Lin. spec. 1059. Jacq. austr. t. 352. Smith, engl. bot. 96. O. viciæfòlia, Scop. O. vulgàris, Jaum. O. spicàta, Mœnch. Flowers variegated, crimson.

Saintfoin is called *L'esparcet* in French; *Esparzette* in German, and *Cedrangola* in Italian. It is a deep-rooting perennial plant, with branching spreading stems. It is a native of England and many parts of Europe, but never found but on dry, warn, chalky soils, where it is of great duration. It has been long cultivated in France and other parts of the continent, and as an agricultural plant was introduced from the latter country into England about the middle of the 17th century. It has since been a good deal cultivated in the chalky districts, and its peculiar value is that it may be grown on soils unfit for being constantly under tillage, and which would yield little under grass. This is owing to the long and descending roots of the *saintfoin*, which will penetrate and thrive in fissures of rocky and chalky substrata. Its herbage is said to be equally suited for pasturage or for hay, and that eaten green it is not apt to swell or hove cattle like the clovers or lucern. Arthur Young says, that upon soils proper for this plant no farmer can sow too much of it; and in the code of agriculture it is said to be "one of the most valuable herbage plants we owe to the bounty of Providence." There are no varieties of this plant, but there are numerous other species of the same genus that might be cultivated.

The best soil for saintfoin is that which is dry, deep, and calcareous, but it will grow on any soil that has a dry subsoil. Kent thinks that the soils most suited to the culture of this plant are those of the chalky loam, and light sandy or gravelly kinds, or almost any of those of a mixed quality, provided they be not too wet, and have a rocky and hard calcareous bottom to check the roots at the depth of a foot or foot and a half below the surface, which he, notwithstanding the above, conceives necessary, as the plants are apt to exhaust themselves in running down. And for this reason he considers it as improper for being sown where there is a great depth of soil or mould. Marshal says, that the poorest soils afford a large produce, and such as are more rich and arable abundant crops. Still he conceives that it is only on calcareous soils, as the dry chalk and limestone, or such as have been well impregnated with that sort of matter, that it succeeds in a perfect manner, or becomes durable. In sandy soils, as in Norfolk, which are unfit for any other purpose, under *saintfoin* will produce after the first year about two tons per acre of excellent hay, with an after grass extremely valuable for weaning and keeping lambs.

The best preparation which any soil fit for this plant can undergo is deep trenching, but the usual preparatory culture is the same as for clover, ploughing however deeper than ordinary, either by means of the trench plough, or by the common plough going twice in the same tract. Boys (Communications to the Board of Agriculture, vol. iii.) recommends as a preparation for *saintfoin*, 1st year, pare and burn for turnips to be eaten on the land by sheep; 2nd, barley to be sown very early, with clover seed; 3rd, clover eaten off by sheep; 4th, wheat; 5th, turnips, with manure; 6th, barley, with *saintfoin*. The corn crops must be carefully weeded, and in particular cleared of charlock. Under this system, the produce has been great, and the ground has been laid down in the highest order with *saintfoin*, or any other grass calculated for this species of soil.

The season of sowing saintfoin; it may be observed, that the earlier it can be put into the soil in spring the better, as from the greater moisture of such soils at that season, there will be a greater probability of their vegetating in a perfect manner; therefore the sowing of *saintfoin* seed should never be deferred later than the beginning of March, and it is still better if this work is completed in February. Some, however, think it may be deferred to the middle of March without injury.

The manner of sowing saintfoin seed is almost always broad-cast, but it may be sown in drills, or even transplanted, though neither of these modes can be recommended. Some advise its being sown with about half the quantity of barley, which is annually sown for a full crop, that it may shade and keep it moist during the first summer, and at the same time not injure it from the crop being lighter, which is sometimes the case. Where the barley is drilled, the saintfoin may be put in afterwards in the same manner, but in a contrary direction. If sown over wheat, it should be harrowed in, and afterwards rolled. In whatever manner it is sown, as the seeds are larger than those of many other herbage plants, the ploughing the seed in with a very thin or shallow furrow is recommended. In most cases, especially in all the more light soils, in which this sort of crop is grown, the use of the roller may be necessary immediately after the seed is put into the ground. It is the practice in some districts to sow a small portion of clover-seed with *saintfoin*, with the idea of increasing the first year's produce, but it is perhaps better to increase the quantity of *saintfoin-seed* without mixing it with that of any other, as different kinds of herbage seed do not answer well when sown together, from there being a continual contest in their growth. It is, however, supposed by Marshal that such a practice is beneficial in alternately procuring a fine clean crop of *saintfoin* upon the land. It is a sort of crop that grows in so perfect a manner in the broad-cast method, that there can seldom be any necessity for having recourse to drills. It may, however, be cultivated in the latter mode with much success. And in Norfolk it is the practice with some cultivators to have it drilled at nine inches apart across the barley field, which has been sown in the same way, but in a contrary direction.

The quantity of seed required in the broad-cast method, which is that mostly employed, is about four bushels the acre, though less is frequently given, but on soils proper for this plant that quantity is always necessary. But when the drill system is adopted a smaller quantity is used, from two to three bushels per acre. In Lincolnshire, where this plant is much grown, the common allowance of seed is five bushels per acre. In that county 4 pounds of trefoil-seed is recommended to be sown with each acre of *saintfoin*. The reason for which is, that in that exposed country, the young plants suffer more by the sun in summer than by the frost in winter. Of course, the trefoil coming to perfection in the first year, and living only three, will be a shelter for the young plants during the first year or two, and die off when the *saintfoin* wants its room.

In the choice of saintfoin-seed it is the best practice for the cultivator to select it from the best and most abiding plants in his particular soil, as such as is purchased from the seed-shops can rarely be depended upon. The external signs of good seed are, that the husk is of a bright colour, and the kernel plump, of a light grey or blue colour, and sometimes of a shining black. The seed may be good though the husk is black, which is owing sometimes to the letting it receive wet on the field. If, when the kernel is cut across, it appears greenish and fresh, it is a certain sign that it is good. Seed of the former year's sowing is always the best, as older seeds seldom vegetate in a perfect manner.

The after culture and management of saintfoin consists in occasional dressings with manure, and in the judicious intervention of mowing and pasturing. The first year some farmers do not mow it, while others do; but the second year and the succeeding summer a crop of hay may be taken, and the after grass be fed down with any sort of stock but sheep till towards December, care being taken that they do not eat it in too close a manner, as where that is the case, from the largeness of the roots, there may be danger of injuring the crowns of the plants. In the following autumn there will, however, be less risk in this respect, and sheep as well as cattle stock may be turned in and kept upon the pastures till they are well eaten down, being always careful to shut them up as early as possible in the beginning of the year. This is the opinion of Kent. And it is supposed, that as this sort of herbage is considered to be improved by being nipped by the frost, it may be a proper practice not to turn stock upon these leys too early in the autumnal season. With this intention it may be adviseable to defer it till the latter end of September, when this sort of rouen or after grass will be found to have much effect in promoting the flow of milk in cows, as well as in forwarding the condition of fattening beasts, great store of feed being still left for sheep. But with this sort of stock they should not be too closely fed down, or the sheep remain too long upon them, as much injury may be sustained by it. It has been suggested that all sort of cattle stock should be removed by the beginning of the year from these rouens, as much harm may be done by their continuing longer.

In top dressing saintfoin, peat ashes are the best material that can be made use of, where they can be procured in sufficient quantity. And other sorts of ashes are likewise found beneficial where these cannot be had. This should be applied so as to form a thin, even, regular dressing over the whole surface of the crop. In this view soot has also been found of great utility, when spread evenly over such leys in the beginning of January, in the proportion of 25 to 30 bushels to the acre. Malt dust has also been employed in the same way with considerable success; and it is supposed where these sorts of dressings can be applied every third or fourth year, the *saintfoin* crops, when well established in the soil, may be preserved in a state of vigorous growth for 10 or 15 years or more, and the land be considerably improved by the roots striking so deeply into it.

In taking and using the saintfoin crop, the same practice may be followed as for taking clover; it may be mown for soiling or hay or seed, and eaten on the spot by tethering, hurdling, or common pasturing. In making it into hay, it is cut immediately on its coming into full blossom, and as it remains but a short time in that state, as much expedition as possible should be employed both in mowing it and making the produce into hay. It is the most easy crop to make into hay, when the season is favourable. The haymakers follow the scythe, and having turned over the swaths, throw it into wind-rows, when it may be immediately formed into cocks, and the whole crop be fit for carting in a week after it is mown; and though it may appear green, and the stack acquire a considerable degree of heat, there is no danger to be apprehended, provided the weather has been fair during the hay-ricking, as it is so far from taking harm by heating in the stack, that the contrary state is most to be feared, and for this reason great care is necessary not to suffer the fodder to continue too long either in the swath or in the cocks, lest the air and wind should dry it too fast, and by exhaling its juices prevent its heating in the stack, and thereby render it of little value.

In regard to the frequency of cutting *saintfoin*, it is probable that on the thinner sorts of soils it can seldom be done more than once, but on those of the deeper sorts two crops may sometimes be taken, in the same manner as clover, care being taken in these cases that the future growth of the plants be not injured by this means.

The usual duration of saintfoin, in a profitable state, is from 8 to 10 years. It usually attains its perfect growth in about 3 years, and begins to decline towards the 8th or 10th year on calcareous soils, and about the 7th or 8th on gravels. There are instances, however, of fields of *saintfoin* which have been neglected and left to run into pasture, in which plants have been found upwards of 50 years from the time of sowing. In general the great enemy to the endurance of *saintfoin* is the grass, which accumulates and forms a close tuft on the surface, and thus chokes up the plant.

The quantity of produce on a medium of soils and cultivation may probably be estimated at from about one and a half to two tons per acre. And on the poorer and thinner staple sorts of land it will perhaps seldom afford less than from a ton to a ton and a half on an acre.

The nutritive products of saintfoin are the same as clover, viz. $3\frac{3}{10}$ being $1\frac{6}{10}$ per cent. more than those of lucern.

In saving seed from saintfoin, it should remain on the land till the husks become of a somewhat brownish colour, and the seeds are perfectly plump and firm. It requires some experience to know of what degree of ripeness to cut the seeded *saintfoin*, because all the seeds do not ripen at the same time on the same spike or head, as all the heads begin blossoming at the lower part, and continue to blow gradually upwards for many days, so that before the flowers have gone off the top, the seeds are almost mature at the bottom, therefore if the cutting is deferred till the top seeds are quite ripe, the lower, which are the best, would then all be lost. The best time to cut it is when the greater portion of the lower seeds are ripe, and the last blown beginning to be full. The unripe seeds will ripen after cutting, and be in all respects as good as those that were ripe before. It should be mown in the morning and evening, when the plant is most supple, for if mown in the heat of the day the ripe seeds will shed. In fine clear weather *saintfoin* seed will soon dry. After being dried it may be either thrashed out in the house or on the field on a large sheet, it then should be riddled through a large sieve, to separate the seed from the chaff and broken stems. The haulm may be then used as hay.

Cultivated or Common Saintfoin. Fl. June, July. Britain. Pl. 2 to 3 feet.

2 O. TANAI'TICA (Spreng. neue. entd. 2. p. 162.) stem erectish; stipulas usually distinct; leaflets elliptic-lanceolate, mucronulate, clothed with silky pubescence beneath, the rest of the plant as in *O. sativa.* ♃. H. Native of Siberia, on the banks of the Don. Hedys. onobrỳchis, Bieb. fl. taur. no. 1431. O. satìva, var. β, subvillòsa, D. C. prod. 2. p. [illegible]44. O. satìva Tatárica, Fisch. in litt. Flowers flesh-coloured.

River *Don* Saintfoin. Fl. June, July. Clt. 1817. Pl. 2 ft.

3 O. MONTA'NA (D. C. fl. fr. 4. p. 611.) stem rather decumbent; stipulas joined together, opposite the leaves; leaflets cuneate-lanceolate, mucronulate, glabrous; spikes of flowers short; keel longer than the vexillum; wings shorter than the [illegible]; legumes toothed on the back, but wrinkled and pubescent on the sides. ♃. H. Native of the alps of Europe and of the Pyrenees, in the higher meadows. Hedys. montànum, Pers. ench. 2. p. 324. According to Wahlenberg this is only a variety of *O. sativa.* Flowers deep purple or red.

Mountain Saintfoin. Fl. June, July. Clt. 1817. Pl. dec.

4 O. CONFE'RTA (Desv. journ. bot. 1814. 1. p. 83.) stems declinate; stipulas usually distinct; leaflets oblong-elliptic, mucronulate, pubescent beneath; racemes of flowers ovate; wings shorter than the calyx; keel equal in length to the vexillum; legumes rather hoary, furnished with rather long prickles on the back, but wrinkled and furnished with a few short prickles on the sides. ♃. H. Native of Caucasus, Iberia, south of Podolia, in grassy places. Hedys. confértum, Bieb. fl. taur. et suppl. 1452. Flowers deep red.

Crowded-flowered Saintfoin. Fl. June, Aug. Clt. 1817. Pl. decumbent.

5 O. FONTANE'SII; procumbent, pubescent; stipulas ovate, acute, dry; leaflets crowded, elliptic, obtuse, pubescent, and nerved beneath; racemes of flowers ovate, crowded. ♃. H. Native of Tunis, in sandy places near Sbiba. Hedys. confértum, Desf. fl. atl. 2. p. 178. O. conférta β, Fontanèsii, D. C. prod. 2. p. 344. Flowers fine red.

Desfontain's Saintfoin. Fl. June, Aug. Clt. 1820. Pl. ½ ft.

6 O. PROCU'MBENS (Stev. in litt. D. C. prod. 2. p. 344.) stems procumbent; leaflets oblong-linear, mucronate, pubescent beneath; spikes of flowers cylindrical, on long peduncles; wings shorter than the calyx; keel rather exceeding the vexillum; legumes pubescent, denticulated on the back, with the sides wrinkled, and rather prickly. ♃. H. Native of Iberia, about Tiflis. Hedys. onobrỳchis var. Ibérica, Bieb. suppl. 484. Flowers red.

Procumbent Saintfoin. Fl. June, Aug. Clt. 1819. Pl. proc.

7 O. SUPI'NA (D. C. fl. fr. 5. p. 612.) stems diffuse, rather hairy; leaflets oblong, hardly mucronulate; spikes ovate-oblong, pedunculate; wings of flower shorter than the calyx, and the carina shorter than the calyx; legumes villous, crested and toothed on the back, but with the disks wrinkled, and rather prickly. ♃. H. Native of Lower Vallais, Provence, Dauphiny, Cevennes, and the Pyrenees. Hedys. supìnum, Vill. dauph. 3. p. 394. H. herbàceum, Lapeyr. H. pállidum, Schleich. Flowers pale red.

Supine Saintfoin. Fl. June, July. Clt. 1819. Pl. proc.

8 O. GLA'BRA (Desv. journ. bot. 1814. vol. 1. p. 82.) stems ascending; leaflets lanceolate, acuminated, quite glabrous; legumes oblong, chinky, glabrous, crested, with the crest toothed at the apex. ♃. H. Native of Tauria. Hedys. onobrỳchis var. ε, Gouan. ill. 48.? Flowers red.

Glabrous Saintfoin. Fl. June, July. Clt. 1816. Pl. ascending.

9 O. ARENA'RIA (D. C. prod. 2. p. 345.) stem erect, suffrutescent at the base; leaflets oblong-linear, mucronate, glabrous; spikes of flowers cylindrical; wings shorter than the calyx; keel about equal in length to the vexillum; legumes pubescent, almost toothless on the back, but wrinkled on the sides. ♃. H. Native of Hungary and of Siberia, at the Irtish about Kroupeanka. Hedys. arenàrium, Kit. in litt. Willd. enum. suppl. 31. H. eréctum, Patrin. herb. Flowers red.

Sand Saintfoin. Fl. June, Aug. Clt. 1818. Pl. 1 foot.

10 O. MAREÓTICA (Steven, in litt. D. C. prod. 2. p. 345.) stems erect; leaflets linear, mucronate, glabrous; racemes cylindrical, very long; wings shorter than the calyx; keel about equal in length to the vexillum; legumes villous, prickly on the back, and with the sides wrinkled and prickly. ♃. H. Native of the Mareotic marsh in Egypt. Lobes of calyx long and villous. Prickles on the legumes arranged in two rows on each side. Flowers pale red. Very nearly allied to *O. álba*, but differs from it in being glabrous.

Mareotic Saintfoin. Fl. June, Aug. Clt. 1820. Pl. 1 foot.

11 O. A'LBA (Desv. l. c.) stem erect, velvety; leaflets linear, mucronate, clothed with silky-pubescence on the under surface; spikes of flowers cylindrical; wings shorter than the calyx; keel a little longer than the vexillum; legumes pubescent, crested on the back, and furnished with longish prickles, but with the disks wrinkled, and furnished with short prickles. ♃. H. Native of Hungary, on calcareous mountains, and of Abruzzo by way sides. Hedys. álbum, Waldst. et Kit. pl. hung. 2. t. 111. Stem angular. Upper leaves sessile. Flowers white.

White-flowered Saintfoin. Fl. Ju. Aug. Clt. 1804. Pl. 1 ft.

12 O. ECHINA'TUM; stem nearly erect, velvety; leaves all pinnate, petiolate; leaflets linear, mucronate, pilose above, and clothed with silky pubescence beneath, elegantly nerved; spikes of flowers cylindrical, short; wings falcate, acuminated, not half so long as the calycine teeth; legume 1-seeded, crested, and prickly on the back, with the sides pitted and prickly in front. ♃. H. Native of Calabria, on calcareous hills. Hedýsarum echinàtum, Guss. pl. rar. p. 301. Flowers flesh-coloured.

Echinated-podded Saintfoin. Fl. June, July. Clt. 1831. Pl. 1 foot.

13 O. PETRÆ'A (Desv. l. c.) stem erect; leaflets linear, mucronate; spikes cylindrical, on long peduncles; wings twice the length of the calyx; keel a little shorter than the vexillum; legumes crested, and denticulated on the back, but wrinkled and toothless on the sides. ♃. H. Native of Caucasus, among calcareous rocks. Hedys. petræ'um, Bieb. fl. taur. et suppl. 1453. Corolla white, but with the keel tipped with purple. There are two varieties of the species, the one having the legumes and leaves quite smooth, and the other having the under side of the leaves and the legumes pubescent.

Rock Saintfoin. Fl. June, Aug. Clt. 1818. Pl. 1½ foot.

14 O. GRA'CILIS (Bess. enum. pl. volh. p. 74.) stems ascending; leaflets linear-lanceolate, mucronate, with the mid-rib usually beset with adpressed pili above; wings of flower hardly longer than the tube of the calyx; legumes roundish, canescent, toothed with prickles on the back, and with the sides reticulately wrinkled. ♃. H. Native of the south of Podolia. O. petræ'a, Bess. enum. p. 27. Flowers small, pale, the vexillum streaked with pale red and yellow at the base, but having the keel tipped with purple.

Slender Saintfoin. Fl. June, Aug. Clt. 1820. Pl. ascending.

15 O. SAXA'TILIS (All. pedem. no. 1191. t. 19. f. 1.) stem ascending; leaflets linear, mucronate; spikes cylindrical, pedunculate; wings longer than the calyx; keel a little shorter than the vexillum; legumes glabrous, crested, and entire on the back, and wrinkled on the sides. ♃. H. Native of Provence, Dauphiny, Nice, and Spain, on hills and among rocks. Hedys. saxátile, Lin. spec. 1059. O. tenuifòlia, Mœnch. Hedys. microcárpum, Dufour, in litt. Flowers white. There are varieties of this species with glabrous and silky-villous leaves, and glabrous and pubescent legumes.

Stone Saintfoin. Fl. June, Aug. Clt. 1790. Pl. ascending.

16 O. ERIÓPHORA (Desv. l. c.) stems trailing; leaflets linear, acute, pubescent; legumes clothed with hoary tomentum, crested and prickly on the back, and wrinkled and prickly on the disks, the prickles are hairy, and disposed in 3 rows. ♃. H. Native of Spain. Hedys. erióphorum, Pourr. Flowers red?

Wool-bearing Saintfoin. Pl. trailing.

17 O. CRINI'TA (Desv. l. c.) stems trailing; leaflets ovate, obtuse, pubescent, hoary; legumes prickly on both sides; prickles pubescent. ♃. H. Native of the Levant.

Hairy Saintfoin. Pl. trailing.

18 O. HO'RRIDA (Desv. l. c. t. 22.) stems declinate; leaflets linear, acuminated, pubescent; legumes crowded, large, lunate, bearing spines; spines acute, pubescent, longer than the crest on the back of the legumes. ♃. H. Native of Barbary.

Horrid Saintfoin. Pl. declinate.

19 O. STENORHI'ZA (D. C. prod. 2. p. 346.) stem erectish; leaflets oblong-linear, mucronate, 3-4 pairs, clothed with silky-hoary down beneath; legumes crowded, clothed with hoary vilii, and beset with prickles on all sides; the prickles pubescent. ♃. H. Native of Spain in the kingdom of Valentia, in arid places. Hedys. stenorhìzum, Dufour. in litt. Root long, slender, simple. This plant differs from all the other species of the genus in the leaves having only 3 or 4 pairs of leaflets. Flowers unknown.

Slender-rooted Saintfoin. Pl. 1 foot.

20 O. CA'PUT-GA'LLI (Lam. fl. fr. 2. p. 651.) stems erect; leaflets oblong or cuneate-obovate, mucronate, pubescent; spikes few-flowered; wings rather longer than the calyx; keel a little shorter than the vexillum; legumes rather pubescent, very prickly on all sides. ⊙. H. Native of the south of Europe, in rugged exposed places. Hedys. càput-gálli, Lin. spec. 1059.—Lob. icon. 2. p. 81. f. 1. Flowers flesh-coloured.

Cock's-head Saintfoin. Fl. July, Aug. Clt. 1731. Pl. 1 foot.

21 O. CRI'STA-GA'LLI (Lam. fl. fr. 2. p. 652.) stems trailing; leaflets cuneate, oblong or obovate, obtuse or retuse, pubescent; spikes few-flowered; calyxes about equal to the corolla; wings and keel about the same length as the vexillum; legumes glabrous, crested on the back; the crest parted into broad, flat, oblong, toothed segments, having the disks wrinkled, and rather prickly. ⊙. H. Native of the south of Europe, in rugged exposed places. Gærtn. fruct. 2. t. 148. Hedys. crísta-gálli, Lin. syst. 563. Flowers pale red.

Cock's-comb Saintfoin. Fl. June, Aug. Clt. 1710. Pl. proc.

22 O. FOVEOLA'TA (D. C. prod. 2. p. 346.) stems trailing; leaflets cuneate-oblong, mucronate, villous; racemes few-flowered, hardly twice the length of the leaves; legumes pubescent, crested on the back; the crest divided into 3 or 4 entire unequal segments; disks reticulated, with prominent, prickly, villous nerves, the hollows between the nerves deep and glabrous. ⊙. H. Native of Sicily, on arid hills. Flowers pale red?

Foveolate-podded Saintfoin. Fl. June, July. Pl. tr.

23 O. ÆQUIDENTA'TA (D'Urv. enum. pl. archip. p. 90.) stem erect; leaflets oblong, obtuse, mucronate, rather pubescent; peduncles 3 or 4 times longer than the leaves; legumes glabrous, somewhat orbicular, with the disks wrinkled and somewhat arched; the back crested, with the crest divided into equal entire teeth. ⊙. H. Native of the islands of Candia and Melos on hills. O. Crética foliis viciæ, fructu magno cristato et aculeato, Tourn. 26. Hedys. æquidentàtum, Smith, fl. græc. prod. 3. p. 1752. O. cristàta, Desv. journ. bot. 1814. vol. 1. p. 83. t. 23. Flowers red, having the vexillum streaked with blood-colour.

Equal-toothed-crested Saintfoin. Pl. 1 foot.

† *Species belonging to section Eubrỳchis, but are not sufficiently known.*

24 O. ECHI'NUS (D. C. prod. 2. p. 346.) stems glabrous; leaflets linear, rather pilose, mucronate; raceme terminal? simple; calyx villous; legumes thick, lanuginous, very prickly on all

sides. ♃.? H. Native country unknown. Hedys. echìnus, Poir. suppl. 5. p. 19. Perhaps only *O. càput-gálli.*

Hedgehog Saintfoin. Pl. ¾ foot.

25 O. PEDUNCULA'RIS (D. C. prod. 2. p. 346.) leaflets linear-lanceolate, villous; peduncles very long, bearing racemes of flowers at their tops; legumes 1-seeded, prickly. ⊙.? H. Native about Tangiers. Hedys. pedunculàre, Cav. anal. sci. nat. 1801. vol. 4. p. 75.

Long-*peduncled* Saintfoin. Pl. 1 foot.

26 O. INCURVA'TA (D. C. prod. 2. p. 346.) leaflets oblong, silky beneath; spikes of flowers incurved; wings 3 times shorter than the carina; legumes 1-seeded, hairy, with a prickly crest. ♃. H. Native country unknown. Hedys. incúrvum, Horn. hort. hafn. 2. p. 702. Flowers pale red.

Incurved-spiked Saintfoin. Pl. ascending.

27 O. CARPA'THICA (D. C. prod. 2. p. 346.) stems ascending; leaflets lanceolate; wings length of vexillum; legumes glabrous, 1-seeded, prickly. ♃. H. Native of the Carpathian mountains. Hedys. Carpáthicum, Walds. et Kit. in Willd. enum. p. 776. Flowers red.

Carpathian Saintfoin. Fl. June, Aug. Clt. 1817. Pl. asc.

28 O. BERGERIA'NA (D. C. prod. 2. p. 346.) stems diffuse, smoothish; leaflets obovate, rather retuse, and rather pilose; stipulas scarious; corolla shorter than the calyx; legumes 1-seeded, prickly; prickles subulate, a little hooked. ♃. H. Native of Campagna, near Girace. Hedys. Bergeriànum, Spreng. pug. p. 2. t. 74. Habit of a species of *Medicàgo.*

Berger's Saintfoin. Pl. diffuse.

SECT. II. HYMENOBRY'CHIS (from *ὑμην, hymen*, a membrane, and *βρυχω, brycho*, to gnaw; in reference to the species contained in this section being furnished with a membranous crest on the back of the legume). D. C. legum. mem. vii. prod. 2. p. 346. Legumes falcate or somewhat orbicular, wrinkled, and prickly in the disks, expanded into a membranous, denticulated, or entire crest the whole length of the back. This section agrees with the genus *Hymenocárpus*, but differs in the pods being 1-seeded, not many-seeded, and in the disks of the pods being wrinkled, not smooth, as in that genus.

29 O. TOURNEFÓRTII (Desv. journ. bot. 1814. vol. 1. p. 81.) stem erect, velvety; leaflets elliptic-oblong, acute, velvety beneath; spikes of flowers cylindrical, erect; wings longer than the calyx; calyx and legumes velvety. ♃. H. Native of Armenia and Galatia. Hedýsarum Tournefórtii, Willd. spec. 3. p. 1214. O. orientàlis incana flore luteo, &c. Tourn. cor. 26. Flowers yellow, about the size of those of *Hedýsarum coronàrium.* Legumes falcate.

Tournefort's Saintfoin. Pl. 1 foot.

30 O. PALLA'SII (Bieb. pl. ross. 1. t. 35.) stem erect, hairy; leaflets elliptic-oblong, acuminated, tomentose beneath; spikes of flowers cylindrical; wings shorter than the calyx, oblong, and with one tooth at the base of each; calyx villous; legumes pubescent. ♃. H. Native of Iberia and Tauria, on calcareous hills. Hedys. Pallàsii, Willd. spec. 3. p. 1214. Bieb. fl. taur. et suppl. no. 2. p. 178. O. Buxbaumiàna, Desv. journ. bot. l. c.—Buxb. cent. 2. t. 42. Flowers cream-coloured, but the vexillum is painted with purple veins.

Pallas's Saintfoin. Fl. June, Aug. Clt. 1820. Pl. 1 ft.

31 O. RADIA'TA (Bieb. cat. hort. gor. 1812. p. 73.) stem erect, pilose; leaflets ovate, obtuse, mucronate, hairy beneath; spikes of flowers cylindrical; wings sagittate, twice the length of the calyx; calyx and legumes villous. ♃. H. Native of Caucasus, Iberia, and Cappadocia, on hills among stones. Hedys. radiàtum, Desf. ann. mus. 12. t. 13. Bieb. suppl. no. 1450. Hedys. Buxbaùmii, Bieb. fl. taur. no. 1150. exclusive of the synonyme of Buxbaum, Hedys. circinnàtum, Willd. spec. 3. p. 1213. O. circinnàta, Desv. l. c. Flowers cream-coloured, but the vexillum is lined with red, and with a yellow mark at the base.

Rayed-podded Saintfoin. Fl. June, Aug. Clt. 1818. Pl. 1 ft.

32 O. MICHAU'XII (D. C. prod. 2. p. 347.) stem erect, smoothish; leaflets elliptic-oblong, mucronate, glabrous; spikes elongated, loose-flowered; wings sagittate, shorter than the calyx, with the auricles diverging; calyxes villous; legumes clothed with velvety tomentum. ♃. H. Native of the Levant. Hedys. cryptápterum, Lher. herb. O. pícta, Desv. in herb. Desf. Flowers pale, with the vexillum striated. The figure in Buxb. cent. 2. t. 42. agrees pretty well with this species.

Michaux's Saintfoin. Fl. June, Aug. Clt. 1820. Pl. 1 ft.

33 O. ORNA'TA (Desv. l. c.) stem erect, flexuous, glabrous beneath, but pubescent above; leaflets ovate, cuspidate, clothed with hoary pubescence beneath; spikes elongated; wings longer than the calyx; legumes villous. ♃. H. Native of Galatia. Hedys. ornàtum, Willd. spec. 3. p. 1215. Hedys. coronàrium. Poir. dict. 6. p. 439. Flowers red? Legumes semi-orbicular.

Decked Saintfoin. Pl. 1 foot.

34 O. VENÒSA (Desv. l. c.) stem almost naked; leaflets elliptic, villously-tomentose beneath, outer one a little larger than the rest; peduncles radical, longer than the leaves; flowers spicate, distant; wings shorter than the calyx; legumes very villous. ♃. H. Native of Tunis, on the mountains of Sbiba, and of Persia, as well as the island of Cyprus. Hedys. venòsum, Desf. fl. atl. 2. p. 179. t. 201. Corollas pale yellow.

Veiny Saintfoin. Pl. ½ foot.

35 O. PTOLEMA'ICA (D. C. prod. 2. p. 347.) stem erect, villous; leaves with 3-6 pairs of elliptic villous leaflets; spikes about the length of the leaves; wings shorter than the calyx; legumes silky, orbicular, 2-seeded. ♃. F. Native of Egypt, in the desert of Suez. Hedys. Ptolemàicum, Delil. fl. ægyp. 111. t. 39. f. 1. Poir. suppl. 5. p. 18. Flowers yellow, painted with brown lines. Said to be allied to *O. venòsa*, but differs in the legumes being lunulate, with entire margins, and 2-seeded.

Ptolemais Saintfoin. Fl. June, Aug. Clt. 1816. Pl. 1 foot.

SECT. III. DENDROBRY'CHIS (from *δενδρον, dendron*, a tree, and *βρυχω, brycho*, to gnaw; in allusion to the species contained in this section being shrubby). D. C. legum. mem. vii. prod. 2. p. 347. Legumes smooth, unarmed, and crestless. Stems shrubby.

36 O. CORNU'TA (Desv. journ. bot. 1814. vol. 1. p. 81.) stem erect, shrubby; leaflets linear-lanceolate, pubescent; peduncles divaricate, few-flowered, and at length become spines; wings of flower longer than the calyx; vexillum villous, crenated at the apex. ♄. F. Native of the Levant, about Barbout (ex Tourn. voy. 2. p. 249. with a figure), and of Eastern Caucasus, in subalpine situations (ex Bieb. fl. taur. 2. p. 181.) Hedys. cornùtum, Lin. spec. 1060. O. orientàlis, Jaume, fam. nat. 2. p. 239. Flowers purple. Legumes reticulated in the disk. Perhaps the Caucasian plant is the same as the Armenian one.

Horned Saintfoin. Fl. June, Aug. Clt. 1816. Sh. ½ to 1 ft.

37 O. TRAGACANTHOÌDES (D. C. prod. 2. p. 347.) stem erect, shrubby; leaflets oblong-lanceolate; peduncles at length hardening into spines, and divaricate; wings longer than the calyx; vexillum obtuse, glabrous. ♄. F. Native of the Levant. Stipulas membranous, white, concrete in one, which is bifid at the apex.

Tragacanth-like Saintfoin. Shrub ½ to 1 foot.

38 O.? PU'MILA (Desv. l. c. p. 84.) stem suffruticose; leaflets oval-oblong; calyxes glabrous; wings shorter than the vexillum, and the vexillum shorter than the keel. ♄. F. Native of Spain. Hedys. pùmilum, Lin. mant. 448. Fruit unknown.

Dwarf Saintfoin. Shrub ½ foot.

SECT. IV. ECHINOBRY'CHIS (from *εχινος, echinos*, a hedge-hog, and *βρυχω*, *brycho*, to gnaw; in reference to the legumes being prickly). D. C. legum. mem. vii. prod. 2. p. 348. Legumes trigonal, rather incurved, prickly on the back. Leaves simple. Perhaps a proper genus.

39 O. rotundifòlia (Desv. l. c.) stems prostrate, angular, glabrous; leaves obovate, on short petioles, quite smooth, and bistipulate; racemes few-flowered; legumes somewhat incurved, triquetrous, acuminated, prickly on the back.—Native of the East Indies. Pluk. alm. t. 433. f. 1. Hedys. rotundifòlium, Vahl. symb. 2. p. 81. Hedys. erinàceum, Poir. dict. 6. p. 393. Hedys. nummularifòlium, Vahl. in herb. mus. par. et Juss.

Round-leaved Saintfoin. Pl. prostrate.

40 O. cuneifòlia (D. C. prod. 2. p. 348.) stem erect, shrubby, glabrous; leaves ovate-cuneated, ending in a very short recurved mucrone; flowers solitary, terminal; legumes half-lunate, prickly. ♄. S. Native of the East Indies. Hedys. cuneifòlium, Roth. nov. spec. 357. Stipulas scarious, ovate-subulate, ciliated, half-stem-clasping.

Wedge-leaved Saintfoin. Shrub.

Cult. All the species of this genus are very shewy when in bloom, and are therefore well adapted for ornamenting flower-borders or rock-work. The best method of increasing them is by seeds, which should be sown where the plants are to remain. The shrubby kinds do best in pots, filled with a mixture of chalk, loam, and sand.

CLX. ELEIO'TIS (from ἐλειος, *eleios*, a dormouse, and *ους ωτος*, *ous otos*, an ear; in allusion to the shape of the leaves, which have some resemblance to the ear of a dormouse.) D. C. legum. mem. vii. prod. 2. p. 348.

Lin. syst. *Diadélphia, Decándria.* Calyx campanulate, truncate, hardly, but bluntly 5-toothed. Corolla papilionaceous. Vexillum obovate. Keel obtuse. Stamens diadelphous, permanent. Legume compressed, 1-celled, 1-seeded, rather membranous, semi-oval, with the upper suture straight, and the lower one curved.—Slender Indian herbs, with triquetrous stems, small acute adpressed stipulas, simple or pinnately trifoliate petiolate leaves, axillary racemes of small flowers much longer than the leaves, and twin distant pedicels. The plants are commonly called *Dormouse-ears* in India; hence the generic name.

1 E. monophy'lla (D. C. legum. mem. vii.) leaves simple, orbicular, somewhat emarginate at both ends. ♃. S. Native of the East Indies. Flowers red.

Var. α, hebecárpa (D. C. prod. 2. p. 348.) legumes puberulous in the disk on both sides. Glýcine monophýllos, Burm. fl. ind. 161. t. 50. f. 2.

Var. β, leiocárpa (D. C. l. c.) legumes glabrous. Petiv. gaz. t. 32. f. 1.

One-leaved Eleiotis. Pl. trailing.

2 E. soròria (D. C. legum. mem. vii. prod. 2. p. 348.) leaves pinnately-trifoliate, 2 lateral leaflets very small, rising beneath the middle of the petiole, terminal one very large, and almost orbicular, and emarginate at both ends. ♃. S. Native of the East Indies. Hedys. sorórium, Lin. mant. 270. exclusive of the synonyme of Burm. Poir. dict. 6. p. 403.? Hállia soròria, Willd. spec. 3. p. 1170. Onobrýchis soròria, Desv. journ. bot. 3. t. 6. f. 31. 1814. vol. 1. p. 60. Flowers red.

Sister Eleiotis. Clt. 1817. Pl. straggling.

Cult. The species of this genus grow well in any light rich soil, and cuttings will root under a bell-glass, in heat.

CLXI. LESPEDE'ZA (in honour of — Lespedez, once governor of Florida, and a great patron of botany). Michx. fl. bor. amer. 2. p. 70. Nutt. gen. amer. 107. Pers. ench. 2. p. 318. Desv. journ. bot. 3. p. 124. t. 6. f. 28. D. C. prod. 2. p. 348. —Hedýsarum species of Lin. and others.

Lin. syst. *Diadélphia, Decándria.* Calyx 5-parted, bibracteolate at the base; segments nearly equal. Corolla papilionaceous. Keel transversely obtuse. Stamens diadelphous. Legume lenticular, compressed, indehiscent, 1-seeded, unarmed.—Stems herbaceous or suffruticose. Leaves trifoliate; leaflets entire, the middle one stalked. Spikes racemose, pedunculate. Bracteas trifid, 2-flowered. Flowers of a violaceous purple-colour, yellow or cream-coloured, with a purple mark on the vexillum, rarely white.

1 L. ju'ncea (Pers. ench. 2. p. 318.) stem erect, simple; petioles short; leaflets linear-lanceolate, mucronate, clothed with adpressed villi on both surfaces; racemes short, almost sessile. ♄. H. Native of Siberia, Tartary, &c. Hedys. júnceum, Lin. fil. dec. 1. t. 4. Flowers purple or yellow.

Rushy Lespedeza. Fl. July, Aug. Clt. 1776. Sh. 2 to 3 feet.

2 L. Chine'nsis; stem erect, branched; leaflets obovate, retuse, mucronate; bracteas small; racemes short, on short peduncles. ♄. G. Native of China and Japan. Hedys. seríceum, Thunb. fl. jap. 287.? Flowers yellow or purple.

Chinese Lespedeza. Shrub 2 to 3 feet.

3 L. cunea'ta; stems simple; petioles very short; leaflets cuneate, retuse, mucronate, clothed with strigose pubescence beneath; racemes subumbellate, almost sessile; legumes smooth, about equal in length to the calyx. ♄. F. Native of? Anthýllus cuneàta, Dum. cours. bot. cult. 6. p. 100. Flowers yellow or purple.

Wedge-leafletted Lespedeza. Shrub 2 to 3 feet.

4 L. Palla'sii; shrub erect, branched; branches short, and are, as well as the under side of the leaves, clothed with adpressed pubescence; stipulas subulate; leaflets ovate-elliptic, ending each in a spine-like mucrone; racemes many-flowered, pedunculate, longer than the leaves. ♄. F. Native of Siberia. Flowers white or yellow.

Pallas's Lespedeza. Shrub 2 feet.

5 L. viola'cea (Pers. ench. 2. p. 316. Pursh. fl. amer. sept. 2. p. 481.) plant diffuse, much branched, glabrous; petioles elongated; leaflets elliptic, obtuse, clothed with short adpressed strigæ beneath; racemes somewhat umbellate, shorter than the leaves; calyxes shorter than the corolla; legumes rhomboid, reticulated, glabrous. ♃. H. Native of sandy and gravelly places from Virginia to Carolina. Hedýsarum violàceum, Lin. spec. 1055. Flowers violaceous. Plant procumbent.

Var. β, reticulàta (Pers. ench. 2. p. 318.) plant erect, simple; leaflets linear-obtuse. ♃. H. Native of New Jersey and Ilinois. L. sessiliflòra var. Michx. Hedys. reticulàtum, Muhl. L. angustifòlia, Rafin. but not of Nutt. Plant erect.

Var. γ, divérgens (Pursh. fl. amer. sept. 2. p. 481.) plant diffuse, branched; leaflets oblong; legumes ovate; racemes shorter than the petioles. Hedys. divérgens, Muhl. in Willd. spec. 3. p. 1196. L. violàcea var. Nutt. gen. amer. 2. p. 108.

Var. δ, sessiliflòra (Nutt. gen. amer. 2. p. 107.) plant erect, branched; petioles short; leaflets elliptic, obtuse; racemes axillary, almost sessile; legumes minute, naked, acute. Medicàgo Virgínica, Lin. syst. 3. p. 573. ex Pursh. Hedys. sessiliflòrum, Lam. dict. 6. p. 414. Plant erect.

Violaceous-flowered Lespedeza. Fl. July, Aug. Clt. 1739. Pl. 2 feet or procumbent.

6 L. trichoca'rpa (Pers. ench. 2. p. 318.) plant erect; petioles very short; leaflets elliptic-oblong, mucronate; racemes few-flowered, somewhat umbellate, axillary, almost sessile; calyx about equal in length to the corolla; legumes ovate, pubescent, one half shorter than the calyx. ♄. H. Native of Siberia. Hedys. trichocárpum, Willd. spec. 3. p. 1194. Stems and under surface of leaves clothed with very fine pubescence beneath. Stipulas filiform. Flowers purple.

Hairy-fruited Lespedeza. Pl. 2 to 3 feet.

7 L. erioca'rpa (D. C. in ann. mus. sci. nat. 4. p. 102.) erect; petioles short; leaflets cuneate-obovate, retuse, mucronate, reticulated on both surfaces; glabrous above, but clothed with strigose pubescence beneath; racemes in fascicles, almost sessile; calyxes one-half shorter than the corolla and legume, which is orbicular, acuminated, and hairy. ♄. G. Native of Nipaul. Aspàlathus violàceus, D. Don, prod. fl. nep. 246. Anthýllus cuneàta, Hamilt. mss. Flowers violaceous. Calycine segments lanceolate, acuminated, about equal in length to the corolla. (D. Don, l. c.)

Woolly-fruited Lespedeza. Fl. July, Aug. Clt. 1819. Sh. 2 to 3 feet.

8 L. Stu'vei (Nutt. gen. amer. 2., p. 107.) plant erect, simple, clothed with soft silky villi; petioles very short; leaflets elliptic-oval, mucronate; racemes corymbose, many-flowered, axillary, on short peduncles, about the length of the leaves; legumes pubescent, longer than the calyx. ⊙. H. Native of the state of New York, in sandy fields. Flowers purple.

Stuve's Lespedeza. Fl. July, Aug. Clt. 1824. Pl. 2 to 3 ft.

9 L. longifòlia (D. C. prod. 2. p. 349.) stem erect, angular, pubescent; petioles very short; leaflets oblong, glabrous above, but clothed with adpressed, silky-silvery pubescence beneath; racemes fasciculately corymbose, many-flowered, axillary and terminal; legume shorter than the lobes of the calyx. ⊙.? H. Native of Louisiana. Flowers purple.

Long-leaved Lespedeza. Pl. 2 to 3 feet.

10 L. frute'scens (D. C. prod. 2. p. 349.) plant erect; stems simple, villous; petioles short; leaflets elliptic, obtuse, rather mucronate, clothed with silky pubescence beneath; racemes axillary, almost sessile, shorter than the leaves; calyx shorter than the corolla; legumes pilose, shorter than the calyx. ♄. F. Native of Carolina. L. fruticòsa, Pers. ench. 2. p. 318. Hèdys. frutéscens, Lin. spec. 1055. Willd. spec. 3. p. 1193. Flowers purplish.

Shrubby Lespedeza. Fl. Ju. Aug. Clt. 1739. Sh. 2 to 3 ft.

11 L. capita'ta (Michx. fl. bor. amer. 3. p. 71.) plant erect, simple; petioles very short; leaflets elliptic, clothed with adpressed pubescence beneath; spikes capitate, on short peduncles, axillary, but they are also disposed into globose heads at the tops of the branches; calyxes villous, length of corolla, but much longer than the legume. ♃. H. Native from Carolina to New York, in sandy fields and on the edges of woods. Pursh. fl. sept. amer. 2. p. 480. Hedys. conglomeratum, Poir. dict. 6. p. 416. Flowers pale purple.

Capitate-flowered Lespedeza. Fl. Ju. Jul. Clt. 1789. Pl. 1-3 ft.

12 L. angustifòlia (Ell. sketch. 2. p. 206.) plant erect, pubescent; petioles very short; leaflets oblong-elliptic, or lanceolate, clothed with canescent pubescence beneath; racemes capitate, longer than the leaves; corolla longer than the calyx. ♃. H. Native of Carolina, in arid, sandy places. L. capitàta, var. angustifòlia, Pursh. fl. amer. sept. 2. p. 480. Flowers pale purple.

Narrow-leafletted Lespedeza. Fl. Ju. Jul. Clt. 1800. Pl. 2 ft.

13 L. polysta'chya (Michx. fl. bor. amer. 3. p. 71. t. 40.) plant erect, branched, very villous; petioles very short: leaflets roundish-oval, obtuse; spikes oblong, axillary, twice the length of the leaves, pedunculate; calyxes about equal in length to the corolla, but hardly longer than the legume. ♃. H. Native from Pennsylvania to Carolina, and of Upper Canada, in waste fields. Hedys. hírtum, Willd. spec. 3. p. 1193. Flowers white with a red spot on the vexillum.

Many-spiked Lespedeza. Fl. June, Aug. Clt. 1789. Pl. 2 to 3 feet.

14 L. villòsa (Pers. ench. 2. p. 318.) plant erect, branched, clothed with villous tomentum; petioles rather elongated; leaflets elliptic, obtuse; spikes axillary, slender, 3 or 4-times longer than the leaves; calyxes shorter than the corolla, but longer than the legumes. ♃. H. Native of North America. Hedys. hírtum, Lin. spec. 1055.? L. hírta, Horn. cat. 699.? Hedys. villòsum, Willd. spec. 3. p. 1195. Flowers white and pale yellow, twin, the lower pairs distant, with the flowers sometimes abortive and sometimes in fascicles, mixed with scales in the axils of the leaves.

Villous Lespedeza. Fl. July, Aug. Clt. 1819. Pl. 2 feet.

15 L. procu'mbens (Michx. fl. bor. amer. 2. p. 70. t. 39.) plant procumbent, slender, pubescent; petioles elongated; leaflets oval, obtuse, mucronulate; racemes axillary, loose-flowered, very long and slender; calyxes shorter than the corolla; legumes ovate, naked, smoothish. ♃. H. Native from New York to Carolina, in sandy or gravelly places. Nutt. gen. amer. 2. p. 108. Hedys. Lespedèza, Poir. dict. 6. p. 415. Flowers of a violaceous-purple colour.

Procumbent Lespedeza. Fl. July, Aug. Clt. 1816. Pl. pr.

16 L. prostra'ta (Pursh, fl. amer. sept. 2. p. 481. Nutt. gen. amer. 2. p. 108.) plant prostrate, slender, glabrous; petioles short; leaflets elliptic, obtuse, mucronate, hardly pubescent beneath; racemes axillary, slender, few-flowered, longer than the leaves; calyxes shorter than the corolla; legumes ovate, rather pubescent. ♃. H. Native of Pennsylvania (Muhl.), of New Jersey (Nutt.), Upper Canada (Dougl.). Hedys. prostràtum, Muhl. in Willd. spec. 3. p. 1200. Flowers purplish.

Prostrate Lespedeza. Fl. June, Aug. Clt. 1810. Pl. pr.

17 L. glomera'ta (Horn. hort. hafn. suppl. 81.) stems twining; leaflets oval, obtuse, rather pubescent; spikes of flowers axillary and terminal, sessile, glomerate. ⊙. ⌒. S. Native of the East Indies. Flowers probably red.

Glomerate-spiked Lespedeza. Fl. Jul. Aug. Clt. 1819. Pl. tw.

18 L. virga'ta (D. C. prod. 2. p. 350.) stem herbaceous, erect, branched, angular, pilose; leaflets ovate, mucronate, lined, glabrous, bearing hairs on the nerves beneath and on the margins; stipulas membranous, oblong. ♃. G. Native of Japan. Hedys. virgàtum, Thunb. fl. jap. 290. Peduncles 3-flowered and pilose, according to Thunberg, l. c. The plant is in habit like *L. eriocárpum*, which is seen by a specimen in the herbarium of Agardh, at Copenhagen.

Twiggy Lespedeza. Pl. 1 to 2 feet.

19 L. I'ndica (Spreng. syst. 3. p. 202.) leaflets roundish-ovate, clothed with rusty tomentum beneath; racemes axillary, crowded, few-flowered; flowers bracteate; calyxes villous; stem shrubby. ♄. S. Native of the East Indies. Hállia trifoliàta, Roth.

Indian Lespedeza. Shrub 2 to 3 feet.

Cult. The species are rather shewy when in flower, and are therefore worth cultivating for the purpose of decorating flower-borders. The herbaceous perennial kinds grow well in a light rich soil, or in peat borders, and are increased by dividing at the root in spring, or by seeds. The shrubby kinds are also very elegant plants, but they will not live unless protected by a greenhouse or frame during winter; for this purpose they should be grown in pots, in a mixture of sand and peat, and young cuttings of them will strike root readily if planted in a pot of sand, with a bell-glass placed over them. The seeds of the annual kinds should be sown in a peat-border, in as sheltered a situation as possible.

CLXII. E'BENUS (from *abnous*, the Arabic name for ebony, or ἔβενος or ἔβελος, of the Greeks, *ebenus* or *ebenum* of the Romans, from the Hebrew *Heben*). Lin. gen. no. 895. D. C. legum. mem. vii. prod. 2. p. 350.—Anthýllis species of Lam.

Lin. syst. *Monadélphia, Decándria.* Calyx permanent, cleft into 5 beyond the middle; the tube becoming at length rather ventricose; the segments linear-subulate, about equal in length to the corolla. Corolla with minute wings, almost shorter than the tube of the calyx. Stamens monadelphous. Legume roundish, 1-2-seeded.—Plants with usually pinnate leaves, having the terminal or odd leaflet sessile. Stipulas distinct from the petiole. Peduncles axillary, elongated, bearing dense spikes of reddish flowers. This genus differs from *Anthýllis* in the wings of the flower being small, and in the calycine segments being longer. The plants have the habit of *Onobrýchis.*

1 E. Cre'tica (Lin. spec. 1076.) shrubby; leaves rarely trifoliate, usually impari-pinnate, with 2 pairs of leaflets and an odd sessile one; leaflets oblong-linear; stipulas connected, and therefore bifid at the apex and opposite the leaves; spikes of flowers ovate-cylindrical. ♄. F. Native of Candia. Anthýllis Crética, Lam. dict. 1. p. 203. Sims, bot. mag. 1092.—Alp. exot. t. 278.—Barrel. icon. t. 377. and 913. Flowers large, reddish, or purple. Staminiferous tube elegantly striated.

Cretan Ebony. Fl. June, July. Clt. 1737. Sh. 1 to 2 ft.

2 E. pinna'ta (Desf. act. soc. hist. nat. par. 1. p. 21. t. 3. fl. atl. 2. p. 152.) plant herbaceous; leaves pinnate, with 4-5 pairs of linear or oblong leaflets, with an odd one; stipulas distinct, acuminated; stem beset with soft hairs; spikes of flowers ovate. ♂. F. Native of Barbary, on uncultivated hills. Lher. stirp. nov. t. 38. Hedys. seríceum, Vahl. symb. 2. p. 83. t. 41. Anthýllis serícea, Willd. spec. 3. p. 1014. Onobrýchis, &c. Shaw, spec. no. 431. Onobr. serícea, Spreng. syst. 3. p. 205. Bracteas ovate, acute, concave, one under each flower. Corolla reddish, shorter than the calyx.

Pinnate-leaved Ebony. Fl. July, Aug. Clt. 1786. Pl. 1 ft.

3 E. Sibthórpii (D. C. legum. mem. vii. t. 53.) plant herbaceous; leaves impari-pinnate, with 4-5 pairs of oblong-linear, mucronate leaflets; stipulas distinct, acuminate, bifid; stem clothed with adpressed pubescence; spikes spherical. ♂. H. Native of Mounts Atlas and Parnassus. E. pinnàta, Smith, fl. græc. prod. 3. p. 92. exclusive of the synonyme of Desf. and Willd. Onobrýchis orientàlis, &c. Tourn. cor. 26. Leaves rather silky. Bracteas 3-4, broad, ovate, appearing like an involucrum at the base of each head of flowers. Corolla purplish, about equal in length to the calyx.

Sibthorp's Ebony. Pl. 1 foot.

Cult. The species of this genus are propagated by seeds, which should be sown in pots in autumn, and placed in a frame or greenhouse, and in the month of May, when the plants will have attained a proper size, they should be planted singly in small pots, filled with a mixture of loam, sand, and peat, and the plants shifted into larger pots as they grow, some of them may be planted out into the open border, in a sheltered situation, where they will probably survive the winter with a little protection, if not too severe.

CLXIII. FLEMI'NGIA (in honour of John Fleming, M.D. F.R.S. and F.L.S., &c., an acute botanist, formerly President of the honourable East India Company's medical establishment in Bengal). Roxb. cor. 3. p. 44. Ait. hort. kew. ed. 2. vol. 4. p. 349. D. C. prod. 2. p. 351. Millingtònia, Roxb. mss.

Lin. syst. *Diadélphia, Decándria.* Calyx acutely 5-cleft, 4 of the segments almost equal, but the lowest one is much longer than the rest. Corolla papilionaceous. Vexillum striated. Stamens diadelphous. Legume sessile, oval, turgid, 2-valved, 1-celled, 2-seeded. Seeds spherical.—Herbs or shrubs, natives of the East Indies. Stipulas lanceolate, acuminated, deciduous. Leaves petiolate. Flowers red or purple, disposed in axillary crowded racemes. This genus is perhaps more nearly allied to *Rhynchòsia*, and therefore perhaps referrible to tribe *Phaseòleæ*, especially in the seeds being spherical.

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Sect. I. Flemingia'strum (an alteration from the generic name). Flowers naked, or propped with small deciduous bracteas. Leaves trifoliate; leaflets sessile.

1 F. stri'cta (Roxb. l. c. t. 248.) stem herbaceous, almost simple, straight; leaflets feather-nerved, broad-lanceolate, glabrous; racemes axillary, solitary, length of petioles; bracteas very long, acuminated, deciduous. ♃. S. Native of Coromandel. Crotalària macrophýlla, Puer. herb. Flowers purple.

Straight-stemmed Flemingia. Fl. July, Sept. Clt. 1798. Pl. 2 to 4 feet.

2 F. semiala'ta (Roxb. l. c. t. 249.) stem shrubby, branched; branches silky, erectish; leaflets 3-nerved, elliptic, acuminated, glabrous above, but clothed with silky pubescence beneath; petioles winged at the apex; spikes branched, panicled, terminal, and axillary; bracteas ovate, mucronate, villous. ♄. G. Native of Nipaul. D. Don, prod. fl. nep. 242. F. paniculàta, Dietr. ex Steud. Flowers pale red.

Half-winged-petioled Flemingia. Fl. July, Aug. Clt. 1805. Shrub 3 to 4 feet.

3 F. conge'sta (Roxb. in hort. kew. 4. p. 349.) stem shrubby, erect; leaflets broad-lanceolate, lateral ones 2-nerved, terminal one 3-nerved; racemes axillary, crowded, shorter than the petioles. ♄. S. Native of the East Indies. Branchlets, petioles, and racemes villous when young. Flowers purple. Perhaps the same as *F. trinérvia*, Desf.

Crowded-flowered Flemingia. Fl. July, Sept. Clt. 1802. Shrub 2 to 3 feet.

4 F. na'na (Roxb. in hort. kew. 4. p. 350.) stem shrubby, much branched; leaflets obovate; petioles winged; racemes crowded; legumes covered with viscid glands. ♄. S. Native of the East Indies.

Dwarf Flemingia. Clt. 1808. Shrub 1 foot.

5* F. linea'ta (Roxb. l. c.) stem suffruticose, erect, branched; leaflets oblong-cuneated, 3-nerved, linear, clothed with canescent velvety down; racemes axillary, elongated, pedunculate, dichotomous; legumes clothed with glandular pili. ♂. S. Native of the islands of Ceylon and Timor, and on the mountains called Nelligery, in India. Hedys. lineàtum, Lin. spec. 1054. Burm. ind. t. 53. f. 1. Lespedèza lineàta, Pers. ench. 2. p. 318. Onobrýchis lineàta, Desv. in journ. bot. 1814. vol. 1. p. 80. Flowers purple.

Lined-leaved Flemingia. Fl. Jul. Aug. Clt. 1793. Pl. 2 to 3 ft.

6 F. Rothia'na (D. C. prod. 2. p. 351.) stem shrubby, erect, rather tomentose; leaflets roundish-ovate, with the nerves rusty on the under side; racemes axillary, crowded, loose, 5-6-flowered; legumes compressed, pubescent, 1-seeded. ♄. S. Native of the East Indies. Hállia trifoliàta, Roth. spec. 352.

Roth's Flemingia. Shrub 2 to 3 feet.

Sect. II. Ostryo'dium (from *οστρυος*, *ostryos*, a scale, and *οδους*, *odous*, a tooth; in reference to the large leafy scale-like bracteas). Desv. journ. bot. 3. p. 119. t. 4. f. 2. D. C. prod. 2. p. 351.—Loùrea, Jaume, journ. bot. 3. p. 61. Flowers furnished with a large, leafy, concave, permanent bractea each. Leaves simple, feather-nerved.

7 F. strobilífera (Ait. hort. kew. ed. 2. vol. 4. p. 350.) stem shrubby, erect; leaves simple, entire, ovate, acuminated; spikes strobile-formed; bracteas cucullate, leafy, reticulated. ♄. S. Native of the East Indies. Lin. fl. zeyl. 287. t. 3. Hedys. strobiliferum, Lin. spec. 1053. Burm. ind. 164. Zórnia strobilífera, Pers. ench. 2. p. 319. Flowers purple.

Strobile-bearing Flemingia. Fl. July, Aug. Clt. 1788. Sh. 5 to 10 feet.

8 F. Guinee'nse; shrub glabrous; leaves with 5, obovate, obtuse leaflets; stipulas about the size of the lateral leaflets, nerved; peduncles axillary, racemose; bracteas large, round, nerved, crowded, one to each flower. ♄. S. Native of Sierra

Leone. This species is remarkable in having pinnate leaves and large stipulas. It is perhaps a species of *Dicérma*.

Guinca Flemingia. Shrub 2 to 3 feet.

Cult. The species of this genus are not worth cultivating, unless in botanical gardens. They will grow well in any light soil, and cuttings will root, if planted in a pot of sand, with a hand-glass placed over them, in heat.

Subtribe III. ALHA'GEÆ (plants agreeing with *Alhàgi* in some important characters). D. C. prod. 2. p. 352. Flowers disposed in racemes (f. 45. *h.*) or spikes. Legumes almost terete (f. 45. *d.*).

CLXIV. ALHA'GI (*Aghul* or *Algul* is the Arabic name of the first species). Tourn. cor. 54. t. 489. Desv. journ. bot. 3. p. 120. t. 4. f. 4. D. C. prod. 2. p. 352.—Hedýsarum species of Lin.—Mánna, D. Don, prod. fl. nep. 246.

Lin. syst. *Diadélphia, Decándria.* Calyx campanulate, 5-toothed; teeth small, nearly equal. Corolla papilionaceous, with the petals almost equal in length, but the carina is a little shorter than the vexillum, which is obovate and complicated. Keel straight, obtuse; wings rounded at the apex. Stamens diadelphous. Ovary linear, many ovulate. Style filiform, glabrous, acute. Legume stipitate, rather woody, terete, torulose, few-seeded, not articulated. Seeds reniform.—Oriental subshrubs or herbs, with simple leaves and minute stipulas, and axillary spinose peduncles. Flowers few, red, disposed in racemes along the peduncles.

1 A. Mauròrum (Tourn. l. c.) stem shrubby; leaves obovate-oblong; teeth of calyx acute. ♄. G. Native of the deserts of Egypt, Syria, Mesopotamia, and other eastern countries. Rauw. itin. 94. with a figure. Hedys. Alhàgi, Lin. spec. 1051. exclusive of some of the synonymes. Alhàgi mannífera, Desf. l. c. Onònis spinòsa, Hasselq. ed gall. 1. p. 138. 2. p. 187. but not of Lin. Mánna Hebràica, D. Don, prod. fl. nep. 247. Spines strong, and longer than those of the following. Flowers purple in the middle and reddish about the edges. It is on this shrub that manna (*Trungibin* or *Terengabin*) is found in Mesopotamia. It is chiefly gathered about Tauris, where the shrub grows plentifully. Sir George Wheeler found it growing in Tenos. Tournefort also found it in many places in Armenia and Georgia. The manna is a natural exudation from the leaves and branches of this shrub, which takes place only in very hot weather. The Arabian writers believed that it fell from the clouds upon the plant. At first the manna resembles drops of honey, but soon thickens into solid grains, as big as a coriander seed at most. It is collected with more or less care, and is valued according to its purity, which is evinced by the distinctness of the granulations. The manna of this country is collected from the flowering ash, and has nothing to do with Persian manna.

Moors' Alhagi or Hebrew Manna. Fl. July, Aug. Clt. 1714. Shrub 2 to 3 feet.

2 A. camelòrum (Fisch. cat. hort. gor. 1812. p. 72.) stem herbaceous; leaves lanceolate, obtuse; teeth of calyx manifestly obtuse. ♃. F. Native of Caucasus, about the Caspian Sea, Tartary, and in Middle Iberia, in arid fields. Hedys. pseùdo-Alhàgi, Bieb. fl. taur. et suppl. no. 1442. Hedys. Alhàgi, Lerche, nov. act. cur. 5. p. 167. Alhàgi pseùdo-Alhàgi, Desv. l. c. Mánna Cáspica, D. Don, prod. fl. nep. p. 247.—Gmel. itin. 2. p. 29. Flowers red. Manna exudes from this plant as from the last.

Camel's Alhagi or Caspian Manna. Fl. July, Aug. Clt. 1816. Pl. 1 to 2 feet.

3 A. Nipaulé'nsis (D. C. prod. 2. p. 352.) plant shrubby; leaves obovate, mucronulate, veinless, clothed with silky-silvery down on both surfaces; calyxes longer than the pedicels; teeth acute, ♄. G. Native of Nipaul, near Sitaucund. Flowers red. Mánna Nepaulénsis, D. Don, prod. fl. nep. 247. Hedys. Hamiltònii, Spreng. syst. 3. p. 316.

Nipaul Alhagi or Manna. Fl. April. Shrub 1½ to 2 feet.

Cult. These plants require to be grown in pots filled with a mixture of sand, loam, and peat, in order that they may be sheltered in winter in a greenhouse. Young cuttings will root if planted in sand, with a bell-glass placed over them; but seeds, if they can be procured, is a preferable mode of increasing the plants, which should be raised on a hot-bed.

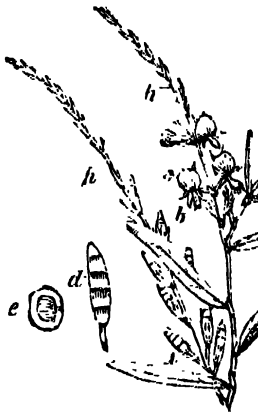
CLXV. ALYSICA'RPUS (from αλυσις, *alysis*, a chain, and καρπος, *karpos*, a fruit; in reference to the shape of the legume, which is composed of many 1-seeded joints, giving the whole the appearance of a chain). Neck. elem. no. 1315. Desv. journ. bot. 3. p. 120. t. 4. f. 8. D. C. prod. 2. p. 352.—Hállia, Jaume, journ. bot. 3. p. 60. but not of Thunb.—Fabrìcia, Scop. but not of Gærtn.

Lin. syst. *Diadélphia, Decándria.* Calyx campanulate, permanent, 5-cleft (f. 45. *a.*); segments equal, lanceolate, acute (f. 45. *a.*). Corolla small, papilionaceous (f. 45. *c.*). Stamens diadelphous. Legume (f. 45. *d.*) constantly composed of many closed, 1-seeded joints (f. 45. *e.*), which are equal on both sides, terete, or compressed, at length separating from each other.—Indian and African herbs, with scarious stipulas and bracteas, and simple, linear, oval or roundish, entire leaves. Racemes of flowers opposite the leaves and terminal, bearing pedicellate, twin, or solitary, distant flowers, which are either yellow or purple, and hardly longer than the calyx.

* *Joints of legume smooth or irregularly nerved.*

1 A. bupleurifòlius (D.C. prod. 2. p. 352.) plant smooth; leaves lanceolate-linear, acute; stipulas rather longer than the petioles; lobes of calyx puberulous; legumes terete, moniliferous, glabrous with 2-4 joints, a little longer than the calyx. ♄. S. Native of the East Indies. Hedys. rugòsum, Sieb. fl. maur. exsic. no. 153. Hedys. bupleurifòlium, Lin. spec. 1081. Burm. ind. 163. Roxb. cor. 2. t. 194. Sims, bot. mag. 1722. Hedys. gramineum, Retz. obs. 5. p. 26. Wendl. hort. herr. 1. t. 5. Hedys. Cochin-chinénse, Schranck, hort. monac. 3. t. 23. Flowers red. (f. 45.)

FIG. 45.



Var. β, hýbridus (Burm. herb, D. C. prod. 2. p. 352.) lower leaves roundish, as in *A. nummularifòlius*, but the upper ones are oblong and acute, as in *A. bupleurifòlius*, and the upper stipulas are longer than the petioles.

Hare's-ear-leaved Alysicarpus. Fl. June, Aug. Clt. 1798. Pl. 1 to 2 feet.

2 A. vagina'lis (D. C. prod. 2. p. 353.) stem rather rough from short hairs; leaves rather cordate at the base, oval or oblong mucronulate, glabrous, but with the margins and middle nerve rather pubescent; stipulas length of petiole; legume terete, reticulated, 4-5-jointed, rather pubescent, much longer than the calyx. ⊙. S. Native of the East Indies and of Senegal. Burm. zeyl. t. 49. f. 1. Hedys. vaginàle, Lin. spec. 1051. fl. zeyl. 287. Hedys. ovalifòlium, Vahl. in herb. Desf. Hedys. bupleurifòlium, Sieb. pl. seneg. exsic. no. 39. Flowers red.

Sheathed Alysicarpus. Fl. July, Aug. Clt. 1790. Pl. pr.

3 A. nummularifòlius (D. C. prod. 2. p. 353.) plant gla-

brous; leaves ovate or roundish; stipulas shorter than the petioles; legumes between terete and compressed, rather reticulated, smoothish, 5-6-jointed, much longer than the calyx. ♃. S. Native of the East Indies and the Mauritius. Hedys. nummulàrium, Lin. spec. 1051. fl. zeyl. 288. Burm. fl. ind. 164. Hedys. cylíndricum, Poir. dict. 5. p. 400.—Petiv. gaz. t. 26. f. 1. Flowers purple.

Money-wort-leaved Alysicarpus. Fl. July, Sept. Clt. 1777. Pl. 1 to 2 feet.

4 A. monílifer (D. C. prod. 2. p. 353.) stem hispid; leaves elliptic-roundish, pubescent beneath; stipulas length of petioles; legumes terete, velvety, 4-5-jointed, much longer than the calyx. ♃. S. Native of the East Indies and the Mauritius. Hedys. monilíferum, Lin. mant. 102.—Burm. ind. t. 52. f. 3. Flowers purple.

Necklace-bearing Alysicarpus. Fl. July, Aug. Clt. 1816. Pl. prostrate.

5 A. gluma'ceus (D. C. prod. 2. p. 353.) plant glabrous; leaves lanceolate, acuminated; stipulas length of petioles; joints of legume 4-6, roundish, compressed, wrinkled. ♃. G. Native of Arabia Felix. Hedys. glumàceum, Vahl. symb. 2. p. 106. Willd. spec. 3. p. 1172. Hedys. violàceum, Forsk. descr. 136. Vahl. symb. 1. p. 54. Flowers yellow, but reddish inside.

Glumaceous Alysicarpus. Pl. procumbent.

* * *Legumes articulated, furrowed, and wrinkled transversely.*

6 A. styracifòlius (D. C. prod. 2. p. 352.) stem villous; leaves ovate, obtuse, clothed with villous pubescence beneath; stipulas length of petioles, which are villous; joints of legume 3-4, glabrous, wrinkled transversely, a little longer than the calyx. ♄. S. Native of the East Indies and the Mauritius. Hedys. styracifòlium, Lin. spec. 1052. A. cylíndricus, Desv. Flowers red.

Styrax-leaved Alysicarpus. Fl. Jul. Aug. Clt. 1816. Sh. as. ?

7 A. rugòsus (D. C. prod. 2. p. 353.) stem glabrous, but with a pilose, decurrent line the whole length; leaves linear-lanceolate, obtuse, pubescent beneath and on the margins; stipulas longer than the petioles; joints of legume 4-5, roundish, compressed, wrinkled transversely. ♃. S. Native of Guinea. Hedys. rugòsum, Willd. spec. 3. p. 1173. Flowers red?

Wrinkled-podded Alysicarpus. Pl. 1½ foot.

Cult. The species of this genus are not worth cultivating, unless in botanical gardens. They grow well in light rich soil, and are increased by cuttings or seeds.

CLXVI. BREMONTIE'RA (in honour of M. Bremontier, a French agricultural writer). D. C. in ann. sc. nat. 4. jan. 1825. p. 93. Legum. mem. vii. prod. 2. p. 353.

Lin. syst. *Diadélphia, Decándria.* Calyx campanulate, rather truncate, hardly 5-toothed; teeth small, acute, rather distant. Corolla papilionaceous, 3-times longer than the calyx. Stamens diadelphous. Legumes constantly of numerous, compressed, 1-seeded joints, which are prominent at the sutures and truncate at both ends, at length separating from each other. Seeds ovate, with a lateral hylum. Radicle incurved. Cotyledons foliaceous, obovate-oblong.—Shrubs with simple, oblong leaves, which are canescent from short down, and standing on short petioles, tapering at both ends. Stipulas small, acute, not scarious. Flowers small, purple, disposed in axillary, spicate racemes.

1 B. ammóxylon (D. C. l. c.). ♄. S. Native of the Mauritius, where it is called *Bois-de-sable*, or sand-wood. Mullèra verrucòsa, herb. mus. par. but not of Pers. Hedys. ammóxylon, Spreng. syst. append. 293. Legume with 12-14 joints. Branches terete but angularly compressed at the apex, and are as well as the leaves clothed with cinereous pubescence. Leaves usually dotted with black, from some species of *Puccínia.*

Var. β, Burmánni (D. C. prod. 2. p. 353.) legume with only 5 or 8 joints, ♄. S. Native of Ceylon. Ornithopòdium, &c. Burm. zeyl. 177. t. 82. Perhaps a proper species.

Sand-wood Bremontiera. Clt. 1826. Shrub 4 to 6 feet.

Cult. See *Alysicárpus* for culture and propagation.

§ 2. *Sarcólobæ* (from σαρξ σαρκος, *sarx sarcos*, flesh, and λοβος, *lobos*, a lobe; in reference to the thick fleshy cotyledons). *Embryo with thick fleshy cotyledons* (f. 21. *b.*), *which do not undergo any change at the time of germination. The seeds of all the plants contained in this division of Leguminosæ are used as food in different countries, while none of those of the first division, Phyllólobæ, are so employed.*

Tribe IV.

VICIE'Æ (plants agreeing with *Vicia* in some characters). Bronn. diss. p. 133. D. C. legum. mem. vii. prod. 2. p. 353. —Vìciæ, Adans. fam. 2. p. 329. Corolla papilionaceous (f. 46. *d.*). Stamens diadelphous, 9 joined, and 1 free (f. 46. *g.*). Legumes continuous (f. 46. *h.*). Cotyledons thick, farinaceous, not changing, even in germination, when above the earth, but remaining inclosed in the spermaderm. Radicle curved inwards (f. 21. *f. e.*). The leaves of all the plants contained in this tribe are abruptly-pinnate (except in some species of the genus *Cicer*, which are impari-pinnate), with the common petiole ending in a bristle or tendril instead of a leaflet, the petiole not jointed above the stem. This is a very natural tribe, which agrees with *Phaseòleæ* in the twining habit and thick cotyledons.

CLXVII. CI'CER (from κικυς, *kikys*, force or strength. The Ciceronians had their name from the pulse, as the Pisons had from pisum or pea, and the Lentuli from the lens or lentil). Tourn. inst. 389. t. 210. f. 2. Lin. gen. no. 1189. Gærtn. fruct. 2. p. 326. t. 151. D. C. prod. 2. p. 354.

Lin. syst. *Diadélphia, Decándria.* Calyx 5-lobed, with the tube more or less gibbous on the upper side; lobes acuminated, with 2 or 4 of the upper ones lying upon the vexillum. Legume turgid, 2-seeded. Seeds gibbous, mucronate.—Annual herbs, clothed with numerous glandular hairs, with impari or abruptly-pinnate leaves; having the leaflets and stipulas much nerved, and the petioles ending in a tendril, and axillary and almost always solitary flowers from abortion. Fruit pilose.

1 C. arietìnum (Lin. spec. 1040.) leaves impari-pinnate; leaflets ovate, serrated, equal; stipulas lanceolate, somewhat toothed; calyxes hardly gibbous, with the segments equal in length to the wings of the corolla. ⊙. H. Native of Spain, Italy, and the Levant, among corn. Lam. ill. t. 632. Sims, bot. mag. 2274. The glandular hairs on the plant are full of acid juice. Flowers purple or white. The form of the seed is like that of a ram's head. The seeds are eatable, and the plant is cultivated for their sake in the south of Europe and the Levant, where they are frequently eaten both raw and boiled. The seeds should be sown broadcast like tares, or in drills like peas, about 2 feet asunder, that there may be room for the branches to spread, when the plants are fully grown, as also to hoe the ground, to keep it clean from weeds, which is all the culture these plants require. The plant flowers in June, and the seeds ripen in August, but unless the season proves dry and warm the plants decay in this country before the seeds are ripe.

Ram's-head-podded or Common Chick-pea. Fl. July, Aug. Clt. 1548. Pl. 1 foot.

2 C. Songa'ricum (Steph. ex Fisch. in litt. D. C. legum. mem. viii. with a figure) lower leaves impari-pinnate, upper ones abruptly pinnate, bearing simple tendrils at the apex; leaflets obovate-cuneated, serrated, upper ones smallest; stipulas ovate,

toothed; calyx very gibbous at the base, with the segments shorter than the wings of the corolla. ⊙. H. Native of Songaria and Persia. The flowers and the fruit are almost twice the size of those of *C. arietinum*.

Songarian Chick-pea. Pl. 1 foot.

3 C. Solonie'nse (Schranck. not. pl. dec. Frioul, p. 49.) peduncles elongated, 1-flowered; leaves with 2 pairs of leaflets, lower ones obovate, middle ones oblong, upper ones linear. ⊙. H. Native of Europe.

Solon Chick-pea. Pl. 1 foot.

4 C.? nummularifòlium (Lam. dict. 2. p. 2.) stem filiform, slender; leaves simple, obovate, entire, hairy; peduncles 2-3-flowered; calycine segments obtuse; legumes cordate. ⊙. H. Native of the East Indies.—Pluk. alm. t. 389. This plant ought to be perhaps excluded from the present tribe.

Money-wort-leaved Chick-pea. Pl. prostrate.

Cult. The seeds of these plants require only to be sown in the open ground in the spring.

CLXVIII. FA'BA (from φαγω, *phago*, to eat; the esculent seeds of the common bean are well known). Tourn. inst. t. 222. D. C. fl. fr. 4. p. 598. prod. 2. p. 354.—Vicia species of Lin. and others.

Lin. syst. *Diadélphia, Decándria.* The character of *Fàba* is nearly the same as that of *Vícia*, but differs principally in the great size of the legume, which is coriaceous, and rather tumid, and in the seeds being oblong, not round, and in the hylum being terminal, not lateral.—Erect plants, with abruptly-pinnate leaves with or without a simple tendril.

1 F. vulga'ris (Mœnch. meth. p. 130.) leaves thick, with 2-5 broad, oval, mucronate leaflets; stipulas semi-sagittate, oval; tendrils of leaves almost wanting; teeth of calyx almost linear. ⊙. H. Said to be found wild on the confines of Persia, not far from the Caspian Sea, and is now cultivated to a great extent in gardens and fields, for the sake of its seeds. Vicia Fàba, Lin. spec. 1039. Flowers white, with a blackish-blue silky spot in the middle of the wings. The legumes almost terete, or flat, green or black. Seeds more or less roundish, or very broad and flat, varying much in size.

Var. α, *horténsis;* seeds flat, white, usually large. There are the following varieties of the garden bean.

1 *Mazagan-bean.* An excellent early bean. It was brought from a Portuguese settlement just without the straits of Gibraltar. The seeds of this are even smaller than the *horse-bean.* If the seeds of this sort are sown in October under a warm hedge, pale, or wall, and carefully earthed up when the plants are advanced, they will be fit for the table by the middle of May.

2 *Early Portugal or Lisbon-bean.* This appears to be the *Mazagan* sort saved in Portugal. It is the kind used by gardeners for their first crop, but it is not so well tasted as the *Mazagan;* therefore when the *Mazagan-bean* can be procured no one would think of sowing this sort.

3 *Small Spanish-bean.* This will come in well for the second crop, soon after the *Portugal*, and as it is rather a sweeter bean, it should be preferred to it.

4 *Broad Spanish-bean.* This is a little later than the last sort, and being a good bearer is therefore frequently sown.

5 *Sandwich-bean.* This comes in soon after the *broad-Spanish*, and is almost as large as the *Windsor-bean*, but being hardier is commonly sown a month sooner. It is a plentiful bearer, but not a very delicate sort for the table.

6 *Toker-bean.* Is ready for use about the same time as the *Sandwich*, and is a great bearer, but rather a coarse bean.

7 *White and black-blossomed beans* are by some persons much esteemed; the seeds of the former when boiled are almost as green as peas; and being a tolerably sweet sort renders it more valuable. These two sorts are very apt to degenerate if the seeds are not saved with great care.

8 *Windsor-bean.* This is allowed to be the best of all the sorts for the table. When sown on a good soil, having plenty of roots, the beans will be very large, and when gathered young they are the sweetest and best tasted of all the sorts. This sort is seldom sown before Christmas, because it is found not to bear the frost so well as many other sorts; so it is generally sown for the principal crop to come in in June and July.

9 *Fan* or *cluster-bean.* This sort is chiefly sown for curiosity. It is dwarf 6 or 10 inches high, with branches spreading like a fan, and flowers succeeded by small pods, both in clusters.

10 *Long-podded-bean.* A very tall kind, and a good bearer; the pods long and narrow, closely filled with oblong middle-sized seeds. Of this there are several subordinate varieties, as the *early Turkey*, &c.

11 *White blossomed-bean.* The flowers are pure white, having none of the black marks on the wings. The seeds are semi-transparent, and have less of the peculiar bean flavour when young than any of the others, and are by some persons esteemed on that account. It bears abundance of smallish, long, narrow pods, and the seeds are almost black when ripe.

12 *Red-blossomed-bean.* This is a very shewy plant; the blossoms very red, without any mixture of white. It bears smallish pods and seeds, which are not very palatable, and the plant is therefore only grown for curiosity.

There are a number of other varieties of the *garden-bean*, such as the *green-nonpareil*, *Munford*, &c., but they are hardly worth notice.

The following varieties of the *field* or *horse-bean* are worth cultivating.

Var. β, *equina;* the *common horse-bean*, from which perhaps all the varieties have originated.

1 *Common field* or *horse-bean.* This is the kind most commonly sown for agricultural purposes.

2 *Tick-bean.* This is lower in stature than the former, but is a more plentiful bearer, and succeeds better on light land. There are several subordinate varieties of this kind, such as the *Flat-Ticks* or *May-beans*, *Small* or *Essex Ticks*, and *French Ticks.* Some of the *garden-beans* are taken into field culture in Kent, as the *Toker*, *Windsor*, *Long-podded*, *Spanish* or *Lisbon*, and the *Mazagan-bean;* besides others cultivated only in small quantities for supplying the London seedsmen.

* *Garden beans, their culture and uses.*

Estimate of sorts. The *Mazagan* is one of the hardiest and best flavoured of the small and early sorts. The *Lisbon* is next in point of earliness and fruitfulness. The *dwarf-fan* or *cluster-bean* is likewise an early variety, but it is planted chiefly for curiosity. The *Sandwich-bean* has been long noted for its fruitfulness. The *Toker* and the *broad-Spanish* are also great bearers. Of all the large kinds, however, the *Windsor-bean* is preferred for the table. When gathered young, the seeds are sweet and very agreeable. There are several sub-varieties of the *Windsor-bean*, such as the *Kentish-Windsor* and *Taylor's-Windsor.* The *long-podded-bean* rises about 3 feet, and is a great bearer. This sort is now very much cultivated, and there are several sub-varieties of it, as the *early*, the *large*, and the *sword-long-pod.* The *white-blossomed-bean*, so called because it is destitute of the black mark on the wings of the blossom so conspicuous in other kinds. The seed is transparent, and when young has little of the peculiar bean flavour, and is on that account much esteemed; it is at the same time a great bearer, and proper for a late crop. Delauney, in Le Bon Jardinier, describes as excellent a new variety cultivated about Paris, which he calls the *green-bean* from China. It is a late sort, but very productive, and the pods remain green even when ripe and dried.

Times of sowing for early and successive crops. For the earliest crop plant some *Mazagans* in October, November, or December, in a warm border, under an exposure to the full sun. Set them in rows, 2 or 2½ feet asunder, about 1½ inch deep, and 2 or 3 inches apart in the rows. The most successful plan for nurturing a crop over the winter, is to sow the beans thickly together in a bed of light earth under a warm aspect, for the intermediate object of protecting the infant plants the better from rigorous weather, and with the view of transplanting them at the approach of spring or when the size of the plants (2 or 3 inches in height) require it, into warm borders, at the distances at which the plants are in fruit. For this object, the size of a garden frame is a convenient width for the bed, which should slope a little to the south; plant at the depth of 2 inches, and an inch apart each way. At the approach of frost, protect the young plants with a frame, or matting or other shelter. In February or March, as soon as the mild weather offers, transplant them into a warm south border, placing one row close under a protecting fence, as far as that advantage can be given. Take them from the seed bed with balls of earth, and pull off the old beans. Then plant them at final distances, closing the earth rather high about the stems. Beans are accelerated in their growth by transplanting. If severe frosts kill the early advanced plants, or if it were omitted to sow an early crop at the general season, a quantity may be sown thick in a moderate hot-bed in January or February, or in large pots placed therein, or in a stove, to raise some plants quickly for transplanting as above. In all cases, as the young plants come up give occasional protection in the severity of winter, and hoe up a little earth to the stems. Plants which can have no other shelter should be covered lightly with the haulm of plants or straw, but such a covering must be carefully removed as often as the weather turns mild. To succeed the above, plant more of the same sort, or some of the *early-long-pod* or *small-Lisbon* in December or January, when mild weather, for larger supplies, in more open exposures. And in order to obtain either, a more full succession, or a first general crop, plant some *early* and *large long-pods* and *broad-Spanish* at the end of January, if open weather, in some warm quarter of mellow ground. Some of the larger *Sword long-pod*, *Sandwich*, and *Toker-beans* may also be planted in fuller crops in February, if the weather permit, both for succession and principal supplies. You may likewise plant any of the preceding kinds, as well as *Windsors* and other sorts, in full and succession crops in February, March, and April. For the main summer crops adopt principally the *Windsors*, *Sandwich*, *Toker*, *large-long-pod*, and *broad-Spanish*. The *Windsors* rank first in regard to flavour, but prove on common soils not so plentiful a bearer as other late kinds. Plant also full succession crops in March and April, and smaller portions in May and June for late production, especially the *long-pod*, *broad-Spanish*, and *Toker*; also any of the early sorts, which are more successful in late planting than the larger broad varieties. The *white-blossomed bean*, though the smallest of the middle-sized sorts is very desirable to plant as secondary crops, both in the general and late planting seasons, from March till June and July, being a great bearer and a tender and sweet eating bean, if gathered young. Any of the other sorts named may also be planted to increase the variety. For sowing in June and July, the smaller and early kinds again become the most proper, as their constitution fits them for standing late as well as early. Thus the regular supplies may be provided for, in succession from June till September. (Abercrombie).

Quantity of seed. For early crops one pint of seed will be requisite for every 80 feet of row; for late crops nearly the same quantity as for the early. For the main crops the quantity cultivated, in proportion to that for early or late crops, is generally treble or quadruple, as to the extent of ground; but a less quantity of seed is requisite for the same space.

Method of sowing. Plant all the sorts in rows, 2½ feet apart for the smaller, or very early, or very late kinds; and 3 feet for the larger; the smaller beans 2 inches deep, and 3 inches distant in the row; the larger beans 3 inches deep, and 4 inches apart in the row.

Transplanting. Speechly constantly transplants his early *bean* crops, and considers this plant may be as easily transplanted as cabbage or any other vegetable. He plants them alternately with potatoes in the same row, the rows 3 feet apart, and the potatoes 18 inches apart in the row. The beans are transplanted, by which means they have the start and advantage of the potatoes and weeds, and as they come in early may be gathered before they can possibly incommode or injure the potatoes. (Speechly's Practical Hints, &c. p. 17.)

Manual process. The work of sowing is most generally effected by a dibble, having a thick blunt end to make a wide aperture for each bean, to admit it clean to the bottom without any narrow hollow parts below, strike the earth fully and regularly into the holes over the inserted beans. Or the planting may be performed occasionally in drills, drawn with a hoe the proper depth and distance, placing the beans at proper intervals along the bottom of each drill, and earth them over evenly, which method, though suitable to any kinds, may be more particularly adopted in sowing the early and other small sorts.

Soaking seed in summer. In planting late crops in June and July, if the weather be dry, it is eligible to give the beans a previous soaking for several hours in soft water, or if they are to be sown in drills, water the drills beforehand, then directly put in the beans, and earth them in while the ground remains moist.

Subsequent culture. As the plants come up, and advance from 2 to 4 and 6 inches high, hoe up some earth to the stems on both sides of each row, cutting down all weeds. Repeat the hoeing as future weeds arise, both to keep the ground about the plants clean, and to loosen the earth to encourage their growth. In earthing up, great care must be taken that the earth does not fall on the centre of the plants so as to bury them, for this occasions them to rot or fail. After earthing up, stir between the rows with a three-pronged fork. As the different crops come up into full blossom, pinch or cut off the tops, in order to promote their fruiting sooner in a more plentiful production, or well-filled pods. (Abercrombie). Nicol says, "Topping is unnecessary for any but the early crops." Most gardeners are, however, of opinion, that topping improves the crop both in quantity and quality. To forward an early crop, see Pisum.

To produce a very late crop. Neill mentions an expedient sometimes resorted to to produce a late crop. A quarter of beans is fixed on, and when the flowers appear, the plants are entirely cut down, a few inches from the surface of the ground. New stems spring from the stools, and these produce a very late crop of beans.

Gathering. For table use, gather only such as are tender, the seed decreasing in delicacy after they obtain about half their proper size. When they become black eyed, they are tough and strong tasted, and much inferior for eating.

To save seed. Either plant some of the approved sorts in February or March wholly for that purpose, or leave some rows of the different crops ungathered, in preference to the gleanings of gathered crops. The pods will ripen in August, and the beans become dry and hard; then pulling up the stalks, place them in the sun to harden the seed thoroughly, after which thresh out each sort separately. (Abercrombie).

Use. The seeds are the only part used in cookery, and are either put in soups, or sent up in dishes apart.

* * *Field beans, and their culture.*

It is only of late years that the *bean* has been cultivated in Britain upon general soils, being formerly considered as adapted to rich and moist clays. At that time they were all sown in the broad-cast method, in which way instead of benefitting the ground, they were of detriment to it, for weeds got away on the outset, and in dry seasons often ruined the crop.

The drilling of beans with a small mixture of peas is now become a general practice in every well cultivated district, more particularly in those where the soil and climate permit the practice to be successfully executed. In this way not only heavy crops are raised, but what is of greater importance, the ground is kept constantly in good order, provided suitable attention is bestowed upon the clearing process. This is generally carried on by horse-hoeing the crop at different times.

The varieties of the bean may be included under two general heads, the white or garden *beans*, and the grey or field *beans*. Of the white *bean*, sown in the fields, the Mazagan and Long-pod are almost the only sorts. Of the grey *beans*, that known as the horse-bean, the small or ticks, and the prolific or Heligoland, are the chief sorts. New varieties are procured in the same manner as other plants.

In the choice of sorts, tick-beans are supposed by some farmers to be more productive than horse-beans, but the latter grow higher in the stem and shade the land more, and are consequently the most suitable for the stronger sorts of soil; and Young remarks that the common little horse-bean has the advantage of all others, in being more generally marketable, for in certain situations, it is not always easy to dispose of ticks, Windsors, long-pods, and various other large sorts. They also grow higher, shade the ground more from the sun in summer, and yield a larger quantity of straw, which makes excellent manure, but some of the other sorts are generally supposed to yield larger products.

The best soils for beans are clays and strong loams; on such soils they generally succeed wheat or oats, but sometimes also clover leys. Turnip soils or sands are by no means proper for them.

In the preparation of the soil, much depends upon the nature of the land and the state of the weather; for as *beans* must be sown early in spring, it is sometimes impossible to give all the labour which a careful farmer would wish to bestow. It must also be regulated in some measure by the manner of sowing. In all cases it ought to be ploughed with a deep furrow after harvest or early in winter, and as two ploughings in spring are highly advantageous, the winter furrow may be given in the direction of the former ridges, in which way the land is sooner dry in spring than if it had been ploughed across. The second ploughing is to be given across the ridges as early in spring as the ground is sufficiently dry, and the third furrow either forms the drills or receives the seed (Suppl. E. Brit. Art. Agr.).

Manure is applied if the crop succeeds wheat. By some, dung is spread on the stubble previous to the winter ploughing, but this cannot always be done in a satisfactory manner, unless during frost, when it may lie long exposed to the weather before it can be turned in. The most desirable mode therefore is, to lay the manure into drills immediately before the beans are sown. According to Brown (Treatise on Rural Affairs) the best way is to apply the dung on the stubble before the winter furrow is given, which greatly facilitates the after process. Land dunged to *beans*, if duly hoed, is always in high order for carrying a crop of wheat in succession.

The climate most favorable to *beans* is one neither very dry nor very moist; the first brings on the fly and the last prevents the setting of the blossoms.

The time of sowing beans, is as early as possible after the severity of winter, in the south sometimes in January, but never later than the end of March, as the ripening of the crop and its safe harvesting otherwise would be very precarious in this climate.

The mode of sowing is almost always in rows; they are sometimes dibbled, but for the most part drilled by judicious cultivators, or deposited after the plough in every furrow, or only in every second or third furrow. In the latter method the crop rises in rows at regular intervals of 9, 18, or 27 inches, and the hand hoe ought to be invariably employed, but it is only where the widest intervals are adopted that the horse-hoe can be used with much effect in their subsequent culture. The seed may either be deposited by the drill machine or by the hand.

The dibbling of beans is considered by some as an excellent method, if well performed; the rows are marked out one foot asunder, and the seed deposited in holes made by the dibbler 2 inches apart; this method is greatly to be preferred to sowing the beans at random.

The quantity of seed is very different in the southern and northern parts of Britain, in the former, even when in rows, only 2 or 2½ bushels are allowed per acre, but in Scotland seldom less than 4 bushels to an English statute acre, even when sown in rows, 27 inches distant, and a bushel more when sown broadcast. Thin sown crops of *beans* seldom turn out well, unless upon very rich lands, for unless the rows are close weeds get the better after the clearing process is finished. Both in the broad-cast and drill husbandry it is common to mix a small quantity of peas along with *beans*. This mixture improves both the quality and quantity of the straw for fodder, and the peas-straw is useful for binding up the bean-straw in harvest.

The after-culture of the *bean* crop commences with harrowing just before the young plants reach the surface. When sown in rows, in either of the modes already described, the harrows are employed about 10 or 12 days after, and being driven across the ridges, the land is laid completely level for the subsequent operations, and the annual weeds destroyed.

After the beans have made some growth, sooner or later, according as the soil may happen to be incumbered with or free from weeds, the horse-hoe is employed in the intervals between the rows, and followed by the hand-hoe, for the purpose of cutting down such weeds as the horse-hoe cannot reach, and the weeds among the *beans* beyond the reach of either hoe should be pulled up by the hand. The operation may be repeated as often as the land requires it. Before the introduction of the horse-hoe, a common small plough, drawn by one horse, was used in working between the rows, and is still necessary where root-weeds abound. The plough goes down the intervals, turning the earth from the *beans*, and forming a ridgelet in the centre, then hand-hoes are immediately employed. The same plough with an additional mould-board, finally splits open the intermediate ridgelet, and lays up the earth to the *beans* on each side.

Before reaping beans the grain ought to be tolerably well ripened, otherwise the quality is impaired, whilst a long time is required to put the straw in such a condition as to be preserved in the stack. In an early harvest, or where the crop is not weighty, it is an easy matter to get *beans* sufficiently ripened; but in a late harvest, and in every one where the crop takes on a second growth, it is hardly practicable to get them thoroughly ripened for the sickle. Under these circumstances, it is unnecessary to let *beans* stand uncut after the end of September or the first of October, because any benefit that can be derived afterwards is not to be compared with the disadvantages that accompany a late wheat-seed time. *Beans* are usually cut with the sickle and tied in sheaves, either with straw ropes or with ropes made from peas sown along with them. It is proper to let the sheaves lie untied several days, so that the winning process may be hastened, and when tied to set them up on end, in order that the full benefit from the air may be obtained, and the grain kept off the ground. *Beans* are sometimes mown, and in a few instances pulled up by the roots. In all cases they should be cut as near to the ground as possible, for the sake of the straw, which is of considerable value as fodder, and because the best pods are often placed on the stems near the roots (Brown).

Beans are stacked either in the round or oblong manner, and it is always proper, if the stack be large, to construct one or more funnels, to allow a free circulation of air.

The threshing of beans is nearly as easy as that of peas.

The produce of beans, when proper management is exercised, and where diseases have not occurred, is generally from 25 to 35 bushels per acre. Donaldson says that a crop of *beans*, taking the island at large, is from 16 to 40 bushels, but that a good average crop cannot be reckoned to exceed 20. In Middlesex, Middleton says that *bean* crops vary from 10 to 80 bushels per acre. The produce in haulm is very bulky in moist seasons.

In the application of beans. The grain in Scotland is sometimes made into meal, the finer for bread and the coarser for swine; but *beans* are for the most part applied for feeding horses, swine, and other domestic animals. In Middlesex, all are given to horses, except such as are preserved for seed, and such as are gathered while green and sent to the London markets. When pigs are fed on *beans*, it is observed that the meat becomes so hard, as to make very ordinary pork, but excellent bacon.

The flour of beans is more nutritive than that of oats, as appears in the fattening of hogs; whence, according to the respective prices of these two articles, Dr. Darwin suspects that peas and *beans* generally supply a cheaper provender for horses than oats, as well as for other domestic animals. But *beans* are more difficult of digestion than oats, although of more nutriment. Some advise cut straw or bran to be mixed with *beans* to accelerate their digestion.

Bean-straw, when mixed with peas, Brown considers as affording almost as much nourishment, when properly harvested, as is gained from hay of ordinary quality, when it is well got horses are fonder of it than of pea-straw. It should either be given when newly threshed, or else stacked up and compressed by treading or covering, as the air is found to affect materially both its flavour and nutritive quality.

The produce of beans in meal is like that of peas, more in proportion to the grain than in any of the cereal grasses. A bushel of *beans* is supposed to yield 14 pounds more of flour than a bushel of oats, and a bushel of peas 18 pounds more, or according to some, 20 pounds. In 1000 parts of bean-flour, were found by Sir Humphrey Davy, 570 parts of nutritive matter, of which 428 were mucilage, 103 gluten, and 41 extract, or matter rendered insoluble during the process.

The diseases of beans are the rust, the honey-dew, mildew, and black-fly or aphides, which the lady-birds are supposed to feed upon, as they are observed to be plentiful wherever the black-fly is found. The fly almost always succeeds the honey-dew, both are most prevalent on the summits of the plants, and some have attempted to mitigate the evil by cutting them off. In general, however, these diseases are without remedy, either preventive or positive; therefore the best thing that can be done when the plants are attacked is to plough them down.

Common Garden-bean and Horse-bean. Fl. year. Clt. ? Pl. 2 to 3 feet.

CLXIX. VI'CIA (said to be from *vincio*, to bind together, because the species have tendrils by which they bind other plants). Tourn. inst. t. 221. Juss. gen. 360. D. C. fl. fr. 4. p. 589. prod. 2. p. 354.—Vìcia species of Lin.

Lin. syst. *Diadélphia, Decándria.* Calyx tubular, 5-cleft or 5-toothed (f. 46. *a.*), the 2 superior teeth shortest (f. 46. *a.*). Corolla papilionaceous (f. 46. *d.*). Stamens diadelphous (f. 46. *g.*). Style filiform, almost forming a straight angle with the ovary, villous on the upper side (f. 46. *g.*). and on the under side beneath the apex. Legume oblong (f. 46. *h.*), 1-celled, many-seeded (f. 46. *h.*); seeds with a lateral, oval, or linear hylum.—Usually climbing herbs, with abruptly pinnate leaves, having many pairs of leaflets; the common petiole drawn out into a tendril at the apex (f. 46. *i.*), which is usually branched. Stipulas usually semi-sagittate. Peduncles axillary, elongated, many-flowered, or short and 1-flowered. The species of the genus are not well defined.

§ 1. *Peduncles elongated, many-flowered; flowers secund.*

1 V. pisifórmis (Lin. spec. 1034.) plant quite smooth; leaves mucronate, with 3-4 pairs of ovate, cordate, obtuse, reticulately-veined, distant leaflets; stipulas ovate, semi-sagittate, toothed; peduncles many-flowered, length of leaves; calycine teeth nearly equal, shorter than the tube; legumes oblong, compressed, reticulately veined; seeds globose, with the hylum linear. ♃. ◡. H. Native of the south of Europe, in woods. Sturm, deutsch. fl. 1. fasc. 31. Jacq. austr. 4. p. 33. t. 364.—Riv. tetr. irr. t. 52. The lowest leaflets approximating the stem and sessile. Flowers cream-coloured, about the size of those of *V. sylvática*.

Pea-formed Vetch. Fl. July, Aug. Clt. 1739. Pl. cl.

2 V. amœ'na (Fisch. in litt. Ser. in D. C. prod. 2. p. 355.) stems erect, tetragonal, firm, and smoothish; leaves distant on the stem, tendrilled at the apex; leaflets numerous, dense, opposite and alternate, elliptic-lanceolate, rather mucronate, reticulated with numerous diverging fine nerves; stipulas semi-sagittate, toothed; peduncles many-flowered, rather longer than the leaves; the superior teeth of the calyx broadish, short, and acute, lower ones elongated and subulate; style hardly pilose at the apex; legumes unknown. ♃. H. Native of Siberia, about Truetsk.—Gmel. sib. 4. p. 11. no. 11. t. 3.? Flowers purple, about the size of those of *V. onobrychioìdes*. Leaflets large, like those of the first species.

Pleasing Vetch. Fl. June, July. Clt. 1818. Pl. cl.

3 V. Carolinia'na (Walt. fl. carol. p. 182.) plant smoothish; leaves with 8-10 or more elliptic-lanceolate, obtuse, mucronate, alternate leaflets; stipulas ovate-lanceolate, entire, small; peduncles many-flowered; flowers rather distant; calycine teeth short; style villous at the apex; legumes lanceolate, glabrous, obliquely reticulated. ♃. ◡. H. Native of Carolina. V. parviflòra, Michx. fl. car. 2. p. 69. V. craccoìdes, Rafin. in litt. V. Crácca, Pursh, ex Rafin. Corolla white, smaller and narrower than in *V. Crácca*, having the vexillum tipped with black.

Carolina Vetch. Fl. June, July. Clt. 1820. Pl. cl.

4 V. Po'ntica (Willd. spec. 3. p. 1094.) plant pubescent; leaflets numerous, elliptic-lanceolate, obtuse, mucronate; stipulas lanceolate, quite entire, nerved; peduncles very long, many-flowered; flowers crowded; legumes unknown. ♃. H. Native of the country near the Euxine sea. Flowers secund, nodding, about the size of those of *V. Crácca*, white. Leaves with a few, scattered, adpressed pili on the under side. Vìcia multiflòra, floribus albis, calyce purpureo, Tourn. cor. 27.

Pontic Vetch. Pl. cl.

5 V. dumetòrum (Lin. spec. 1035.) plant smoothish; leaflets reflexed, ovate-lanceolate, mucronulate, alternate, very finely and reticulately veined; stipulas lunate and setaceously toothed; peduncles many-flowered, about the length of the leaves; calycine teeth very short, equal among themselves; style bearded at the apex; legumes oblong, compressed, reticulately and finely

veined; seeds roundish, with the hylum linear. ♃. H. Native of America and Europe, in bushy and shady places, particularly in Austria, Switzerland, Piedmont, France, and Germany. Sturm, deutschl. fl. 1. fasc. 31. with a figure. Oxypògon élegans, Rafin. in litt. V. tetragòna, hort. par. in litt. This species differs from *V. pisifórmis* in the flowers being purplish-blue, and in the deep-green and longer leaflets, with the lower pairs not approximating the stem.

Hedge Vetch. Fl. May, June. Clt. 1752. Pl. cl.

6 V. MENZIE'SII (Spreng. syst. 3. p. 267.) leaflets ovate, smooth, near an inch and a half long; stipulas lunate, with sharp teeth; peduncles few-flowered, shorter than the leaves; petals all strongly recurved; calycine teeth taper-pointed. ♃.? G. Native of Owyhee, at the upper edge of a forest, on a mountain called Mowna-rooa, which is 6000 feet high, where it was collected by Mr. Menzies. V. grandiflòra, Smith, in Rees' cycl. Flowers pale-purple, full twice the size of those of *V. dumetòrum.* Clusters of flowers rather loose and downy. Legumes not seen.

Menzies's Vetch. Pl. cl.

7 V. DENTA'TA (Fisch. in litt.) this plant differs from *V. dumetòrum* in the smaller approximate leaflets, which are ovate-obtuse, the lower ones roundish and acutely toothed towards the apex in the more loose flowers, and in the semi-sagittate serrated stipulas. ♃. H. Native of the south of Russia. V. dumetòrum, var. β, dentàta, Ser. in D. C. prod. 2. p. 355.—Gmel. sib. 4. p. 9. tub. p. 221. Flowers violaceous.

Toothed-leafletted Vetch. Fl. June, Jul. Clt. 1819. Pl cl.

8 V. SYLVA'TICA (Lin. spec. 1035.) plant smooth; leaflets numerous, alternate or opposite, elliptic-oblong, mucronulate, finely and reticulately veined; stipulas between semi-sagittate and reniform, setaceously-toothed; peduncles longer than the leaves, many-flowered; calycine segments hardly the length of the tube; style villous at the apex; legumes oblong-linear, compressed, finely reticulated, incurved at the apex; seeds globose, with a linear hylum. ♃. H. Native of Europe, in mountain woods. Plentiful in mountainous parts of the north of England and Scotland, in woods. Sturm, deutschl. fl. 1. fasc. 31. with a figure. Smith, engl. bot. 79. Oed. fl. dan. 277. Hall. helv. no. 426. t. 12. f. 2. Stipulas fringed. Style with the beard at the apex hardly discernible. Flowers rising from the peduncle by twos or threes, with interruptions, rather large, having the vexillum and wings whitish, and beautifully variegated with blue, and keel pale blue. This is an elegant plant when in flower.

Wood Vetch. Fl. June, Aug. Britain. Pl. cl.

9 V. AMERICA'NA (Muhlenb. ex Willd. spec. 3. p. 1096.) leaflets numerous, elliptic-lanceolate, obtuse, glabrous, mucronate; stipulas semi-sagittate, deeply toothed; peduncles many-flowered, shorter than the leaves; legumes unknown. ♃. H. Native of Pennsylvania. This plant differs from *V. sylvática*, in the longer leaflets, in the teeth of the stipulas not being awned, and lastly in the racemes being fewer-flowered and never longer than the leaves. Leaflets 8-12 in number.

American Vetch. Fl. June, July. Clt. 1800. Pl. cl.

10 V. VARIEGA'TA (Willd. spec. 3. p. 1096.) plant villous; leaflets numerous, elliptic, obtuse, villous, alternate, lower ones emarginate, mucronate; tendrils trifid; stipulas semi-sagittate, quite entire; peduncles many-flowered, rather longer than the leaves; racemes crowded with secund flowers; calycine teeth about equal, shorter than the tube; style bearded; legumes rather pubescent. ♃. H. Native of Eastern Caucasus, on the alps. Desf. cor. p. 86. t. 65. ann. mus. 12. p. 111. t. 12. Leaflets 14-26. Stipulas ovate-lanceolate, bipartite at the base. Flowers with a rose-coloured standard, white wings, and purplish keel, and variegated.

Variegated-flowered Vetch. Fl. Ju. Jul. Clt. 1816. Pl. cl.

11 V. PURPU'REA (Stev. in mem. soc. mosq. 4. p. 53. et Bieb. fl. taur. suppl. 468.) plant hardly canescent; leaflets numerous, oval, mucronate, villous; stipulas semi-sagittate, quite entire; peduncles many-flowered, rather longer than the leaves; racemes crowded with secund flowers; calycine teeth much shorter than the tube, the superior ones almost obsolete. ♃. H. Native of Tauria. Flowers purple.

Var. β, *minor* (Stev. l. c.) leaves small; flowers paler. ♃. H. Native of Tauria, near the region of perpetual snow.

Purple-flowered Vetch. Pl. cl.

12 V. ALPE'STRIS (Stev. in mem. mosq. 4. p. 53. and Bieb. fl. taur. suppl. 469.) plant hardly canescent; leaflets elliptic-obovate, mucronulate, villous; stipulas semi-sagittate, almost quite entire; tendrils usually trifid; peduncles usually 6-flowered, longer than the leaves; racemes crowded; calyx villous, having the teeth much shorter than the tube, but with the superior ones almost obsolete; legumes unknown. ♃. H. Native of Tauria. Flowers purple.

Alp Vetch. Pl. cl.

13 V. CASSU'BICA (Lin. spec. 1035.) leaflets numerous, opposite or alternate, ovate-elliptic, mucronate, nearly glabrous, firm, reticulated with numerous diverging nerves; lower stipulas lanceolate and semi-sagittate at the base, upper ones linear and almost entire; peduncles many-flowered, about equal in length to the leaves; racemes crowded with secund flowers; calycine teeth unequal, shorter than the tube; style villous at the apex; legumes coriaceous, hardly reticulated, oblong, short, compressed, smoothish; seeds globose. ♃. H. Native of the south of Europe. Oed. fl. dan. 98.—Pluk. phyt. t. 72. f. 2. Root creeping. Flowers pale blue. Leaves impari-pinnate.

Var. α, *glabriúscula* (Ser. mss. in D. C. prod. 2. p. 356.) stem pilose; petioles cirrhous, villous; leaflets almost glabrous. ♃. H. V. multiflòra, Poll. pal. 2. p. 307. Wallr. sched. 385. D. C. fl. fr. 5. p. 577. V. Cassùbica, Sturm. deutschl. fl. 1. fasc. 31.

Var. β, *O'robus* (Ser. mss. in D. C. prod. 2. p. 356.) the whole plant clothed with pili; leaflets pilose or ciliated; tendrils wanting, or somewhat foliaceous. ♃. H. V. órobus, D. C. fl. fr. 5. p. 557. O'robus sylváticus, D. C. fl. fr. 4. p. 586.

Cassubian Vetch. Fl. June, July. Clt. 1711. Pl. 1 foot.

14 V. ABBREVIA'TA (Fisch. in litt. ex Spreng. pl. min. cogn. pug. 1. p. 50.) leaflets oblong, rounded at both ends and mucronulate, rather pubescent; stipulas almost obsolete; peduncles many-flowered, shorter than the leaves, which are impari-pinnate. ♃. H. Native of Caucasus, on the margins of woods. Very like *V. Cassùbica*, but differs in the stem being quite smooth and not flexuous, in the stipulas being very minute, and lastly in the calyxes being villous. Leaves impari-pinnate, as in *V. Cassùbica.* Perhaps only a variety of *V. Cassùbica*, according to Ser. Flowers pale blue.

Short Vetch. Fl. June, July. Clt. 1818. Pl. 1 foot.

15 V. GALLOPROVINCIA'LIS (Poir. suppl. 5. p. 471.) leaflets opposite or alternate, very numerous, elliptic-lanceolate, mucronulate, villous; stipulas semi-sagittate; tendrils almost simple; peduncles shorter than the leaves; flowers small, very numerous; vexillum broad, length of wings; legumes unknown. ♃. H. Native of the south of Provence, on the mountains. Ger. Galloprov. p. 497. no. 5. t. 19. Flowers blue or purple.

Provence Vetch. Pl. cl.

16 V. CINE'RIA (Bieb. fl. taur. suppl. 470.) leaves with very short tendrils; leaflets linear-elliptic, obtuse, clothed with hoary villi; stipulas bipartite, with elongated teeth; peduncles usually 2-flowered, shorter than the leaves; calycine teeth triangular, acute, superior ones very small. ♃. H. Native of Tauria, about Tiflis. Flowers pale blue, about the size of those of *V. Crácca.* Calyx clothed with silky villi.

Cinèreous Vetch. Pl. cl.

17 V. setifòlia (H. B. et Kunth, nov. gen. amer. 6. p. 500.) stems weak, smoothish; leaflets 8-9, very narrow-linear, mucronate, puberulous on both surfaces, as well as the rachis or petiole; stipulas lanceolate, semi-sagittate; calyx turbinate at the base, with the superior teeth ascending; peduncles 3-4-flowered, a little longer than the leaves, and are, as well as the calyxes, pubescent; legumes lanceolate, glabrous. ♃. H. Native near the city of Mexico, Quito, and Santa-Fe de Bogota, at the height of 3500 or 4500 feet above the level of the sea. Flowers flesh-coloured.

Bristle-leaved Vetch. Pl. cl.

18 V. Broteria'na (Ser. mss. in D. C. prod. 2. p. 357.) leaflets nearly oval, villous; lower stipulas semi-sagittate, and somewhat dentate; flowers imbricate; peduncles very villous; calycine teeth setaceous, and villous; legumes rather villous, pendulous. ⊙. H. Native of Portugal, in cultivated fields about Coimbra. V. villòsa, Brot. fl. lus. 2. p. 150. but not of Roth. Corolla deep purple at the apex.

Brotero's Vetch. Fl. June, July. Clt. 1817. Pl. cl.

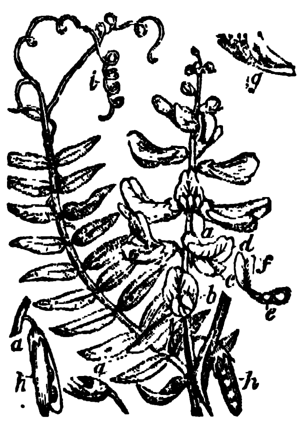
19 V. acutifòlia (Ell. sketch. car. et geogr. 2. p. 225.) stem glabrous; leaflets few, linear, acute at both ends; stipulas lanceolate, entire; peduncles few-flowered, longer than the leaves. —Native of Georgia.

Acute-leafletted Vetch. Pl. cl.

20 V. pulche'lla (H. B. et Kunth, nov. gen. amer. 6. p. 499. t. 583.) stems weak, puberulous; leaflets 8-12, linear, acute, pubescent beneath, as well as the calyxes; stipulas linear, semi-sagittate; calycine teeth very unequal, superior ones much the smallest; peduncles 16-20-flowered, longer than the leaves, pubescent; legumes unknown. ♃. H. Native of Mexico, on the western declivities of mountains, especially near Mescala at the height of 795 feet above the level of the sea. Flowers white.

Neat Vetch. Pl. cl.

FIG. 46.



21 V. Cra'cca (Lin. spec. 1095.) stems branched; leaves cirrhous at the apex; leaflets numerous, oblong, lanceolate, alternate or opposite, pubescent, mucronate, with rather parallel simple nerves; stipulas linear, semi-sagittate; peduncles angular, hairy, bearing numerous secund flowers, equal in length to or exceeding the leaves; calycine teeth unequal, upper ones very short, lower ones shorter than the tube; style pilose at the apex; legumes oblong-lanceolate, coriaceous, reticulated, compressed, glabrous; seeds globose, black. ♃. H. Native of Europe, in fields and hedges; plentiful in all parts of Britain. Sturm, deutschl. fl. fasc. 31. with a figure. Smith, engl. bot. t. 1168. Curt. lond. 5. t. 54. Mart. fl. rust. 117. Crácca, Riv. tetr. irr. t. 50. Root creeping. Flowers blue and purple or violet mixed, marked with veins of a deeper colour. Leaves clothed with canescent down, giving them a manifest whiteness; this is most apparent in plants growing in exposed dry situations, for in moist soils the leaves are almost green. Dr. Plot, in his history of Staffordshire, says, that this and the *Wood-Vetch* advance starved or weak cattle above any thing yet known. These perennial vetches yield such abundance of food, that they seem to deserve the notice of agriculturists. But it is well observed in English botany, that to gather them from their native situations would be impracticable, so firmly do they cling by their tendrils to their neighbours; and if cultivated, they would probably choke themselves for want of support.

Var. a, violàcea; flowers bluish violet.

Var. β, purpùrea; flowers purple.

Var. γ, albiflòra; flowers pure white.

Cracca or Tufted-Vetch. Fl. June. Sept. Britain. Pl. cl.

22 V. Bivònæ (Rafin. prec. 37. Desv. journ. bot. 1814. p. 269.) plant pubescent; stems tetragonal; tendrils simple; leaflets 10-14, oblong-linear, mucronate; stipulas lunate, semi-sagittate, rather toothed at the base; peduncles few-flowered, about equal in length to the leaves; flowers secund, rather distant; calycine teeth setaceous, length of tube; style bearded at the apex; legumes oblong-lanceolate, compressed, finely reticulated. ♃. H. Native of Sicily about Palermo, and of Corsica. V. leucántha, Bertol. stirp. sic. fasc. V. littoràlis, Salzm. exsic. Flowers pale, purplish blue, with the carina tipped with black. Perhaps the same as *V. pseudocrácca.*

Bivona's Vetch. Pl. cl.

23 V. Gera'rdi (Jacq. fl. astr. t. 229. D. C. fl. fr. 4. p. 591. exclusive of the synonymes,) stems simple; leaves cirrhous at the apex; leaflets numerous, oblong-lanceolate, alternate or opposite, mucronate, rather woolly, having parallel simple nerves; stipulas linear, semi-sagittate; peduncles many-flowered, rather shorter than the leaves; style pilose at the apex; legume oblong, coriaceous, finely reticulated, compressed, glabrous. ♃. H. Native of the south of Europe, particularly in Austria and France. V. mùtilans, Crantz. Flowers violaceous. Root creeping? Calycine teeth unequal, pilose.

Gerard's Vetch. Fl. June, July. Clt. 1810. Pl. cl.

24 V. pseudocra'cca (Bertol. pl. rar. p. 58.) plant pubescent; stems branched at the base, diffuse; leaflets 8-12, oblong-obtuse; stipulas linear, semi-sagittate; peduncles usually 6-flowered, longer than the leaves; flowers secund, loose, deflexed; calycine teeth unequal, linear, acute, shorter than the tube; style villous at the apex; legumes elliptic, short, smooth, finely reticulated. ⊙. H. Native of Italy near Pisa. V. tenuifòlia, Tenore, prod. p. 42. Very like *V. Crácca,* but differs in the annual roots, in the broader legumes, and in the longer calycine teeth. Flowers blue.

False-Cracca Vetch. Fl. June, July. Clt. 1820. Pl. cl.

25 V. Andícola (H. B. et Kunth, nov. gen. amer. 6. p. 498. t. 582.) plant pubescent; stems weak; leaflets 7-12, linear-lanceolate, obtuse, mucronate; stipulas linear, semi-sagittate, acute; tendrils bifurcate; peduncles 2-4-flowered, hardly exceeding the leaves; calyx bilabiate, the superior teeth the smallest; legumes somewhat cultriform, smoothish. ♃. F. Native of the Andes of Quito on mount Antisana, at the height of 6300 feet above the level of the sea. Flowers violaceous.

Andes Vetch. Pl. cl.

26 V. microphy'lla (D'Urv. enum. pl. arch. p. 87.) stems weak, branched at the base, and diffuse; leaflets 8-10, ovate on short petioles, small, mucronate; stipulas very small, and semi-sagittate; peduncles straight, twice or thrice longer than the leaves, 4-6-flowered; flowers pale; legumes compressed, glabrous, 5-7-seeded. ♃. H. Native of the island of Melos, on hills. Corolla very pale violet or white, double the length of the calyx, and sometimes longer. Perhaps the same as V. pseudocrácca of Bertol.

Small-leafletted Vetch. Pl. cl.

27 V. polyphy'lla (Desf. fl. atl. 2. p. 162.) leaflets numerous, linear-lanceolate, mucronate, villous; stipulas linear, semi-sagittate; peduncles many-flowered, longer than the leaves; flowers secund, crowded. ♃. H. Native about Algiers. The flowers are like those of *V. Crácca,* but they are larger and paler. The vexillum is blue, and wings and keel white.

Many-leafletted Vetch. Fl. June, July. Clt. 1816. Pl. cl.

28 V. tenuifòlia (Roth. fl. germ. 2. p. 183.) stem branched; leaves cirrhous at the apex; leaflets numerous, linear-lanceolate, smoothish, mucronate, alternate or opposite, full of parallel sim-

ple veins; lower stipulas semi-sagittate, linear, upper ones linear-setaceous; peduncles longer than the leaves; flowers crowded, secund; calycine teeth unequal, lower ones length of the tube; style pilose at the apex; legumes lanceolate. ♃. H. Native of France, Germany, and Tauria. Sturm, deutschl. fl. 1. fasc. 31. V. Gerárdi, Willd. enum. no. 736. Flowers beautiful violaceous or purple. Very like *V. Crácca*, but does not creep at the roots.

Fine-leaved Vetch. Fl. June, Aug. Clt. 1799. Pl. cl.

29 V. SE'SSEI; plant smoothish; stems angular; stipulas subulate, semi-sagittate or bifid; leaflets 15-16, linear-lanceolate, mucronate; tendrils trifid, and divided again; peduncles about the length of the leaves; flowers numerous, racemose; style villous at the apex. ♃. H. Native of Mexico. V. polyphýlla, Moc. et Sesse in herb. Lamb. Flowers apparently pale blue.

Sesse's Vetch. Pl. cl.

30 V. SUBULA'TA (Sesse et Moc. mss. in herb. Lamb.) plant canescent and pubescent; leaflets 10-12, subulate; tendrils bifid; peduncles shorter than the leaves; flowers crowded, secund; stipulas subulate, semi-sagittate. ♃. H. Native of Mexico. Flowers white or pale blue.

Subulate-leafletted Vetch. Pl. cl.

31 V. CONSENTI'NA (Spreng. pl. min. cogn. pug. 2. p. 74.) stem and petioles pubescent; leaflets lanceolate, mucronate, lower ones elliptic; stipulas semi-sagittate; peduncles many-flowered, longer than the leaves; flowers remote, glabrous, cream-coloured. ⊙. H. Native of Naples and about Cosenza. Perhaps only a variety of *V. pseudocrácca.*

Cosenza Vetch. Fl. June, Aug. Clt. 1818. Pl. cl.

32 V. CAPE'NSIS (Berg. pl. cap. p. 215.) stem branched at the base; leaves impari-pinnate; leaflets linear, truncate, and mucronate; stipulas lanceolate, acute; peduncles elongated, many-flowered; style hairy at the apex; legumes lanceolate, compressed. ♃. G. Native of the Cape of Good Hope. Flowers purple.

Cape Vetch. Fl. June, Aug. Clt. 1802. Pl. 1 foot.

33 V. CANE'SCENS (Labill. syr. dec. 1. p. 17. t. 7.) plant clothed with canescent down; leaflets numerous, oblong-linear, obtuse, alternate; tendrils almost wanting; stipulas lanceolate, semi-sagittate, quite entire; peduncles 3-7-flowered, about equal in length to the leaves; calycine teeth narrow, shorter than the tube; style bearded at the apex; legumes ovate-lanceolate, compressed, hairy, 3-4-seeded; seeds roundish. ⊙. H. Native of mount Lebanon. Flowers blue. Lower leaves impari-pinnate.

Canescent Vetch. Fl. June, July. Clt. 1800. Pl. cl.

34 V. OCHROLEU'CA (Tenore, prod. p. 42. and cat. 1819. p. 56.) leaflets ovate-lanceolate or oblong-linear, obtuse, mucronate, smoothish, nearly opposite, with the nerves parallel; stipulas subulate, semi-sagittate at the base, quite entire; peduncles many-flowered, longer than the leaves; flowers crowded; teeth of calyx very short; style pilose at the apex; legumes glabrous, reticulated. ♃. H. Native of Italy. This plant is very like *V. Crácca,* but the flowers are cream-coloured, and smaller.

Cream-cóloured-flowered Vetch. Clt. 1825. Pl. cl.

35 V. PUNCTA'TA (Schleich. ex Pers. ench. 2. p. 307.) leaflets ovate-lanceolate, mucronate, glabrous; stipulas cut; peduncles many-flowered, longer than the leaves; calyxes obtuse. ⊙. H. Native of Switzerland. Flowers purple? The under side of the leaflets are observed to be dotted with white, when examined by a microscope.

Dotted Vetch. Fl. July. Clt. 1819. Pl. cl.

36 V. ONOBRYCHIOI'DES (Lin. spec. 1036.) stems striated; tendrils almost simple; leaflets numerous, linear, alternate or opposite, obtuse, and mucronate, with parallel nerves; stipulas linear, semi-sagittate, dentate; peduncles very long, many-flowered; flowers distant; calycine teeth lanceolate, length of the tube; style clavate, bearded at the apex; legumes lanceolate. ♃. H. Native of Europe, in the mountainous parts. Sturm, deutschl. fl. 1. fasc. 31. with a figure. All. pedem. t. 42. no. 1198. Sims, bot. mag. 2206. Flowers purplish blue.

Var. β, angustissima (Ser. mss. in D. C. prod. 2. p. 358.) leaflets setaceous, and shorter. ⊙. H. Native about Montpelier.

Saintfoin-like Vetch. Fl. Ju. July. Clt. 1759. Pl. cl.

37 V. ATROPURPU'REA (Desf. fl. atl. 2. p. 164.) plant villous; stems tetragonal; tendrils very trifid; leaflets oblong, mucronate, numerous, opposite, and alternate; stipulas lanceolate, semi-sagittate, usually toothed at the base; peduncles many-flowered, hardly the length of the leaves; flowers secund, approximate: calycine teeth setaceous, pilose, longer than the tube; style elongated, somewhat clavate, bearded at the apex; legumes oblong, compressed, very hairy; seeds globose, black, rather velvety. ⊙. H. Native of Algiers. Vent. hort. cels. t. 84. Lindl. bot. reg. 871. Flowers dark purple.

Dark-purple-flowered Vetch. Fl. Ju. July. Clt. 1815. Pl. cl.

38 V. GIGA'NTEA (Hook. fl. bor. amer. p. 157.) plant pubescent, black when dried; stems furrowed; leaflets 20-26, oblong, petiolulate, obtuse, mucronate; stipulas large, semi-sagittate, profoundly toothed at the base; peduncles 5-10-flowered, much shorter than the leaves; flowers crowded; style hardly bearded; legume broad, oblong, glabrous, obscurely reticulated. ♃. H. Native of North America, in open woods on the Columbia. Flowers purple, about the size of those of *V. Americána.* Stems hardly one-third of an inch broad, hollowed, and herbaceous. Stipulas an inch and a half in length. The plant turns black on drying.

Giant Vetch. Pl. trailing.

39 V. NI'GRICANS (Hook. in Beech. bot. p. 20.) plant pubescent; stems tetragonal; leaflets oblong-elliptic, obtuse, alternate; tendrils divided; stipulas semi-sagittate; peduncles twice the length of the leaves, many-flowered; flowers crowded, the 2 superior teeth of the calyx almost wanting, lower ones subulate, middle one elongated, and exceeding the tube; stigma bearded. ♃. H. Native of Chili about Conception. Leaflets more than an inch long. Plant becoming very black on drying.

Blackish Vetch. Pl. cl.

40 V. BENGALE'NSIS (Lin. spec. 1036.) leaflets elliptic, obtuse, stipulas entire; peduncles usually bearing only 5 flowers, length of leaves; legumes turgid, hairy. ⊙. H. Native of the Stœchades Islands.—Herm. ludg. 624. t. 625. Flowers deep purple, having the keel tipped with black. Plant downy.

Bengal Vetch. Fl. June, July. Clt. 1792. Pl. cl.

41 V. PERE'NNIS (D. C. cat. hort. monsp. 155. and fl. fr. 5. p. 578.) plant villous; stems tetragonal; tendrils simplish; leaflets oblong-linear, mucronate, villous, opposite or alternate; stipulas lanceolate, semi-sagittate, and usually toothed at the base; peduncles few-flowered, length of leaves; flowers secund, rather lax; calycine teeth setaceous, pilose, length of tube; style elongated, rather clavate, bearded at the apex; legumes oblong, compressed, pubescent, reticulated; seeds orbicular, compressed, bay-coloured. ♃. H. Native of France, about Perpignan. Flowers purple.

Var. β, suffruticòsa (Ser. mss. in D. C. prod. 2. p. 359.) stems smaller, diffuse, suffruticose at the base; leaves and leaflets smaller.

Perennial Vetch. Fl. June, July. Clt. 1820. Pl. cl.

42 V. LONGIFÒLIA (Poir. dict. 8. p. 567.) stems tetragonal; tendrils branched; leaflets numerous, narrow, very long, glabrous; stipulas semi-sagittate, entire; peduncles many-flowered, longer than the leaves; flowers drooping; calycine teeth unequal, acute, superior ones very small. ⊙.? H. Native of Syria. Flowers cream-coloured.

Long-leaved Vetch. Fl. June, July. Clt. 1818. Pl. cl.

43 V. ARGE'NTEA (Lapeyr. abr. 417.) plant canescent; stems

tetragonal, never climbing; tendrils wanting; leaves clothed with silvery-grey down; leaflets oblong-linear, mucronate; stipulas lanceolate, semi-sagittate; peduncles many-flowered, about the length of the leaves; flowers secund, loose; calycine segments almost equal, length of the tube; style elongated, rather clavate, bearded at the apex; legumes oblong, compressed, tomentose. ♃. H. Native of the Pyrenees, on the Spanish side. D. C. fl. fr. suppl. no. 4011. Hook. bot. mag. 2946. Calyx reddish with green teeth. Flowers with the vexillum and wings yellowish-white, streaked with purple, but the keel is white. Root fusiform.

Silvery Vetch. Fl. June, July. Clt. 1827. Pl. 1 foot.

44 V. TRICHOCA'LYX (Moris, elench. sard. ex Schlecht. Linnæa. 5. p. 96.) plant pubescent; leaflets elliptic-oblong, mucronulate; tendrils branched; stipulas lanceolate, semi-sagittate, toothed; peduncles many-flowered, about equal in length to the leaves; flowers secund, crowded; calyx very villous, with setaceous teeth, which are much longer than the tube; legumes hairy. ⊙. H. Native of Sardinia, in corn-fields. This plant is very like *V. atropurpùrea* of Desf. but differs in flowering later, and in every part being much larger, in the calyx being more villous, and, lastly, in the corolla being white, and only rose-coloured at the apex.

Hair-calyxed Vetch. Pl. cl.

45 V. VILLÒSA (Roth. fl. germ. 2. p. 182. but not of Brot.) plant clothed with villi; stems tetragonal; tendrils almost simple; leaflets oblong, mucronulate, opposite or alternate; stipulas lanceolate, entire, semi-sagittate; peduncles many-flowered, length of the leaves; flowers secund, rather loose; calycine teeth setaceous, pilose, longer than the tube; style villous at the apex; legumes oblong, compressed, glabrous; seeds globose, variegated. ⊙. H. Native of Germany. Sturm, deutschl. fl. 1. fasc. 31. with a figure. Flowers purple. Like *V. atropurpùrea*, but differs in the stipulas being entire, and in the legumes being smooth.

Villous Vetch. Fl. June, July. Clt. 1815. Pl. cl.

46 V. DISPE'RMA (D. C. cat. hort. monsp. 154. and fl. fr. 5. p. 578.) plant rather pilose; stems tetragonal; tendrils simple; leaves with 8-10 pairs of linear-oblong mucronate leaflets; stipulas semi-sagittate, entire; peduncles 2-3-flowered, shorter than the leaves; flowers small; calycine teeth nearly equal, lanceolate-subulate, length of the tube, and about equal in length to the corolla; style villous at the apex; legumes oblong, compressed, glabrous, reticulated, transversely 2-seeded; seeds globose, black. ⊙. H. Native of the south of France. V. parviflòra, Lois. fl. gall. 466. but not of Michx. Flowers and fruit like those of *E'rvum léns*.

Two-seeded Vetch. Fl. June, July. Clt. 1820. Pl. cl.

47 V. ALTI'SSIMA (Desf. fl. atl. 2. p. 163.) leaflets elliptic, quite smooth, truncate at the apex; petioles usually bearing 10 leaflets; stipulas dentate; peduncles many-flowered, longer than the leaves; flowers nodding; calycine teeth unequal, superior ones minute, lower ones acute and longer; style bearded; legumes lanceolate, compressed, many-seeded. ♃. H. Native of Barbary. Flowers pale blue, about the size of those of *V. sèpium*.

Tallest Vetch. Fl. June, July. Clt. 1820. Pl. cl.

48 V. POLYSPE'RMA (Tenore, prod. append. 5, 1826. ex Schlecht. Linnæa. 3. p. 102.) stem branched; leaves cirrhiferous; leaflets ovate-oblong, obtuse, entire, mucronate, glabrous; tendrils branched; stipulas toothed; peduncles 8-10-flowered, longer than the leaves; flowers erect, loosely racemose; calycine teeth unequal, upper ones shorter, lower ones setaceous, longer; legumes linear-lanceolate, 3 inches long, flat, glabrous, 14-20-seeded. ♃. H. Native of Naples, in hedges. Flowers the size of those of *V. sativa*, pale blue. Very nearly allied to *V. altissima*, but in it the legume does not exceed an inch in length, the leaflets are also elliptic and truncate at the apex, lines long and 3 broad, but in the present plant they are 8 lines long and 5 broad. Flowers densely racemose.

Many-seeded Vetch. Pl. cl. 8 feet.

49 V. BIE'NNIS (Lin. spec. 1036.) leaflets about 12, lanceolate, glabrous; petioles furrowed, cirrhous; stipulas semi-sagittate, acute; peduncles many-flowered, hardly longer than the leaves; calycine teeth unequal; legumes ascending, compressed, glabrous, short. ♂. H. Native of Siberia. Poir. dict. 5. p. 558.—Gmel. sib. 4. p. 10. t. 2. Leaves involute. Flowers pale blue. Seeds globular, dirty yellow, spotted with black. This promises to become an useful plant for fodder, the stalks growing to a great length, and being well furnished with leaves, which do not decay in autumn, but continue green through the winter, in defiance of the most severe frost; so that in February and March, when there is often a scarcity of green food for ewes and lambs, this may be of great service.

Biennial Vetch. Fl. July, Aug. Clt. 1758. Pl. cl.

50 V. NISSOLIA'NA (Lin. spec. 1036.) plant downy; petioles cirrhous; leaflets oblong, hardly retuse, rather downy; stipulas lanceolate, entire, very narrow; peduncles many-flowered; flowers small, dark purple; legumes ovate-oblong, villous, nodding, 5-seeded. ⊙. H. Native of the Levant. Stem angular. The plant in the gardens under this name is a very shewy species, with dark-purple, elegant, crowded, secund flowers, and is th plant figured in bot. reg. t. 871. under the name of *V. atr* *purpùrea*.

Nissol's Vetch. Fl. June, July. Clt. 1773. Pl. cl.

51 V. PELLU'CIDA (Jacq. hort. schœnbr. 2. p. 220. t. 222 stems branched; leaflets obovate, emarginate; stipulas oblong peduncles usually 4-flowered, shorter than the leaves, which ar without tendrils; calycine teeth equal, spreading; style beard at the apex; legumes oblong, compressed, falcate, membranous rather villous; seeds kidney-shaped, compressed. ♃. G. Native of the Cape of Good Hope. Flowers purple, but with the vexillum variegated. Leaves impari-pinnate.

Pellucid Vetch. Fl. July, Aug. Clt. 1812. Pl. 1 foot.

52 V. HOOKE'RI; plant sparingly pilose; leaves with 3-4 pairs of narrow, linear, acuminated leaflets; tendrils almost simple; stipulas semi-sagittate, linear, entire; peduncles shorter than the leaves, few-flowered; calyx short, campanulate; the teeth lanceolate and equalling the tube; corolla glabrous; legumes lanceolate, 6-seeded, compressed, with pilose sutures. ♃. F. Native of Chili, about Conception. V. parviflòra, Hook, in Beech. bot. p. 20. but not of Cav. Habit of *E'rvum tetraspérmum*.

Hooker's Vetch. Pl. cl.

53 V. MITCHE'LLI (Rafin. prec. 37. and in Desv. journ. bot. 1814. p. 269.) plant glabrous; stems weak, striated; leaves for the most part with 7 pairs of leaflets; leaflets oblong, cuneiform, retuse, mucronate; stipulas entire or multifid, small; peduncles many-flowered; vexillum pubescent; legumes 2-seeded, pilose. ⊙. H. Native of North America, in Long Island. Ell. sketch. car. et geogr. 2. p. 224. Seeds edible.

Mitchel's Vetch. Pl. cl.

54 V. PARVIFLÒRA (Cav. annal. sci. nat. 4. p. 73. bu [illegible] Michx. nor Lois.) stems filiform; leaves cirrhous; leaflet [illegible], mucronate; stipulas normal; peduncles elongated, 2-4-flowered. ⊙. H. Native about Mogodor.

Small-flowered Vetch. Pl. cl.

55 V. BIDENTA'TA (Hook, bot. misc. 2. p. 215.) plant quite smooth; leaves with 2-3 pairs of opposite and alternate, cuneated leaflets, which are bidentate at the apex, and with a mucrone in the centre; tendrils simple; stipulas broad, semi-sagittate, a little toothed; peduncles 3-4-flowered, equal in length to the leaves; legumes oblong, glabrous. ⊙. H. Native of Peru, near Lima.

Bidentate-leaved Vetch. Pl. 1 foot.

56 V. biflòra (Desf. atl. 2. p. 166. t. 197.) leaves tendrilled; leaflets numerous, linear-lanceolate; stipulas semi-sagittate, entire; peduncles 2-flowered, shorter than the leaves; calycine teeth nearly equal, small. ⊙. H. Native of Algiers. Flowers blue.

Two-flowered Vetch. Fl. June, Aug. Clt. 1801. Pl. cl.

57 V. grami'nea (Smith, in Rees' cycl. vol. 37.) plant almost smooth; leaflets 3 pairs, linear, pointed; stipulas ovate, entire, slightly sagittate; peduncles 4-flowered, shorter than the leaves; tendrils simple or divided; legumes smooth, compressed, not an inch in length, elliptic-oblong, with an oblique, incurved point; seeds 6-7, small, round. ♃.? H. Native of Buenos Ayres. Flowers very small, pale, apparently tinged with purple. Calyx rather downy, with the teeth shorter than the tube.

Grassy-leaved Vetch. Pl. cl.

§ 2. *Flowers pedunculate, solitary.*

58 V. calcara'ta (Desf. fl. atl. 2. p. 166.) stems rather tetragonal, decumbent; leaflets linear-lanceolate, obtuse; stipulas furcate; peduncles 1-flowered, bracteolate at the apex, much shorter than the leaves; calycine teeth small, ac[illegible]; legumes compressed, glabrous [illegible] H. Native of Algiers. V. monántha, Retz. [illegible] 39. Willd. spec. 3. p. 1109. and enum. p. 7[illegible] blue and veined.

[illegible]red Vetch. Fl. July, Aug. Clt. 1790. Pl. cl.

[illegible] V. Bithy'nica (Lin. spec. 1038.) stems weak, leafy, an[illegible]ar, slightly branched; leaves with 2 pairs of lanceolate, mu[illegible]onate leaflets, hairy beneath; stipulas semi-sagittate, with [illegible]ep fringed teeth; peduncles axillary, 1-flowered; calyx hairy, [illegible]ith very long rather unequal fringed teeth; legumes erect, [illegible]road, slightly tumid, clothed with rigid tawny hairs. ♃. H. [illegible]ative of the south of Europe. In Britain in bushy places, on gravelly soil, often near the sea, near Doncaster, Yorkshire; [illegible]n woods, near Clifton-upon-Teme, Worcestershire; between Rockenhall and Sandbury, in the same county; in a field half way between Weymouth and Portland Ferry, near the sea, and on the coasts of Dorsetshire and Hampshire. Smith, engl. bot. 1842. Jacq. hort. vind. 2. p. 69. t. 147. Flowers with a purplish vexillum, and the keel and wings white, the former tipped with violet.

Bithynian Vetch. Fl. July, Aug. Britain. Pl. prostrate.

60 V. Syrìaca (Weinm. hort. dorp. 162.) plant glabrous; stems decumbent; leaves with 4-5 pairs of ovate-oblong, mucronate leaflets; stipulas linear, entire, small; legumes pedunculate, solitary, reflexed, 4-5-seeded. ⊙. H. Native of Syria. Flowers violaceous. Very like *V. calcaràta.*

Syrian Vetch. Fl. June, July. Clt. 1816. Pl. cl.

61 V. hu'milis (H. B. et Kunth, nov. gen. amer. 6. p. 498. t. 581.) stems weak; leaves with 2-3 pairs of linear-lanceolate, obtuse, mucronate, glabrous leaflets; tendrils simple; stipulas linear, acute, semi-sagittate; peduncles 1-flowered, shorter than the leaves; calycine segments long; legumes lanceolate; calyx and rachis clothed with adpressed down. ⊙. H. Native of Mexico, near Moran, at the height of 3990 feet above the level of the sea. Flowers rose-coloured.

Humble Vetch. Pl. cl.

§ 3. *Flowers nearly sessile, solitary.*

62 V. interme'dia (Viv. fl. lyb. p. 42. t. 19. f. 1.) leaves with 3-4 pairs of leaflets, lower ones obcordate, cuneated, superior ones linear, emarginate and mucronulate; tendrils obsolete; stipulas semi-sagittate; flowers solitary; calyx 10-nerved, gibbous at the base; legumes hairy, rather compressed. ⊙. H. Native of Cyrenaica, in meadows. Allied to *V. lathyroides* and *V. sativa*, according to Viviani. Flowers purple.

Intermediate Vetch. Fl. June, July. Pl. ½ foot.

63 V. pimpinelloìdes (Mauri, pl. rom. cent. 13. p. 35.) leaflets deeply crenated, superior ones quite entire; stipulas spotted, a little toothed, semi-sagittate; flowers usually solitary and almost sessile; calycine teeth elongated, ciliated; legumes erect, oblong, glabrous; seeds roundish, compressed. ⊙. H. Native of Italy, about Rome. Flowers purple?

Pimpernel-like Vetch. Fl. June, July. Pl. cl.

64 V. re'pens (D'Urv. enum. pl. arch. p. 88.) stems diffuse, branched at the base, trailing; leaflets usually 6, alternate, very narrow and acute; stipulas small; flowers axillary, solitary, almost sessile; legumes compressed, glabrous, 4-seeded. ♃. H. Native of the island of Melos, in dry places. Flowers pale purple, twice or thrice the length of the calyx. Root creeping.

Creeping Vetch. Pl. trailing.

65 V. globòsa (Rets. obs. 3. p. 39.) leaves tendrilled; leaflets 4-8, pubescent, each ending in a reflexed bristle; stipulas spotted, 4-toothed; flowers solitary, erect, almost sessile; calycine teeth linear-lanceolate, ciliated; legumes terete, spreading, glabrous; seeds globose. ⊙. H. Native [illegible] country unknown. Very like *V. sativ*[illegible] but differs [illegible] from it in the stipulas, in the longer calyx, [illegible] the form of the legume, and lastly in the fewer lea[illegible] [illegible]ers blue.

Globose-seeded Vetch. Fl. June, Aug. Clt. 1804. Pl. cl.

66 V. pilòsa (Bieb. fl. taur. 2. p. 161.) plant hairy; leaves hardly cirrhiferous, upper leaflets linear-lanceolate, acute, or truncate and mucronulate, hairy; stipulas semi-sagittate, a little toothed; flowers solitary, sessile; calyxes cylindrical, with linear, parallel, nearly equal segments, length of the tube; style bearded at the apex. ⊙. H. Native of Tauria. Flowers purple. Seeds globose, black.

Pilose Vetch. Fl. June, July. Clt. 1818. Pl. 1½ foot.

67 V. peregrìna (Lin. spec. 1038.) leaves tendrilled; leaflets 10-12, linear, truncate, and mucronate; stipulas semi-sagittate, linear, entire; flowers solitary, pedunculate; calyxes campanulate, with lanceolate-linear, nearly equal, diverging segments, which are about the length of the tube; style bearded at the apex; legumes compressed, lanceolate, reticulated, inclined, broad, puberulous; seeds nearly globose. ⊙. H. Native of the south of Europe. Hoppe in Sturm, deutschl. fl. 1. fasc. 32. with a figure. Flowers of a dusky violet colour.

Foreign Vetch. Fl. July, Aug. Clt. 1779. Pl. cl.

68 V. megalospe'rma (Bieb. fl. taur. 2. p. 161. and suppl. 471.) leaves cirrhiferous, leaflets linear, retuse, mucronate; stipulas semi-sagittate, entire, small; flowers solitary, almost sessile; style bearded at the apex; legumes pubescent, reflexed; seeds large, globose, brown, with more obscure confluent spots. ⊙. H. Native of Tauria. Flowers purple.

Large-seeded Vetch. Fl. June, July. Clt. 1798. Pl. cl.

69 V. Michau'xii (Spreng. cat. hort. hal. ex Willd. enum. 764.) leaflets linear, truncate, mucronate; stipulas lanceolate, undivided; peduncles very short, tufted; calycine teeth unequal, upper ones very short, lower ones length of the tube; legumes finely pubescent, 3-4-seeded. ⊙. H. Native country unknown. Corolla white. Nearly allied to *V. peregrìna*, but the calyxes are very distinct.

Michaux's Vetch. Fl. June, July. Clt. 1803. Pl. 1½ foot.

70 V. linearifòlia (Hook. in Beech. bot. p. 20.) plant pilose; stems angular; leaves with 5 pairs of linear retuse leaflets; tendrils usually simple, or almost so; stipulas broad, semi-sagittate, toothed at the base, dotless; flowers almost sessile, solitary; calyx campanulate, villous; teeth subulate, about equal; corolla glabrous; legumes hairy. ⊙. H. Native of Chili, about Conception. Flowers not half the size of those of *V. sativa.* Like *V. Michaùxii.*

Linear-leafletted Vetch. Pl. cl.

71 V. amphica'rpa (Dorth. journ. phys. 35. p. 131.) leaves tendrilled; lower leaflets obcordate, mucronate, upper ones linear, retuse, and mucronate; stipulas semi-sagittate, entire or

toothed; flowers solitary, almost sessile; calyxes cylindrical with equal, linear, parallel segments, which are shorter than the tube; style bearded at the apex; legumes reticulated, puberulous, stem ones linear-oblong, inclined, under-ground or root ones ovate, compressed, and short. ⊙. H. Native of the south of France, in gravelly places. Ger. mag. cno. ann. 6. vol. 3. p. 344. with a figure. D. C. fl. fr. no. 4021. Flowers crimson, hardly the size of those of *V. sativa.*

Both-sided-fruited or Underground-podded Vetch. Fl. May, June. Clt. 1815. Pl. cl.

72 V. Pyrena'ica (Pour. act. toul. 3. p. 333.) leaves tendrilled; leaflets obcordate, mucronate; stipulas semi-sagittate, entire or denticulated; flowers solitary, almost sessile; calyxes somewhat campanulate, with unequal, lanceolate, somewhat spreading segments, which are shorter than the tube; style bearded at the apex; legumes oblong-linear, reticulated, smoothish, and inclined. ♃. H. Native of the Pyrenees, in meadows. D. C. fl. fr. no. 4022. icon. rar. 1. p. 10. t. 33. Flowers purplish. Root creeping.

Pyrenean Vetch. Fl. May. Clt. 1818. Pl. ½ foot.

73 V. lathyroìdes (Lin. spec. 1037.) plant downy; stems branched; leaves cirrhiferous; leaflets 4-6, elliptic-oblong; lower ones obcordate, tendrils simple; stipules semi-sagittate, entire; flowers solitary, sessile; calyx cylindrical, with nearly equal, linear, parallel segments, which are shorter than the tube; style bearded at the apex; legumes compressed, reticulated, glabrous or wrinkled, inclined; seeds globose, dotted with warts. ⊙. H. Native of the south of Corsica, and Britain, in fallow fields on a gravelly soil, in chalky pastures, or on banks; about Norwich, and in Hyde-park, also in the King's-park, and various other places round Edinburgh. Sturm, deutschl. fl. 1. fasc. 31. Smith, engl. bot. 30. Oed. fl. 98. Jacq. misc. 2. p. 299. t. 18. E'rvum Soloniénse, Lin. spec. 1040. Flowers small, bluish purple, occasionally white.

Lathyrus-like Vetch. Fl. May, June. Britain. Pl. tr.

74 V. læviga'ta (Smith, engl. bot. 483. fl. brit. 2. p. 773.) plant quite smooth; stems nearly erect, quadrangular, branched; leaves cirrhiferous; leaflets 8, elliptic-lanceolate, rounded, and mucronulate; stipulas green or brownish, cloven; calycine segments linear, equal, about the length of the tube; legumes compressed, short, lanceolate-oblong, quite smooth. ♃. H. Native of the south of England, among pebbles by the sea-side, at Weymouth, Dorsetshire. V. hýbrida, Huds. fl. angl. 319. Flowers of a whitish or pale blue, seldom yellowish.

Smooth Vetch. Fl. July, Aug. Britain. Pl. ½ foot.

75 V. lu'tea (Lin. spec. 1037.) plant pilose; stems branched; leaves cirrhiferous; leaflets elliptic-lanceolate, sometimes retuse, hairy beneath; flowers solitary, almost sessile; calycine segments unequal, diverging, superior ones short, lower ones shorter than the tube; vexillum emarginate, glabrous; style bearded at the apex; legumes compressed, ovate-oblong, finely reticulated, pilose, bent down as it ripens; seeds oval, smooth. ⊙. H. Native of the south of Europe; in Britain on stony ground, chiefly near the sea; upon the pebbly beach at Orford, Suffolk; at Aldburgh; near Weymouth; Shoreham, Sussex; in a chalk pit on the side of Glastonbury Torhill; in Scotland, in Mearnshire. Sturm, fl. germ. 1. fasc. 31. with a figure. Smith, engl. bot. 481. Corolla pale yellow, rarely white.

Var. β, *muricàta* (Ser. mss. in D. C. prod. 2. p. 363.) fruit muricated. ⊙. H. Native about Tangiers.

Yellow-flowered Vetch. Fl. June, Aug. Britain. Pl. cl.

76 V. hi'rta (Balb. misc. alt. Pers. ench. 2. p. 308.) stems hairy; leaves cirrhiferous; leaflets linear, mucronate; vexillum glabrous; legumes sessile, solitary, pilose, reflexed. ⊙. H. Native about Nice, in fields. This plant comes very near *V. lùtea*, but differs in being more hairy, in the leaflets being narrower, and in the flowers being white or very pale cream-coloured.

Hairy Vetch. Fl. June, July. Clt. 1816. Pl. cl.

77 V. hy'brida (Lin. spec. 1037.) plant pilose; stems branched; leaves cirrhiferous; leaflets obcordate, mucronulate; stipulas semi-sagittate, a little toothed; flowers solitary, almost sessile, somewhat deflexed; calycine segments narrow, nearly equal, length of the tube; vexillum emarginate, pilose; style bearded at the apex; legumes lanceolate-oblong, compressed, finely reticulated, pilose, reflexed. ⊙. H. Native of Europe; in the south of England but very rare; on Glastonbury Torhill. Sturm, fl. germ. 1. fasc. 32. with a figure. Smith, engl. bot. 482. Jacq. hort. vind. 2. t. 146. Flowers pale yellow, streaked a little with red.

Hybrid Vetch. Fl. June, July. Britain. Pl. cl.

§ 4. *Flowers solitary, pedunculate.*

78 V. spu'ria (Rafin. car. p. 72.) stems procumbent, rather angular; leaves with 5-6 pairs of obovate, retuse, mucronate, pilose leaflets; stipulas ovate-lanceolate, spotless; flowers axillary, solitary, pedunculate, drooping; vexillum villous; legumes linear, compressed, 2-4-seeded. ⊙. H. Native of Sicily, near Palermo, and on mount Etna. Flowers yellowish.

Spurious Vetch. Pl. procumbent.

79 V. pusi'lla (Muhl. in Willd. spec. 3. p. 1106.) upper leaves furnished with long tendrils; leaflets usually 6, lanceolate, mucronate; stipulas quite entire, semi-sagittate; peduncles long, solitary, 1-flowered; legumes oblong, small, glabrous. ⊙. H. Native of Pennsylvania. Perhaps the same as *E'rvum tetraspérmum.* Flowers small, white with a tinge of red.

Small Vetch. Pl. cl.

80 V. cilia'ris (Smith, fl. græc. t. 700. ex prod. 2. p. 71.) leaflets about 7 pairs, emarginate; stipulas setaceously-multifid; peduncles 1-flowered, awned, length of the leaves. ♃. H. Native of Asia Minor. Tendrils many-parted. End of pedicels drawn out beyond the flower. Flowers pale blue, streaked with purple. Legumes 1 inch long, compressed, 2-seeded.

Ciliated-stipuled Vetch. Pl. cl.

81 V. melanòps (Smith, fl. græc. t. 701. ex prod. 2. p. 72.) stems diffuse; stipulas marked with black; wings depressed, incumbent; legumes solitary, reflexed, linear, glabrous. ♃. H. Native of Laconia. Flowers of a dull greenish-yellow; their wings, which converge horizontally, tipped with very dark brown. Very like *V. hýbrida.*

Black-marked Vetch. Pl. cl.

82 V. ba'ctra (Zucc. obs. bot. cent. 1. no. 83. A.) stem 2-edged, striated; leaflets wedge-shaped, retuse; stipulas toothed, upper segments dotted; legumes solitary, almost sessile. ⊙. H. Native country unknown.

Bactra Vetch. Pl. cl.

§ 5. *Flowers almost sessile, twin.*

83 V. inci'sa (Bieb. fl. taur. suppl. p. 471.) leaflets obovate, retuse, mucronate, deeply serrated; stipulas toothed, semi-sagittate; legumes sessile, usually twin, pubescent. ⊙. H. Native of Tauria. Very like *V. sativa*, but differs in the leaflets being very deeply cut into 2-4 opposite serratures on each side. Flowers purple.

Cut-leafletted Vetch. Fl. June, July. Clt. 1820. Pl. cl.

84 V. corni'gera (Chaub. in Saint Amans fl. agen. p. 294.) leaflets linear, very narrow, villous; stipulas entire, lower ones semi-sagittate, superior ones lanceolate; flowers almost sessile, twin; vexillum subulate, convolute, spiral. ⊙. H. Native of sandy places, near Agen. Flowers purple. It is perhaps only a narrow leafletted variety of *V. sativa.*

Horn-bearing Vetch. Pl. 1 foot.

85 V. CANADÉNSIS (Zucc. obs. bot. cent. 1. no. 83.) leaves with 7 pairs of retuse mucronate leaflets; upper stipulas simple, marked above, lower ones ciliately 4-toothed; superior legumes solitary, lower ones twin, and horizontal; seeds globose, lentiform, yellowish. ⊙. H. Native of Canada. Flowers purple?

Canada Vetch. Pl. cl.

86 V. CORDÀTA (Wulf. ex Hoppe in Sturm, deutschl. fl. 1. fasc. 32.) leaves cirrhiferous; leaflets 10-12, oblong-obcordate, mucronate; stipulas semi-sagittately-toothed; flowers usually twin, sessile; calyx cylindrical, with lanceolate-linear, nearly equal, somewhat parallel segments, which are about the length of the tube; legumes oblong, rather torulose, puberulous; seeds globose, variegated. ⊙. H. Native of Germany. Flowers purple. This plant comes very near *V. sativa*, but still it is very distinct.

Cordate-leafletted Vetch. Fl. June, July. Clt. 1816. Pl. cl.

87 V. DÙBIA (Schultes, obs. 149.) leaves with 6 pairs of linear-truncate or linear-lanceolate, mucronate, ciliated leaflets; stipulas marked, profoundly toothed; flowers usually twin; calyx striated, nerved, pubescent, with subulate teeth; legumes glabrous, terete, erect; seeds round, cream-coloured. ⊙. H. Native country unknown.

Doubtful Vetch. Pl. cl.

88 V. SATÌVA (Lin. spec. 1037.) leaves cirrhiferous: leaflets 6-10, obovate, or elliptic-oblong, retuse, mucronulate, pilose or smoothish; stipulas semi-sagittately-toothed; flowers usually twin, sessile; calyx cylindrical, with lanceolate-linear, nearly equal parallel segments, which are about the length of the tube; style bearded at the apex; legumes compressed, somewhat torulose, oblong, reticulated, erectish; seeds nearly globose, smooth, variable in colour. ♃. H. Native of Europe, in corn or cultivated fields; plentiful in Britain; also of North America about Fort Vancouver. Flowers purple. This is a very variable plant in the form of the leaflets, in the size of the stems, and in the colour and size of the seeds.

Var. α, obovàta (Ser. mss. in D. C. prod. 2. p. 361.) leaflets obcordate, pilose; legumes pubescent. V. sativa, Hoppe in Sturm, deutschl. fl. 1. fasc. 31. with a figure. V. sativa nemoràlis, Pers. ench. 2. p. 307. V. Helvética, Hort. prag. ex Gerhard. Flowers reddish purple.

Var. β, segetàlis (Ser. l. c.) leaflets oblong, truncate, pointed, pilose; legumes pubescent. ⊙. H. V. segetàlis, Thuil. fl. par. ed. 2. p. 367. et Hoppe in Sturm. l. c. with a figure. V. satìva, Smith, engl. bot. 331. Oed. fl. dan. t. 522. Mart. fl. rust. 116. V. Luganénsis, Schleich. in herb. Balb. Flowers reddish purple.

The *tare*, *vetch* or *fitch*, is called in French *vesce*; in German *wicke*; and in Italian *loglio*. It has been cultivated for its stems and leaves from time immemorial. Ray, in 1686, informs us that the common *tare* or *vetch* was then sown almost all over Europe; that it was chiefly used in England mixed with peas and oats to feed horses, but that it was sometimes sown separately for soiling cattle, and was reputed to cause milch cows to yield much milk. The *tare*, Brown observes, is of hardy growth, and when sown upon rich land will return a large supply of green fodder, for the consumption of horses or for fattening cattle.

The varieties of the *tare* are chiefly two, the *winter* and *spring-tare*: both have local names, as *gore-vetch*, *rath-ripe-vetch*, &c. Professor Martin observes, that there appears a material difference in the constitution of the two plants in question. Not to say any thing of a trifling difference in the colour and size of their seeds, the only visible mark of distinction seems to be a disparity in the first leaves of the upright stalks, which in the *spring-tare* are elliptic and rounded, or notched at the end, but in the *winter-tare* linear, and drawn to a point. The leaves of the branches, which afterwards issue below, and in time form the bulk of the plants, are the same in both the varieties. But whatever the difference may be, it is evident that the seeds of the two sorts ought to be kept separate, since each sown out of its proper season is found not to prosper. Numerous other species of *Vicia* might be cultivated with advantage, as the *V. Narbonénsis* and *V. serratifòlia*, which are cultivated in Germany. Dr. Anderson has recommended the *V. sèpium*, and a writer in the Bath Agricultural Transactions the *V. crácca*.

In choosing between the spring and winter tare every thing must depend on the intention of the crop. If the object is to have early food, the winter variety is undoubtedly to be preferred; but where the land is foul, and requires to be two or three times ploughed in spring, or where a late crop is desired, or a crop for seed, then the spring variety will generally deserve the preference. The soil preferred by the *tare* is clay; but it will grow in any rich soil, not over dry. In a moist climate, the haulm grows so luxuriant as to rot at the bottom, and in one over dry it is deficient of strength. A dry season is upon the whole more favourable than a moist one, as the crop soon covers the surface.

The preparation of the soil seldom consists of more than one ploughing if for autumn sowing, and of a winter and spring ploughing when to be sown in spring. If in the latter case the land is very foul, several ploughings are given. In general *tares* succeed some of the corn crops. In England, manure is sometimes given, either with a view to eating them off early, and following with a crop of turnips, or to the enriching the soil for a crop of wheat.

The time of sowing depends on the kind of *tare*, and the purpose in view. The winter variety is sown in September and October, and the first sowing in spring ought to be as early as the season will permit. If they are to be cut green for soiling throughout the summer and autumn, which is the most advantageous method of consuming them; successive sowings should follow till the end of May. Summer *tares*, when meant for seed, ought to be sown early, otherwise the return will be imperfect, but when for green food any time betwixt the first of April and the end of May will answer, provided crops in succession from the first to the last mentioned period be regularly cultivated. In Middlesex, the winter sowing is commenced about the beginning of August; in the northern counties no winter sowings are made, as the *tare* there will not endure the severity of that season.

The mode of sowing tares is mostly broad-cast, which should be performed as early as possible over well prepared land, the seeds being afterwards covered in by proper harrowing. It has been suggested, that in rich soil it is probable the row method would succeed well with this sort of crop, as Marshal states is the practice in some of the southern districts of the island. After the seed is sown, and the land carefully harrowed, a light roller ought to be drawn across, so that the surface may be smooth, and the scythe permitted to work without interruption. It is proper also to guard the field for several days against the depredations of pigeons, who are remarkably fond of *tares*, and will pick up a great part of the seed unless constantly watched.

The quantity of seed to an acre is from 2½ to 3½ bushels, according to the time of sowing, and as they are to be consumed green or left to stand for a crop. When *tares* are intended for seed less seed is required. A writer in the Farmer's magazine, vol. 1. has suggested that the most productive manner of sowing this crop when intended for seed, is to mix them amongst beans when drilled, at the rate of one firlot of *tares* to one boll of beans, and by this means the quality of *tares* is vastly improved, as by clinging to the beans they are kept from the ground, and enjoy the full benefit of the sun in ripening them in the most perfect manner. The beans at the same time answer for bands to tie the principal crop, and the produce in this way on an average of seasons is considered at least double. A little rye sown with the *winter-tares*, and a few oats with the *spring-tares*, not only serves to support the weak climbing stems, but adds to the bulk of the crop, by growing up through the interstices.

In the choice of the seed. It is hardly possible to distinguish the grain of the winter from that of the spring variety; the former is said to be rather smaller and lighter coloured, but the only reliance must be on the honesty of the vender.

The after culture given to tares, consists merely in pulling out the larger weeds, unless they are in rows, in which case the horse or hand-hoe is applied; or intended for seed, in which case the weeding must be more particularly executed.

In reaping tares for soiling, they ought always to be cut with the scythe, as the sickle by breaking asunder the stalks, and tearing up a number of the roots, renders the second crop of little value. When sown early, they will sometimes produce three mowings, but generally two. In reaping *tares* for seed, they may be either mown or cut down with the sickle, and treated like peas in drying, stalking, and threshing.

Tares are eaten off the ground in some places by different kinds of live stock, particularly by sheep; and as the winter-sown variety comes very early in spring, the value of this rich food is then very considerable. The waste, however, in this way must be very great, even though the sheep be confined by hurdles, and must be still greater when consumed by horses or cattle.

Tare crops are sometimes made into hay, in which case great attention is necessary in drying it properly. The best time for cutting *tares* for hay is when the blossoms have begun to decline and the *tares* begin to fall and lie flat. When well made the hay is of the best and most nutritious properties.

The produce of tares cut green is, according to Middleton, 10 to 12 tons the acre, which is a large crop, and when made into hay about 3 tons the acre, which shows the disadvantage of making these crops into hay. And it is found that the *spring-tare* crops are lighter and more likely to be injured by a dry season.

The produce in seed is likewise found to be considerable, being by some stated to be at from 3 to 6 sacks, but in other instances 40 bushels or more have been obtained from the acre.

In the application of tares they are found to be a most nourishing food for all sorts of cattle. Cows give more butter when fed with this plant than with any other food whatsoever. Horses thrive better upon *tares* than they do upon clover or rye-grass; and the same remark is applicable to the fattening of cattle, who feed faster upon this article of green fodder than upon any kind of grass or esculent plant whatever. Danger often arises from their eating too much, especially when the *tare* is podded, as colics and other stomach disorders are apt to be produced by the excessive loads which they devour, in consequence perhaps of the great quantity of fixed air contained in the plant. When the *tares* are over succulent, fewer dangers would follow if the *tares* were mixed with oat-straw in the stalls. If the plants are cut green and given to live stock, either on the field or in the fold-yards, there is perhaps no green crop of greater value, nor any better calculated to give a succession of herbage from May to November. The winter-sown *tare*, in a favorable situation, is ready for cutting before clover. The first spring crop comes in after the clover must be all consumed or made into hay, and the successive spring sowings give a produce more nourishing for the larger animals than the after math of clover, and may afford green food at least a month longer. In the county of Sussex, Young observes, " *tare* crops are of such use and importance, that not one-tenth of the stock could be maintained without them: horses, cows sheep, hogs, all feed upon them: hogs are soiled upon them without any other food. This plant maintains more stock than any other plant whatsoever. Upon an acre, Davies maintained 4 horses in much better condition than upon 5 acres of grass. Upon 8 acres he has kept 12 horses and 5 cows for three months, without any other food whatever. No artificial food is equal to this excellent plant." This statement must be coupled with the usual produce of turnips in Sussex, 10 or 15 tons per acre, hence the superiority of *tares* to every other green crop. *Tares* cut green, Professor Thaer observes, draw no nourishment from the soil whatever, while made into hay they afford a fodder preferred by cattle to peas-straw, and more nutritive than hay or any other herbage.

The use of the grain of tares, is usually for sowing; but they are also given to pigeons, by whom they are highly relished, and it is thought they would form a very good food for poultry. In Germany they are given to horses, cows, sheep, and swine.

The diseases of tares are so few as to be of no consequence. A crop is sometimes, but rarely, lost by the mildew.

Common or *Cultivated* Vetch or Tare. Fl. May, July. Britain. Pl. cl.

89 V. ANGUSTIFÒLIA (Roth. tent. fl. germ. p. 310.) leaves cirrhiferous; leaflets 10-12, linear-lanceolate, lower ones obcordate, mucronulate, pilose, or smoothish; stipulas semi-sagittately toothed; flowers twin, sessile: calycine segments linear, nearly equal: legumes compressed, somewhat torulose, erectish, reticulated; seeds globose, black. ⊙. H. Native of Europe, in corn-fields. Engl. bot. suppl. 2614. V. sativa β, Lin. l. c. Smith, engl. fl. 3. p. 381.—Sturm, deutschl. fl. 1. fasc. 31. with a figure. V. Luganénsis, Schleich. exsic. ex herb. D. C. V. lathyroìdes, Huds. angl. ed. 2. p. 318. but not of Lin. Flowers purplish-crimson.

Narrow-leaved Vetch. Fl. May, June. Britain. Pl. cl.

90 V. GLA`BRA (Schleich. ex pl. exsic.) leaflets oblong-ovate, rather truncate and mucronate, glabrous, as well as the legumes and calyxes; the rest as in *V. satìva*. ⊙. H. Native of Switzerland, in fields. V. satìva, var. ε, glàbra, Ser. in D. C. prod. 2. p. 361. Flowers purple.

Glabrous Vetch. Fl. May, July. Clt. 1819. Pl. cl.

91 V. BOBA`RTII (Forst. in Lin. trans. vol. 16. p. 442.) leaves cirrhiferous, rather hairy; leaflets 6-7 linear, lower ones obcordate; stipulas small, narrow, toothed, with a pale depression beneath; flowers solitary, nearly sessile; legume nearly upright, narrow, downy; finally blackish; seed globose, smooth. ⊙. H. Native of England, in grassy pastures, on a chalky or gravelly soil; in Essex; on Shotover-hill, Oxfordshire; in Stow wood; in Hyde-park; among the grass in Richmond Gardens; also in Scotland. V. angustifòlia, Smith, eng. fl. 3. p. 382. V. angustifòlia, β, Pers. V. lathyroìdes, Dicks. V. lathyroìdes, β, Huds. V. satìva, γ, Smith, fl. brit. 770. Flowers crimson, white at the keel and lower edge of the wings.

Bobart's Vetch. Fl. May, July. Britain. Pl. cl.

92 V. LEUCOSPE`RMA (Mœnch. meth. 148.) leaves cirrhiferous; leaflets 10-12, obcordate, pilose or glabrous; stipulas semi-sagittately toothed; flowers usually twin, sessile; calyx cylindrical, with linear-lanceolate, nearly equal segments; legumes somewhat torulose; seeds globose, white, or yellow. ⊙. H. Native of Europe. V. álba, Mœnch. meth. 148. Flowers white or purple.

White-seeded Vetch. Fl. May, July. Clt. 1810. Pl. cl.

93 V. GRANDIFLÒRA (Scop. fl. carn. 2. p. 65. t. 42.) leaves cirrhiferous; leaflets obcordate, mucronate, 10-12, approximate; stipulas ovate; flowers usually twin, inclined; calycine segments nearly equal, length of tube; vexillum obovate, mucronulate; style bearded at the apex; legumes oblong, com-

pressed, glabrous, brown; seeds globose, blackish red. ⊙. H. Native of Carniola, and other parts of Europe. Flowers large, yellow. The vexillum edged with red.

Great-flowered Vetch. Fl. June, July. Clt. 1818. Pl. cl.

94 V. SO'RDIDA (Waldst. et Kit. pl. rar. hung. 2. p. 133. t. 133.) stems branched; leaves cirrhiferous; leaflets 10-12, obovate, retuse, mucronate; stipulas semi-sagittate, entire, spotted; flowers usually twin, inclined; calyx cylindrical; the segments hardly unequal, linear, a little shorter than the tube, parallel; vexillum large, somewhat obcordate and mucronulate; style bearded at the apex; legumes lanceolate, compressed, declinate, smoothish, reticulated; seeds somewhat globose. ⊙. H. Native of Hungary. Sturm, fl. germ. 1. fasc. 31. with a figure. Flowers large, yellow tinged with green, pedicellate.

Var. β, *rotundàta* (Ser. mss. in D. C. prod. 2. p. 363.) leaflets roundish-obcordate.

Sordid-flowered Vetch. Fl. June, July. Clt. 1802. Pl. cl.

95 V. BIEBERSTEI'NII (Besser. in Bieb. fl. taur. suppl. 492.) leaves cirrhiferous; leaflets 8-10, linear, rather truncate and mucronulate; stipulas semi-sagittate, lanceolate, spotted; flowers usually twin; calyx cylindrical, with hardly unequal, linear segments, which are a little shorter than the tube; legumes nearly sessile, usually solitary and spreading, glabrous. ⊙. H. Native of Podolia. V. sórdida, Bieb. fl. taur. 2. p. 161. exclusive of the synonymes. Flowers yellow.

Bieberstein's Vetch. Fl. June, July. Clt. 1820. Pl. cl.

96 V. LINEA'TA (Bieb. fl. taur. suppl. 473.) leaflets linear-elliptic, pilose; stipulas spotted, lower ones deeply toothed; flowers usually twin, almost sessile; calycine teeth broadish, shorter than the tube, glabrous; style bearded at the apex; vexillum glabrous, lined; legumes very pilose. ⊙. H. Native of Tauria. Flowers pale yellow?

Lined-flowered Vetch. Pl. 1½ foot.

97 V. BIPARTI'TA (Mœnch. meth. p. 149.) leaves cirrhiferous; leaflets 5-7, linear, obtuse, acuminated; stipulas lanceolate, bipartite; peduncles twin, longish; calycine teeth lanceolate; legumes terete, glabrous, 6-8-seeded. ⊙. H. Native country unknown.

Bipartite-stipuled Vetch. Pl. cl.

98 V. BA'CLA (Mœnch. meth. p. 148.) leaflets oblong, obtuse, and mucronulate; stipulas semi-lunate, toothed; flowers twin; legumes erect, smooth; calyx glabrous; seeds somewhat compressed, olive-coloured. ⊙. H. Native country unknown.

Bacla Vetch. Pl. cl.

99 V. BI'COLOR (Willd. enum. suppl. p. 51. ex Horn. hort. hafn. suppl. p. 81.) leaflets oblong, obtuse; stipulas subulate, with one tooth at the base; peduncles naked, usually twin? shorter than the leaves. ⊙. H. Native country unknown. Flowers mixed with purple and white.

Two-coloured-flowered Vetch. Fl. Ju. Aug. Clt. 1820. Pl. cl.

§ 6. *Flowers almost sessile, 2-4-together, on very short pedicels, or few flowers on very short peduncles.*

100 V. TRI'COLOR (Sebast. et Mauri, prod. fl. rom. p. 245. t. 4.) stems simple; leaves cirrhiferous; leaflets numerous, oblong, retuse, and mucronulate, villous; stipulas semi-sagittate, lanceolate, spacelate; flowers 3-together, inclinate; calyx obliquely-campanulate, with unequal, diverging teeth, which are shorter than the tube; vexillum dotted with rust colour; style bearded at the apex; legumes lanceolate, glabrous, ciliated, reflexed. ⊙. H. Native about Naples. Vexillum yellowish. Wings purplish.

Var. α, *obcordàta* (Ser. in D. C. prod. 2. p. 364.) leaflets obcordate, truncate, clothed with silky villi beneath.

Var. β, *oblónga* (Ser. l. c.) leaflets oblong, somewhat truncate, and mucronulate.

Three-coloured-flowered Vetch. Fl. Ju. Aug. Clt. 1818. Pl. cl.

101 V. SE'PIUM (Lin. spec. 1038.) stems branched; leaves cirrhiferous; leaflets 10-12, ovate, retuse, and somewhat mucronulate, hairy, ciliated; stipulas semi-sagittate, lower ones toothed, each marked with a brown spot; flowers 3-4-together, leaning one way; calyx hairy, tubular, with unequal teeth, which are deflexed at the apex and shorter than the tube; style bearded at the apex; legumes smooth, lanceolate-oblong, inclinate, a little ciliated, reticulated; seeds globose, smooth. ♃. H. Native of Europe, in shady places. In Britain in thickets and under hedges, common. Sturm, fl. germ. 1. fasc. 31. with a figure. Smith, engl. bot. 1515. Oed. fl. dan. 699. Riv. tetr. irr. t. 56. Flowers dull bluish purple. This plant shoots earlier in spring than any other plant eaten by cattle, vegetates in the autumn, and continues green all the winter. A patch sown in drills in a garden was cut five times in the course of the second year, and produced at the rate of 24 tons an acre of green food, which when dry would weigh near four tons and a half. Though palatable to all kinds of cattle, it would be difficult to cultivate on a large scale, the seeds being generally devoured by the larvæ of a species of *Attelabus*, which larvæ are the prey of a species of *ichneumon*.

Var. α, *ochroleùca* (Bast. suppl. no. 8. D. C. fl. fr. 5. p. 581.) flowers cream-coloured.

Var. γ, *subrotúnda* (Ser. mss. in D. C. prod. 2. p. 364.) leaflets ovate-roundish; flowers violaceous.

Var. δ, *capsélla* (Ser. l. c.) leaflets obcordate, similar in shape of the pods to *Capsélla;* flowers 1-3-together, white? Native of the Levant.

Hedge Vetch. Fl. May, July. Britain. Pl. cl.

102 V. PANNÓNICA (Jacq. fl. aust. t. 34.) plant pilose; stems simple; leaves cirrhiferous; leaflets oblong, mucronate; stipulas lanceolate, marked; flowers from 2-4-together, inclinate, almost sessile; calycine segments setaceous, nearly equal, length of the tube or longer; vexillum pilose and emarginate; style bearded at the apex; legumes oblong-lanceolate, compressed, pilose, deflexed. ⊙. H. Native of Hungary and Austria. Sturm, fl. germ. 1. fasc. 31. with a figure. Flowers dirty white.

Pannonian Vetch. Fl. June, July. Clt. 1658. Pl. cl.

103 V. STRIA'TA (Bieb. fl. taur. 2. p. 162.) plant beset with hairs; leaves cirrhiferous; leaflets elliptic, oblong, acute, clothed with silky pili beneath; stipulas lanceolate, marked; vexillum clothed with silky pili; legumes pedunculate, 2 or 3-together, reflexed, clothed with silky pili. ♃. H. Native of Tauria. Vicioides hirsùta, Mœnch. meth. 137. V. Pannónica β, Willd. spec. 3. p. 1107. V. purpuráscens, D. C. hort. monsp. 155. V. Pannónica β, purpuráscens, Ser. in D. C. prod. 2. p. 364. Flowers violaceous and streaked, wings and keel paler.

Var. β, *linearifòlia*; flowers purple; leaflets linear-oblong, mucronulate. V. Pannónica γ, linearifòlia, Ser. l. c.

Striated-flowered Vetch. Fl. June, July. Clt.? Pl. cl.

104 V. TRUNCA'TULA (Fisch. cat. hort. gorenk. 1812. p. 72. ex Bieb. fl. taur. suppl. p. 473.) stems almost simple, striated, glabrous; leaflets elliptic, truncate, and mucronulate at the apex, puberulous, with numerous diverging nerves; tendrils almost obsolete; stipulas semi-sagittate, ovate, small, acuminated; peduncles almost sessile, few-flowered; calyx pilose, black, with nearly equal teeth, which are shorter than the tube; style bearded; legumes lanceolate. ♃. H. Native of Caucasus. Flowers cream-coloured. This plant is nearly allied to *V. sèpium*, but with the leaves impari-pinnate, as in *V. Cassùbica.*

Var. β, *glabriùscula* (Ser. in D. C. prod. 2. p. 364.) plant less pubescent, teeth of calyx short and rather spacelate. Native of Iberia.

Truncate-leafletted Vetch. Fl. June, Aug. Clt. 1818. Pl. 1 foot.

§ 7. Annual plants, with broad leaflets, resembling the common bean.

105 V. NARBONE'NSIS (Lin. spec. 1038.) stem tetragonal, striated, quadrifariously pilose; leaves cirrhiferous; leaflets ovate, entire; stipulas semisagittately toothed, ciliated, lower ones entire; flowers 2-3-4-together, on short pedicels; calyx campanulate, with ovate, 3-nerved segments, having the sides reflexed above; style bearded at the apex; legumes oblong, compressed, obliquely reticulated, glabrous, with ciliately-serrated sutures; seeds nearly globose. ⊙. H. Native of the south of Europe. Flowers dark purple. Knor. del. 2. t. L. 1. Riv. tet. t. 40. This plant might be cultivated with advantage as tares. Leaflets 4.

Narbonne Vetch. Fl. June, July. Clt. 1596. Pl. cl.

106 V. SERRATIFÒLIA (Jacq. fl. aust. append. t. 8.) stem tetragonal, striated, pilose; leaves cirrhiferous; leaflets ovate, serrated; peduncles short, 2-3-flowered; stipulas toothed; calyx campanulate, with ovate, 3-nerved segments, which are inflexed at the sides above; style bearded at the apex; legumes lanceolate, compressed, with ciliately-serrated sutures; seeds nearly globose. ⊙. H. Native of Austria and Hungary. Sturm, fl. germ. 1. fasc. 32. with a figure. Flowers deep purple. V. Narbonénsis, var. *a*, serratifòlia, Ser. in D. C. prod. 2. p. 365. Very like *V. Narbonénsis*, but differs in the serrated leaflets.

Serrate-leafletted Vetch. Fl. June, Aug. Clt. 1723. Pl. cl.

107 V. PLATYCA'RPOS (Roth. abandl. 10. t. 1.) leaflets ovate, toothed at the apex; stipulas ciliately toothed; style bearded at the apex; legumes almost sessile, solitary, compressed, a little inflated; seeds with scabrous margins. ⊙. H. Native country unknown. Flowers deep purple. J. Bauh. hist. 2. p. 286. with a figure. Perhaps only a variety of *V. Narbonénsis*. Leaflets 2 or 4.

Broad-fruited Vetch. Fl. June, Aug. Clt. 1723. Pl. cl.

108 V. MONADE'LPHA (Roth, cat. bot. part 2. p. 97. ex Poir. dict. 8. p. 568.) leaves cirrhiferous; leaflets oval, repand-toothed; stipulas semi-lunate, laciniately-toothed, upper ones entire at the apex; peduncles 6-flowered; calycine segments unequal, 2 superior ones lanceolate, and rather falcate, lower one very long and linear, and ciliated at the apex; legumes terete. ♂. H. Native of America. Flowers deep purple.

Monadelphous Vetch. Fl. June, Aug. Clt. 1820. Pl. cl.

† *The names of species mentioned in various garden catalogues, but not described. Most of them are probably synonymous with those described above.*

1 *V. Bæ'tica*, Fisch. 2 *V. Còris*, Thouin. 3 *V. ferruginea*, Bess. 4 *V. grácilis*, Russell. 5 *V. hirsùta*, Fisch. 6 *V. hirsutíssima*, Cyrill. 7 *V. Músquincz*, Bosc. 8 *V. nodòsa*, Fisch. 9 *V. Thouíni*, Martius. 10 *V. torulòsa*, Desf. 11 *V. Virgínica*, Martius.

Cult. The species grow in any common soil. The perennial ones are increased by dividing the roots or by seeds. The seed of the annual kinds only require to be sown in the open border in spring. All those belonging to the first division of the genus are worth cultivating for the beauty of their blossoms.

CLXX. E'RVUM (from *erw*, tilled land, in Celtic; some of the species are a pest in cultivated fields). Lin. gen. 874. D. C. fl. fr. 4. p. 598. prod. 2. p. 366.

LIN. SYST. *Diadélphia, Decándria.* Calyx 5-cleft, with linear acute segments, about equal in length to the corolla. Stigma glabrous. Legume oblong, 2-4-seeded.

SECT. I. LE'NS (the Latin name of the lentil, which is the Celtic name for the plant). Ser. mss. in D. C. prod. 2. p. 366. —Léns, Tourn. inst. t. 210. Legumes somewhat inflated, broad, oblong, 2-seeded.

1 E. LE'NS (Lin. spec. 1039.) stems branched; leaflets oblong, usually 8, nearly glabrous; stipulas lanceolate, ciliated; tendrils nearly simple; peduncles 2-3-flowered, about equal in length to the leaves; legumes broad, short, somewhat truncate, finely reticulated, glabrous, 2-seeded; seeds compressed. ⊙. H. Native of Europe, in corn-fields. Sturm, fl. germ. 1. fasc. 32. with a figure. Riv. tetr. irr. t. 35. Léns esculénta, Mœnch. meth. p. 131. Cìcer punctulàtum, Hortul. Flowers small, pale blue, with the vexillum veined. There are varieties of this plant with fulvous, bay-coloured, and black seeds, varying in size. The *lentil* is called *Les lentils* in French, *Lentzen* in German, and *Lenticcia* in Italian. It is a legume of great antiquity, being in esteem in Esau's time, and much prized in eastern countries ever since. In Egypt and Syria the seeds are parched in a frying-pan and sold in the shops, and considered by the natives as the best food for those who undertake long journeys. The *lentil* is considered a native of France, but has been known in England from the earliest agricultural records. In Gerarde's time they were sown like tares, their haulm given to cattle, and the grain to pigeons, and used in meagre soups.

There are three varieties of *lentil* cultivated in France and Germany; the small brown, which is highest flavoured, and the best for haricots and soups; the yellowish, which is the largest and the next best; and the *Lentil of Provence*, which is almost as large as a pea, with luxuriant straw, and more fit to be cultivated as a tare, than for the grains as human food. A dry warm sandy soil is requisite for the *lentil*; it is sown rather later than the pea, at the rate of a bushel or a bushel and a half per acre, in other respects its culture and harvesting are the same, and it ripens sooner. The *lentil*, Young observes, is a crop not uncommon about Chesterford, in Essex, where they sow a bushel an acre on one ploughing in the beginning or middle of March. It is there the custom to make hay of them, or seed them for cutting into chaff for trough-meat for sheep and horses, and they sow them on both heavy and dry soils. It is, however, added, that the whole county is of a calcareous nature. It is likewise stated, that attention should be paid not to water horses soon after eating this sort of food, as it is apt to hove them. They are likewise asserted to be cultivated for the same purposes in Oxfordshire, and probably in other districts. The produce of the *lentil* in grain is about one-fourth less than that of the tare, and in straw it is not a third as much, the plants seldom growing above 1 or 1½ foot in length. The straw is, however, very delicate and nourishing, and preferred for lambs and calves, and the grain on the Continent sells at nearly double the price of peas. Einhoff obtained from 3840 parts of *lentils*, 1260 parts of starch, and 1433 of matter analogous to animal matter.

The use of the *lentil* on the Continent is very general, and particularly by Roman Catholics in time of Lent, both in soups and dressed in butter sauce as haricot. They are imported from Hamburgh and sold in London for the same purposes.

Lentil. Fl. May, Aug. Clt. 1548. Pl. cl.

2 E. NI'GRICANS (Bieb. fl. taur. 2. p. 164.) plant pubescent; leaflets oblong; stipulas semi-sagittate, denticulated at the base; tendrils nearly obsolete; peduncles usually 2-flowered, longer than the leaves; calycine segments rather diverging, subulate, longer than the corolla; tube of calyx very short; legumes black, glabrous, 2-seeded; seeds black. ⊙. H. Native of the south of Tauria and of Lucania. E. lentoìdes, Tenor. prod. suppl. 2. p. 68. and cat. 1819. p. 56. Flowers pale blue.

Black-podded Lentil. Fl. June, July. Clt. 1817. Pl. cl. 1 ft.

3 E. LENTI'CULA (Schreb. herb. ex Sturm, fl. germ. 1. fasc. 32. with a figure) leaflets oblong-linear; stipulas small, lanceolate, acute; tendrils almost wanting; peduncles 1-flowered, longer than the leaves; calycine segments lanceolate-linear, equal, ciliated; legumes somewhat ovate, compressed, rather

truncate, puberulous, 2-seeded; seeds globose, dotted with black. ⊙. H. Native of Carinthia, in fields. E. Soloniénse, Wulf. in Schranck, pl. rar. t. 48. E. uniflòrum, Tenore, prod. suppl. 2. p. 68. Sebast. pl. rom. fasc. 2. p. 13. t. 4. Cìcer ervoìdes, Brig. pl. foro-juliens, 27. Flowers blue.

Small Lentil. Fl. June, July. Clt. 1820. Pl. 1 foot.

4 E. vicioìdes (Desf. fl. atl. 2. p. 168. t. 198.) plant hairy; leaves cirrhiferous, with many leaflets; leaflets oval-oblong, obtuse, and mucronate; stipulas subulate; peduncles few-flowered; calyx very pilose, with the segments longer than the tube; legumes hairy, rhomboid, reticulated, 2-seeded; seeds roundish, black. ⊙. H. Native of Algiers, in hedges. E. viciæfórme, Spreng. syst. 3. p. 270. Corolla pale blue, twice the length of the calyx.

Vetch-like Lentil. Pl. cl.

5 E. hirsu'tum (Lin. spec. 1039.) leaves cirrhiferous; leaflets linear, retuse, mucronulate; stipulas semi-sagittate, narrow; peduncles 3-7-flowered, shorter than the leaves; calycine segments lanceolate-linear, equal, longer than the tube; legumes oblong, compressed, rather truncate, hairy, finely reticulated, nodding, 2-seeded; seeds globose, variegated. ⊙. H. Native of Europe, in cultivated fields; plentiful in Britain: also of North America, at Fort Vancouver. Sturm, fl. germ. 1. fasc. 32. with a figure. Smith, engl. bot. 971. Curt. fl. lond. 54. Oed. fl. dan. 639. V. Michélli, Rafin. ex Ell. car. 2. p. 224. D. C. prod. 2. p. 360? Flowers small, pale blue, or almost white. This is a very troublesome weed in corn-fields; in wet seasons whole crops are overpowered by it. All sorts of cattle will eat it. In some parts of England it is known by the name of *Tine-tare.*

Hairy Lentil or Tine-tare. Fl. June, July. Brit. Pl. cl.

6 E. Cochinchine'nsis (Pers. ench. 2. p. 309.) leaflets 3, nearly lanceolate, wrinkled, and pilose; peduncles many-flowered; legumes terete, acuminated, 2-seeded; seeds globose. ⊙. H. Native of Cochin-china. E. hirsùtum, Lour. cochin. p. 461. Flowers purplish.

Cochin-china Lentil. Pl. 2 feet.

7 E. Terro'nii (Tenore, fl. neap. prod. append. 5. 1826.) leaves cirrhiferous, with 8 pairs of linear-elliptic, truncate, rather mucronate, glabrous leaflets; peduncles awned, 4-8-flowered, much shorter than the leaves; calycine segments lanceolate-linear, equal, pubescent, and about the length of the corolla; legumes glabrous, ovate, truncate, inflated, reticulated; seeds bay-coloured. ⊙. H. Native of Naples, in hedges. This plant differs from *E. dispérmum* in being smooth, and in the peduncles being many-flowered.

Terrone's Lentil. Pl. cl.

8 E. dispe'rmum (Roxb. in Willd. enum. p. 766.) leaflets linear-lanceolate, pubescent; peduncles 2-flowered, awned; legumes glabrous, 2-seeded. ⊙. H. Native of the East Indies. Peduncles and calyxes pubescent.

Two-seeded Lentil. Fl. June, July. Clt. 1802. Pl. cl.

9 E. camelòrum (Spreng. syst. 3. p. 270.) peduncles 1-flowered, nodding, awned; legumes 2-seeded, glabrous; leaves pubescent, upper ones cirrhiferous, with 6-8 pairs of leaflets, lower ones oblong, upper ones linear, mucronate. ⊙. H. Native country unknown.

Camel's Lentil. Pl. cl.

Sect. II. Erví'lia (an alteration from the generic name). Ser. mss. in D. C. prod. 2. p. 366.—Ervília, Link. enum. vol. 2. Legumes somewhat inflated, oblong-linear, 4-6-seeded.

10 E. Ervília (Lin. spec. 1040.) plant glabrous; leaves cirrhiferous; leaflets numerous, oblong, mucronulate; flowers usually twin, pedunculate; stipulas sub-lanceolate, toothed; calycine segments equal, very narrow, much longer than the tube; legumes torulose, 4-seeded, glabrous, transversely and finely reticulated; seeds roundish, angular. ⊙. H. Native of the south of Europe, in cultivated fields. Sturm, fl. germ. 1. fasc. 32. with a figure. Riv. tetr. irr. t. 6. Blackw. icon. t. 208. t. 3. Vicia Ervília, Willd. spec. 3. p. 1103. Ervília satìva, Link. enum. 2. p. 240. Flowers pale purple. The seeds of this plant ground into flour are sometimes used in medicines abroad, and the green herb is employed for feeding cattle in some countries, but the plant is not worth cultivating for that purpose in England.

Ervil or Bastard Lentil. Fl. June, July. Clt. 1596. Pl. cl.

11 E. mona'nthos (Lin. spec. 1040.) stems tufted, simple; leaflets numerous, linear, truncate, and mucronulate; tendrils almost simple; stipulas unequal, one of which is linear-lanceolate, and entire; the other very narrow, and fringed; peduncles 1-flowered, about equal in length to the leaves; calycine segments linear, equal, longer than the tube; legumes oval, compressed, glabrous, with transverse reticulated veins, torulose, 3-4-seeded. ⊙. H. Native of the south of Europe. Sturm, fl. germ. 1. fasc. 32. with a good figure. Vicia articulàta, Willd. spec. 3. p. 1109. Láthyrus monánthos, Willd. enum. 760. but not of his spec. pl. Vìcia multífida, Wallr. fl. hal. suppl. 3. p. 85. Flowers purple, with blue veins.

One-flowered Lentil. Fl. June, July. Clt. 1798. Pl. cl.

12 E. tetraspe'rmum (Lin. spec. 1039.) stems tufted, branched; leaves cirrhiferous; leaflets 4-6 pairs, oblong, bluntish, mucronulate; stipulas lanceolate, semi-sagittate; peduncles 1-4-flowered, but usually 2-flowered, filiform; calycine segments unequal, broadish, shorter than the tube; legumes oblong, compressed, glabrous, nerveless, rather torulose; seeds nearly globose, black. ⊙. H. Native of Europe, in cultivated fields; also of North America, in Upper Canada, in grassy meadows. Sturm, fl. germ, 1. fasc. 32. with a good figure. Curt. lond. 1. t. 55. abr. 15. Smith, engl. bot. 1223. Oed. fl. dan. t. 95. Flowers very pale grey. The keel tipped with deep blue.

Var. β, phyllocárpon (Ser. mss. in D. C. prod. 2. p. 367.) leaflets numerous, transformed into legumes.

Four-seeded Lentil. Fl. June, July. Britain. Pl. cl.

13 E. gra'cile (D. C. cat. hort. monsp. 109. et fl. fr. 5. p. 581.) stems ascending, angular, with the angles pubescent above; tendrils simple; leaflets 6-8, linear-lanceolate, acuminated, rather pubescent; stipulas semi-sagittate, entire, narrow; peduncles 3-flowered; flowers secund, pendulous; calycine teeth unequal, 2-superior ones short, broad, and a little recurved, the lower 3 equal, awl-shaped, and acute; corolla one-half longer than the calyx; legumes pendulous, compressed, torulose, glabrous; seeds of a testaceous colour, nearly globose. ⊙. H. Native of France and Spain, in corn-fields. Vìcia grácilis, Lois. fl. gall. p. 460. f. 12. E. tenuifòlium, Lagasc. nov. gen. p. 22. E. tenuissimum, Pers. ench. 2. p. 309. E. longifòlium, Tenor. prod. p. 59. Vìcia laxiflòra, Brot. phyt. 123. E. tetraspérmum β, grácile, Ser. Flowers white, having the vexillum streaked with purple or red.

Slender Lentil. Fl. June, July. Clt. 1822. Pl. cl. 1 foot.

14 E. pube'scens (D. C. cat. hort. monsp. p. 109. fl. fr. 5. p. 582.) stems tufted, branched; leaves cirrhiferous; tendrils forked; leaflets 4-6, elliptic, mucronulate; stipulas linear; peduncles 1-4-flowered, filiform; calycine segments unequal, broadish, shorter than the tube; legumes oblong, compressed, rather villous, nerveless, and a little torulose. ⊙. H. Native of Provence, and about Naples. Flowers purplish?

Var. β, leiocárpum (Moricand, herb.) legumes glabrous; stems smaller. Native about Naples.

Pubescent Lentil. Fl. June, July. Clt. 1820. Pl. cl.

15 E. Loiseleu'rii (Bieb. fl. taur. suppl. p. 475. exclusive of the synonyme of Lois.) leaflets oblong-linear; lower stipulas semi-hastate, upper ones subulate; peduncles usually 2-flow-

ered, shorter than the leaves; teeth of calyx setaceous, longer than the tube; legumes glabrous, 4-seeded; seeds globose. ⊙. H. Native of Tauria. This is perhaps nothing else but *E. tetraspérmum*.

Loiseleur's Lentil. Pl. cl.

16 E. ARISTA'TUM (Rafin. prec. p. 38. and in Desv. journ. bot. 1814. p. 270.) stems weak, angular; leaves with 3 pairs of linear acute leaflets; tendrils simple; peduncles axillary, very long, awned, and for the most part bearing 2 flowers each; legumes 2-6-seeded. ⊙. H. Native of Sicily, on mount Etna, and near Messina.

Awned-peduncled Lentil. Pl. cl.

17 E. DIPHY'LLUM (Besser in Balb. cat. hort. taur. 1813. append. 1. p. 11.) leaflets unknown: stipulas lanceolate; tendrils obsolete, having 2, rarely 4 leaflets; peduncles 1-flowered, longer than the leaves; legumes finely pubescent. ⊙. H. Native country unknown. Besser. cat. hort. lyc. volh. suppl. mss. no. 24.

Two-leaved Lentil. Pl. cl.

18 E. VA'RIUM (Brot. fl. lus. 2. p. 152.) leaflets linear, acutish, pubescent beneath; peduncles 3-4-flowered; legumes glabrous; seeds 4-5, globose. ⊙. H. Native of Portugal, about Coimbra. Flowers purplish?

Variable Lentil. Pl. cl.

Cult. None of the species of this genus are worth cultivating unless in botanical gardens. The seeds of them only require to be sown in the open border in spring.

CLXXI. PI'SUM (*pis* in Celtic means a pea, hence *pisum* in Latin). Tourn. inst. 394. t. 215. D. C. prod. 2. p. 368.—Pisum spec. of Lin.

LIN. SYST. *Diadélphia, Decándria.* Calyx with foliaceous segments, the 2 superior ones shortest. Vexillum ample, reflexed. Style compressed, carinated, villous above. Legume oblong, rather compressed, but not winged. Seeds globose, numerous, with a roundish hylum.—Annual herbs, with abruptly-pinnate cirrhiferous leaves, having 3 pairs of leaflets, and large foliaceous stipulas.

1 P. SATI'VUM (Lin. spec. 1026.) petioles terete, bearing 3 pairs of ovate, entire, glaucous leaflets, with undulated margins, usually opposite and mucronulate; stipulas ovate, somewhat cordate, crenated at the base; peduncles 2 or many-flowered; legumes rather fleshy. ⊙. H. Native of the south of Europe, and now cultivated in fields and gardens throughout the world. Lam. ill. 633. Flowers white or red.

Var. α, saccharàtum (Ser. mss. in D. C. prod. 2. p. 368.) stem tall; legumes rather coriaceous, between terete and compressed; seeds globose, distant. Lam. ill. 633. Tourn. inst. t. 215. Called in France *Petits-pois* and *Pois-sucres*, and in England *sugar-pea*.

Var. β, macrocárpum (Ser. l. c.) stems large; legumes large, falcate, very much compressed, not coriaceous, every part edible; seeds large, distant. Pisum sine cortice duriore, C. Bauh. pin. 343. Called in France *Pois-goulus*, *Pois-sans-parchemin*, and *Pois-mange-tout*.

Var. γ, umbellàtum (Lin. spec. 1027.) stipulas quadrifid, acute; peduncles many-flowered, terminal, somewhat umbellate. —Tabern. icon. t. 459. P. umbellàtum, Mill. dict. no. 3. Seeds large, round, bay-coloured. Called in French *Pois-à-bouquet*, and *crown-pea* in English. Perhaps a proper species.

Var. δ, quadràtum (Lin. spec. 1027.) seeds very dense, square. Pisum majus quadratum fructu cenerei coloris. C. Bauh. pin. 342. Called in French *Pois-carré*.

Var. ε, hùmile (Poir. dict. 5. p. 436.) stem weak, dwarf; legumes smaller, rather coriaceous; seeds approximate, roundish. P. hùmile, Mill. dict. no. 2. Called in French *Pois-nains*, and *dwarf-pea* in English.

The varieties of the *pea* are very numerous, but the following are the names of the principal sorts cultivated in gardens.

1 *Early Charlton*; an excellent early sort, nearly equal to the genuine frame.

2 *Nimble tailor*; an excellent early kind.

3 *Early golden-Charlton*.

4 *Early Nichol's golden-Charlton*.

5 *Common-Charlton*.

6 *Early single-blossomed*.

7 *Reading Hotspur*; long pods.

8 *Dwarf marrowfat*; large long pods.

9 *Tall marrowfat*; large long pods.

10 *Green marrowfat* or *Patagonian*.

11 *Knight's wrinkled* or *marrow*; a white-blossomed, tall luxuriant grower; the seeds of excellent flavour, cream-coloured and shrivelled when ripe and dried.

12 *Spanish moratto*; rather large.

13 *Prussian blue*; a great bearer.

14 *Egg*; rather large.

15 *White rouncival*; large fine pods.

16 *Green rouncival*; large fine pods.

17 *Grey rouncival*; large fine pods.

18 *Tall sugar*; large crooked pods.

19 *Dwarf sugar*.

20 *Bishop's dwarf*; a very excellent early prolific kind.

21 *Crown* or *rose*; a tall strong grower, producing its blossoms and fruit in an umbel at the top of each peduncle.

22 *Leadman's dwarf*; a great bearer, but small in the pods; good for a late crop, or as required for succession.

23 *Spanish dwarf*; of low growth and small pods.

24 *Early dwarf-frame*; the best kind for forcing.

The *pea* has been cultivated in this country time immemorial. It was not, however, very common in Elizabeth's time, when, as Fuller informs us, peas were brought from Holland, and were "fit dainties for ladies, they came so far, and cost so dear." The use of the *pea* in cookery is familiar to every one. In one variety, called the *sugar-pea*, the inner tough film of the pods is wanting, and such pods when young are frequently boiled with the seeds or peas within them, and eaten in the manner of kidney-beans. This variety is comparatively new, having been introduced about the middle of the 17th century.

Estimate of sorts. The varieties, besides differing in the colour of the blossoms, height of stalks, and mode of growth, are found to have some material differences in hardiness to stand the winter, time of coming in, and flavour of the seeds. The *Charltons* are not only very early, but great bearers, and excellent peas for the table, and are therefore equally well fitted for the early crop, and forward succession crops, and inferior to few even for the main summer crops. The *frame-pea* may, indeed, be raised without the assistance of heat for a forward crop, and if a genuine sort will fruit a few days sooner than the *Charltons*, but it grows low and bears scantily. The *Hotspur* is hardy and prolific, and makes returns nearly as quick as the *Charltons*, and about a fortnight before the *marrowfat*. *Bishop's dwarf-pea* is an early kind and a great bearer. The sorts already specified, therefore, embrace the best for sowings made from the end of October till the middle of January, and for late crops raised between the middle of June and the beginning of August.

The fine flavour of the *marrowfat* is well known. A few dwarf *marrowfats* may be sown in December and January, as mild weather may occur; but the time for sowing full crops of the larger kinds of *peas*, is from the beginning of February till the end of April. *Knight's-pea* and *Bishop's dwarf*, two of the hardiest varieties, are very prolific, and retain their fine sweet flavour when full grown. The *egg*, the *maratto*, the *Prussian-blue*, and the *rouncivals*, the *large sugar*, and the *crown*, are all very fine eating peas in a young growth, and like the *marrowfat* may be sown freely according to the demand, from the third week of February to the close of April, and in smaller crops, until the middle of June. For late crops, in addition to the early sorts already mentioned, the *dwarf sugar*, *Leadman's dwarf*, *Bishop's dwarf*, and *Spanish dwarf* are very suitable. The *Leadman's* as well as *Bishop's dwarf*, are small, delicious peas, great bearers, and in high request at genteel tables, but as the fruit of *Leadman's dwarf* is long of coming in, it is not adviseable to sow it after the third week in June; rather sow it in March, April, and May, and then it will be later than the *Charltons* raised five weeks afterwards. The *Charltons* and *Hotspurs* may be sown in May, for late full crops, in June for a smaller supply, and in July, along with the *frame*, for the last returns.

Times of sowing. Much that relates to this has been incidentally mentioned in the estimate of sorts. To try for a crop as early as possible, sow of the sort preferred as hardy and forward, a small portion on a sheltered south border, or other favourable situation, at the close of October, or rather in the course of November. Follow with another sowing in December, that if the former should be casually cut off in winter, this, coming up later, may have a better chance to stand; and if both survive the frost, they will succeed each other in fruit in May and June. For more considerable and less uncertain returns, either in succession to the above, or as first early and intermediate crops, sow larger portions in December or January, if open temperate weather. To provide for main crops, make successive sowings of the suitable sorts from February till the end of May. It frequently proves that the fruit from a sowing at the beginning of February is not a week later than that from a crop sown in November; nay, the February-sown crop sometimes surpasses all that have stood the winter, in forward returns as well as quantity. From the middle of February, make successive sowings every three weeks in the course of March, April, and May, or twice a month in summer, when a continued succession is to be provided till the latest period. At the close of the sowing season, July and the first week of August, sow a reduced quantity each time, because the returns will depend on a fine mild autumn following, and whatever fruit is obtained will be small and scanty.

Quantity of seed. Of the small early kinds, one pint will sow a row of 20 yards; for the larger sorts for main crops, the same measure will sow a row of 33 yards.

Process of sowing. For early sorts make the drills 1½ inch deep; and let parallel drills be 2½ or 3 or 4 feet asunder. *Peas* that are to grow without sticks require the least room. For summer crops and large sorts, make the drills 2 inches deep and 4, 5, or 6 feet asunder. As to the distances along the drill, distribute the peas according to their size and the season; the *frame* 3 in the space of an inch; the *Charltons*, *Hotspur*, *and dwarf marrowfat*, 2 in an inch; the *Prussian-blue* and the middle-sized sorts 3 to 2 inches; the large *marrowfats* and *Knight's* a full inch apart; the *morotto*, *rouncivals*, and most larger sorts 1½ inch apart; and the *Patagonian* 2 inches.

Soil and situation. The soil should be moderately rich, and deeper and stronger for the lofty growers. *Peas* are not assisted but hurt by unreduced dung, recently turned in. A fresh sandy loam or road-stuff, and a little decomposed vegetable matter, is the best manure. The soil for early crops should be very dry, and rendered so where the ground is moist, by mixing sand with the earth of the drills. For early crops, put in from October till the end of January, let the situation be sheltered, and the aspect sunny. Before the end of December, every one or two rows should stand close under a south or south-eastern fence. In January, several parallel rows may be extended, under a good aspect, further from the fence. After January till the end of May, sow in an open situation. For the late crops, return again to a sheltered sunny border.

Subsequent culture. As the plants rise from half an inch high to 2 or 3 inches, begin to draw earth to the stems, doing this when the ground is in a dry state, and earthing gradually higher as the stems ascend. At the same time with the hoe loosen the ground between the young plants, and cut down rising weeds. Early crops should be protected during hard frosts by dry straw or other light litter, laid upon sticks or brushwood, but remove this covering as soon as the weather turns mild. If in April, May, and the course of summer, continued dry weather occurs, watering will be necessary, especially to plants in blossom and swelling the fruit, and this trouble will be repaid in the produce. Rows partly cut off may be made up by transplanting. This is best done in March. In dry weather water, and in hot days shade until the plants strike. All *peas* fruit better for sticking, and continue longer productive, especially the larger sorts. Stick the plants when from 6 to 12 inches high, as soon as they begin to vine. Provide branching sticks, of such a height as the sort will require; for the *Frame* and *Leadman's dwarf* 3 feet high; for the *Charltons* and middle-sized sorts 4 or 5 feet; for the *marrowfat* and larger kinds 6 or 8 feet; for the *rouncivals* and *Knight's marrow-pea* 9 or 10 feet. Place a row of sticks to each line of the plants on the sunny side, that the attraction of the sun may incline the plants towards the sticks. Place about half the number on the opposite side, and let both rows stand rather wider at top than at the ground. Some gardeners stop the leading shoots of the most early crop when in blossom, a device which accelerates the setting and maturing of the fruit.—*Abercrombie.*

Rotation of crops of garden peas.—In January sow on an early border or other warm situation, if the weather be open and the ground sufficiently dry. The *true-early-frame*, *nimble-tailor*, and *Charlton* are the best for this sowing. In February a full crop of *Charltons* may be sown about the beginning of the month, and of *marrowfats* and other larger sorts towards the end in the open quarters of a garden. It frequently happens that the fruit of a sowing made the beginning of this month is not a week later than that of a crop sown in November, and often surpasses all that have stood the winter, both in forward returns, as well as quantity. From the middle of this month make successive sowings every three weeks during the months of March and April, and twice in each of the months of June, July, and August, reducing the quantity each time from the end of June till the middle of August. In February sow peas of the early sorts in pots and flat boxes, and place them in a hothouse, and if for extensive crops sow on a light hot-bed. This has been practised by Mr. Bishop, an experienced gardener, and is the most rational plan of transplanting *peas* ever practised. In March sow *peas* as before directed, and transplant those that were sown in boxes or pots, or on hot-beds last month. In October, *peas* for the early crop next season may be sown, about the end of the month, in a warm south border, fully exposed to the sun. For this sowing the *early-frame*, *Charlton*, *nimble-tailor*, and *Hotspur* are the best sorts. If the ground is cold and wet, it is best to draw the mould up in ridges 2 feet high, both this and the three following months. In November and December sow the same kind of *peas* as are recommended for last month.

To forward an early crop, "sow or plant in lines from east to west, and stick a row of spruce-fir branches along the north side of every row, and sloping so as to bend over the plants, at 1 foot or 18 inches from the ground. As the plants advance in height, vary the position of the branches, so as they may always protect them from perpendicular colds or rain, and yet leave them open to the full influence of the winter and spring sun. Some cover during nights and in severe weather, with two boards nailed together lengthwise at right angles, which form a very secure and easy-managed covering, but excludes light. A better plan would be to glaze one of the sides, to be kept to the south, and to manage such row-glasses, as they might be called, when over *peas, beans, spinach,* &c. as hand-glasses are managed when over *cauliflowers,* that is, to take them off in fine weather, or raise them constantly or occasionally, by brick-bats or other props, as the weather and the nature of the crop might require." —*Loudon. ency. gard. p.* 691.

Management of a late crop. The best variety for this purpose is Knight's *marrow-pea,* which may be sown at intervals of 10 days from the beginning to the end of June. " The ground is dug over in the usual way, and the spaces to be occupied by the future rows of *peas* are well soaked with water. The mould upon each side is then collected so as to form ridges 7 or 8 inches above the previous level of the ground, and these ridges are well watered. The seeds are now sown in single rows along the tops of the ridges. The plants grow vigorously, owing to the depth of soil and abundant moisture. If dry weather at any time set in, water is supplied profusely once a week. In this way the plants continue green and vigorous, resisting mildew, and yielding fruit till subdued by the frost."—*Hort. trans. vol.* 2.

Taking the crop. " The early crops are generally gathered in very young growth, often too young, when the pods are thin and the peas small, for the sake of presenting some at table as soon as possible. In the main crops there is no cause for precipitation; take them as they become pretty plump, while the peas are yet green and tender. Leave none on to grow old, the young pods will then fill in greater perfection, and the plants will continue longer in bearing."

To save seed. " Either sow approved sorts in the spring, for plants to stand wholly for seed, to have the pods ripen in full perfection; or occasionally leave some rows of any main crop; let all the early pods ripen, and gather the later formed ones for the table, as the last gleanings of a crop seldom afford good full seed. For public supply extensive crops are commonly raised in fields. Let the seed attain full maturity, indicated by the pods turning brown and the peas hardening; then to be hooked up and prepared for threshing out, in due time cleansed and housed."—*Abercrombie.*

Forcing peas. " *Peas,*" Nicol observes. " are often raised in forcing-houses, and are brought to perfection very early."

For forcing peas in a pit, sow as directed for French beans, *Phaseolis vulgàris,* in pots or boxes, and transplant when $1\frac{1}{2}$ or 2 inches high into the pit in rows 15 inches asunder, and 3 inches from each other in the row.

Temperature may be progressive, beginning at 40° or 50° and rising to 52° or 66° from the origin of the plant to the state of flowering, and after flowering increase from 55° to 70°, or in a regular heat between the latter limits. For hot-beds the temperature may be 50°, or 55° for the nursery-bed, and 55° to 65° for fruiting.

The best sort of pea to force, is the genuine *early-frame.*

Forcing peas in a peach or cherry-house. For the earliest crop some of the true *early-frame* sort may be sown in October, in the borders of a cherry-house, peach-house, or vinery, intended to be forced from the beginning of the year. By the time the forcing commences they will be fit for transplanting, which is to be done in the same borders, either in a single row, or in more rows, according to the room. The distance between the rows may be 15 or 18 inches, and 2 inches in the line.

" *In forcing peas,*" Nicol observes " they should always be transplanted. They become more prolific, and run less to straw by that management than when they are sown where they are to remain. Indeed, it would be worth while to transplant the earliest crops in the open ground."—*Nicol, kal. p.* 29.

Beans may be forced in a similar manner, though this is seldom attempted.

Field peas, their culture and uses.

The *pea* is the most esteemed legume in field cultivation, both for its seed and haulm, and was cultivated by the Greeks and Romans, and in this country from time immemorial, though its culture appears to have diminished since the more general introduction of herbage plants and roots; and, excepting near large towns for gathering green, and in a few places for boiling, the *pea* has given way to the bean, or to a mixture of *peas* and beans. There are various inducements, however, to the cultivation of *peas* in dry warm soils near large towns. When the crop is good and gathered green, few pay better. The ground, after the *peas* have been removed, is readily prepared for turnips, which also pay well as a retail crop near towns, and the haulm is good fodder.

The varieties of peas cultivated in fields are numerous, but they may be divided into two classes, those grown for the ripened seed, and those grown for gathering in a green state. The culture of the latter is chiefly near large towns, and may be considered as in part belonging to horticulture rather than agriculture. The grey varieties are, the *early-grey,* the *late-grey,* the *purple-grey, Marlborough-grey,* and the *horn-grey.* The white varieties grown in fields are, the *pearl, early Charlton, golden Hotspur,* the *common white* or *Suffolk,* and other Suffolk varieties. New varieties are readily procured by selection or impregnation.

In the choice of sorts, where it is desired to grow grey *peas* for the sake of the seeds, the early variety is to be preferred in late situations, and the late variety in early ones; but when it is intended to grow them chiefly for covering the ground, and for haulm, then the late varieties claim the preference, and especially the *purple-grey.* Of white *peas* to be grown for gathering green, the *Charlton* is the earliest, and the *pearl* or *common Suffolk* the most prolific. When white *peas* are grown for boilers, that is, for splitting, the *pearl* and *Suffolk* are also the best sorts. It is supposed by some to be of considerable importance to the economy of a farm, when the nature of the soil is suitable, to have recourse to the early sorts, as by such means the crops may be in many cases cut, and secured while there is leisure, before the commencement of the wheat harvest. And where the nature of the soil is dry and warm, and the *pea* crop of a sufficiently forward kind, it may be easy to obtain a crop of turnips from the same land in the same year, as has already been suggested. But with this view it is the best practice to sow the crops in the row method, and keep them perfectly clean by means of attentive hand or horse-hoeing, as in that way the land will be in such a state of preparation for a crop of turnips, as only to require a slight ploughing, which may be done as soon as the *pea* crop is removed, and the turnip-seed drilled in as quickly as possible upon the newly turned up earth. In some particular districts a third crop is even put into the same land, the turnips being cleared off in the autumn, [illegible] replaced by cole-worts, for the purpose of greens in the following spring. This, according to Middleton, is the practice in some places in Middlesex. But it is obviously a method of cultivation that can only be attempted on the warm and fertile kinds of turnip soil, and where the *pea* crops are early; on the cold, heavy, and wet descriptions of land it is obviously impracticable, and wholly improper. *Loudon, encycl. agri. p.* 766.

The soil best suited for *peas* is a dry calcareous sand; it should be in good tilth, not too rich, nor dunged along with the crop. In Norfolk and Suffolk, *peas* are often sown after clover-leys, after one furrow, or after corn crops on two furrows, one given in autumn, and the other early in spring.

The climate required by the *pea* is dry and not very warm, for which reason as the seasons in this country are very often moist, and sometimes exceedingly dry and hot in June and July, the *pea* is one of the most uncertain of field crops.

The season of sowing must differ considerably, according to the intention of the cultivator. When they are grown for podding early for sale green, they should be sown at different times from January to the end of March, beginning with the dryest and most reduced soils, and with this intention they are sown in the autumn in some southern counties. For the general crops, from February to April, as soon as the lands can be brought into proper order; the grey sorts being employed in the early sowings, and the white in the later. It is always best to sow early, in order to get the crop off in time for a crop of turnips to follow, being a profitable kind of husbandry which should never be neglected.

The quantity of seed must be different in different cases and circumstances, and according to the time and manner in which the crop is sown; but in general it may be from 2½ to 3 bushels, the early sowings having the largest proportion of seed.

The most common mode of sowing field peas is broad-cast, but the advantages of the row culture in the case of a crop so early committed to the soil must be obvious. The best farmers, therefore, always sow *peas* in drills, either after the plough, the seed being deposited in every second or third furrow, or if the land is in a pulverized state, by drawing drills with a machine, or by ribbing. In Norfolk and Suffolk *peas* are generally dibbled on the back of the furrow, sometimes one, and sometimes 2 rows on each, but this method has no particular advantage. In Kent, where immense quantities of *peas* are grown, both for gathering green, and for selling ripe to the seedsman, they are generally sown in rows, from 18 inches to 3 feet asunder according to the kind, and well cultivated between; 4 to 6 inches is a proper depth for *peas* to be sown, but they will vegetate if sown at 1 foot in depth.

The after culture given to field peas is that of hoeing, either by the hand-hoe or the horse-hoe. Where the hand culture prevails, it is the general custom to give two hoeings; the first when the plants are about 2 or 3 inches in height, and again just before the period of their flowering. At the last of these operations, the rows should be laid down, and the earth well placed up to them. In Kent it is the custom, where this sort of crop is much grown, when the distance of the rows is sufficiently great to prevent the vegetation of weeds, to forward the growth of the *pea* crops by occasional horse-hoeing and the use of the brake-harrow, the mould being laid up to the roots of the plants at the last operation, by fixing a piece of wood to the harrow. This should, however, only be laid up on one side, the *peas* being always placed up to that which is the most fully exposed to the sun.

In harvesting the pea considerable care is requisite, both on account of the seed and haulm. When *pea* crops become ripe they wither and turn brown in the haulm, and the pods begin to open. In this state they should be cut as soon as possible, in order to prevent loss from shedding. In early crops the haulm is generally laid up into loose open heaps, which when dry are removed and stacked. In the general crops they are generally put into small heaps, called wads, which are formed by setting small parcels against each other, in order that they may be more perfectly dried both in seed and stem; these wads or bundles should be turned as often as possible. When wet weather happens whilst the *peas* lie in wads, it occasions a considerable loss, many of them being shed in the field, and of those that remain a great part will be so considerably impaired, as to render the sample of little value. This inability of *peas* to resist a wet harvest, together with the great uncertainty throughout their growth, and the frequent inadequate return in proportion to the length of the haulm, has discouraged many farmers from sowing so large a portion of this pulse as of other grain, though in light lands which are in tolerable heart the profit in a good year is far from inconsiderable.

In gathering green peas for the market, it is frequently a practice with the large cultivators of early *green pea* crops in the neighbourhood of London, to dispose of them by the acre to inferior persons, who procure the podders; but the smaller farmers, for the most part, provide this description of persons themselves. It is sometimes the custom to pick the crops over twice, after which the rest are suffered to stand till they become ripe, for the purpose of seed; but being the worst part of the crop are very improper for seed. This sort of crop affords the most profit in those pea seasons which are inclined to be cool, as under such circumstances the *peas* are most retarded in their ripening, and of course the markets kept from being over abundantly supplied, but in some warm dry seasons when their ripening is hastened they scarcely repay the expences.

The threshing of peas requires less labour than that of any other crop. Where the haulm is wished to be preserved entire it is best done by hand, as the threshing machine is apt to reduce it to chaff. But where the fodder of peas is to be given immediately to horses on the spot, the breaking it is of no disadvantage.

The produce of the pea in ripened seed is supposed by some to be from 3½ to 4 quarters an acre; others, however, as Donaldson, imagine the average of any two following crops not to be more than about 12 bushels, and therefore may be considered as a less profitable crop than most others. But as a means of ameliorating, and improving the soil at the same time, it is esteemed as of great value. With respect to the produce of *green peas* in the husk, the average of the early crops in Middlesex is supposed to be from about 25 to 30 sacks the acre, which selling at from 8 to 10 shillings per sack, affords 18*l*. the acre. The author of the "Synopsis of Husbandry," however, states the produce about Dartford in Kent at about 40 sacks per acre, though he says 50 sacks have been gathered from that space of land.

The produce of peas in straw is very uncertain, depending so much on the sort and the season, in general it is more bulky than that of grasses, but may be compressed into less room.

The produce of peas in flour is as 3 to 2 of the bulk of grain, and husked and split for soups as 4 to 2. A thousand parts of pea-flour afforded Sir H. Davy 574 parts of nutritive matter, viz. 501 of mucilage, 22 of sugar, 25 of gluten, and 16 of extract or matter rendered insoluble during the operation.

The use of peas for soups, puddings, and other culinary purposes is well known. In some places porridge, brose, and bread are made of pea-flour, and reckoned very wholesome and substantial. In Stirlingshire it is customary to give pease or bean biscuits to horses while in the yoke as a refreshment. The portion of *peas* that is not consumed as human food is mostly appropriated to the purposes of fattening hogs and other sorts of domestic animals, and in particular instances they are given to laboring horses in place of beans, but care should be taken when used in this way that they be sufficiently dry, as they are otherwise apt to occasion bowel complaints in those animals. For feeding swine the *pea* is much better adapted than the bean, it having been demonstrated by experience that hogs fatten more kindly when fed with this grain than on beans; and what is not easy to be accounted for, the flesh of swine which have been fed on *peas*, it is said, will swell on boiling, and be well tasted, whilst the flesh of the bean-fed hog will shrink on boiling, the fat will boil out, and the meat be less delicate in taste.

Peas straw cut green and dried is reckoned as nourishing as hay, and is considered as excellent for sheep.

In the sowing of any particular sorts for seed, they should be carefully looked over while in flower, in order to draw out all such plants as are not of the right sort, which if left to mix will degenerate the kind. As many rows as may be thought sufficient to furnish the desired quantity of seed should be marked out, and left till their pods turn brown and begin to split, when they should immediately be gathered up with the haulm; they may then be either stacked or threshed out as soon as they are dry; but care should be taken not to let them remain too long abroad after they are ripe, as wet would rot them, and heat after a shower of rain making their pods burst in such a manner, that the greater part of their seeds would be lost.

The diseases of peas are few, and chiefly the worm in the pod, and the fly on the leaves and flowers. They are also liable to be mildewed or blighted. None of these evils, however, are very common, and there is no known method of preventing them but by judicious culture.

Cultivated or Common Pea. Fl. June, Sept. Pl. cl.

2 P. ELA'TIUS (Bieb. fl. taur. 2. p. 151.) stems erect; petioles terete, bearing 6 lanceolate-oblong leaflets; stipulas rounded and crenated below; peduncles 2-flowered, longer than the leaves. ♃. ? H. Native of Iberia. Internodes naked, striated. Stipulas nearly like those of *P. satìvum*, but the leaflets are more oblong. Peduncles very long, erect. Flowers pale red, with the lamina of the wings dark purple. Legume unknown.

Taller Pea. Fl. June, Sept. Clt. 1820. Pl. cl.

3 P. ARVE'NSE (Lin. spec. 1027.) petioles terete? bearing 2-3 pairs of ovate, roundish, crenulated, mucronulate leaflets; stipulas ovate, semi-cordate, denticulated; peduncles usually 1-flowered, very short. ⊙. H. Native country unknown. P. satìvum arvénse, Poir. dict. 5. p. 456.—Moris. hist. 2. p. 47. sect. 2. t. 1. f. 4. Bram. icon. chin. t. 15. Called in French *Bisaille* and *Pois de Pigeon*. In English *field-pea* or *grey-pea*. Flowers red, the vexillum darkest. Seeds grey. For the culture and uses of *Pìsum arvénse*, see *field-peas*, and their culture under *Pìsum satìvum*, of which all the grey varieties belong to this species.

Field Pea. Fl. June, Sept. Pl. cl.

4 P. MARI'TIMUM (Lin. spec. 1027.) stem angular; petioles flattish above; leaflets 5-8, elliptical, mucronate, smooth, alternate; stipulas triangular, semi-sagittate, toothed towards the base; peduncles many-flowered, length of leaves; legumes oblong, small, obliquely-reticulated; seeds small, 6-8, approximate, roundish, rather bitter. ♃. H. Native of France, Denmark, and other parts of Europe, and Kamtschatka. In Britain on the stony sea beach; on the pebbly beach between Aldburgh and Orford, Suffolk; also near Hastings, Sussex; on the west side of Dungeness near Lyd, in Kent; on the sharp ridge running from Portland island to Bridport. Oed. fl. dan. 338. Smith, spicel. t. 9. engl. bot. t. 1046.—Moris. hist. 2. p. 47. sect. 2. t. 1. f. 5. Flowers large, purple, variegated with crimson veins. The seeds are very bitter. We learn from the epistles of Caius that the *sea-pea* was first observed in the year 1555, when in a great scarcity the poor people on the coast of Suffolk, about Orford and Aldburgh, supported themselves with it for some time. This legend is retailed by Stow and Camden, with the addition, that they supposed it to spring up opportunely in that year of dearth, from a ship-wrecked vessel loaded with peas, whereas the *sea-pea* is a very different species from all other peas. The legend of the miraculous arrival of these peas in a time of scarcity is still believed among the country people. Cattle are very fond of the herb.

Var. β, glàbrum (Ser. in D. C. prod. 2. p. 368.) leaves glabrous. Native of Canada.

Sea Pea. Fl. July. Britain. Pl. trailing.

5 P. AMERICA'NUM (Mill. dict. no. 5.) stem angular, procumbent; leaves with one pair of leaflets; lower leaflets lanceolate, acutely-toothed, upper ones sagittate. ♃. H. Native of South America, at Cape Horn. Peduncles 4-5-flowered. Flowers blue. Legumes tapering, near 3 inches long. Seed about the size of those of tares. Miller calls this the Cape Horn pea, from its having been brought by Lord Anson's cook when he passed that Cape, where this pea was a great relief to the sailors, but it is not so good for eating as the worst sort cultivated in England.

American Pea. Fl. June, Sept. Clt. 1800. Pl. proc.

6 P. JOMA'RDI (Schranck, in flora, p. 309.) plant quite smooth and glaucous; stem angular; petioles terete; stipulas toothed at the base, as well as the leaflets, which are ovate. ⊙. H. Native of Egypt. Flowers white.

Jomard's Pea. Fl. July, Aug. Clt. 1820. Pl. cl.

7 P. FU'LVUM (Smith, fl. græc. t. 688.) petioles terete; stipulas rounded below, and acutely-toothed; peduncles 2-flowered; legumes short. ⊙. H. Native of Asia Minor. Flowers of a beautiful fulvous colour, marked with deep or almost scarlet veins. Legume semi-elliptic, an inch long. Leaflets 2 or 4.

Fulvous-flowered Pea. Pl. cl.

8 P. THEBA'ICUM (Willd. enum. suppl. p. 51. ex Link. enum. 2. p. 236.) peduncles shorter than the leaves. ⊙. ? H. Native of Upper Egypt.

Thebes Pea. Fl. July, Aug. Clt. 1825. Pl. cl.

Cult. The seeds of all kinds of *peas* only require to be sown in the open ground in spring for common purposes, and the plants sticked to support them.

CLXXII. LA'THYRUS (from λαϑυρος of Theophrastus, which is said to be from λα, *la*, augmentative, and ϑουρος, *thouros*, any thing exciting; in reference to the qualities of the seeds). Lin. gen. no. 1186. D. C. prod. 2. p. 369.—Láthyrus, Clýmenum, and A'phaca, Tourn. inst. p. 394. 396. t. 216, 217, 218, 219, and 220.—Cicerélla, Mœnch. meth. 163.

LIN. SYST. *Diadélphia, Decándria.* Calyx campanulate, 5-cleft, the 2 superior lobes shortest. Corolla papilionaceous. Stamens diadelphous. Style complanate, dilated at the apex, villous or pubescent in front. Legumes oblong, many-seeded, 2-valved, 1-celled. Seeds globose or angular.—Usually climbing herbs, with semi-sagittate stipulas, and having the petioles terminating in branched tendrils, and furnished with 1 to 3 pairs of leaflets. Peduncles axillary.

SECT. I. EULA'THYRUS (from *eu*, well, and *lathyrus*; genuine species). Ser. mss. in D. C. prod. 2. p. 369. Vexillum toothless at the base. Leaflets opposite or wanting from abortion. Petioles furnished with a narrow wing.

§ 1. *Perennial plants, with many-flowered peduncles.*

* *Leaves with only one pair of leaflets.*

1 L. TOMENTÒSUS (Lam. dict. 2. p. 709.) plant clothed with rufescent tomentum; stems tetragonal, striated; leaves with one pair of linear-lanceolate leaflets; stipulas semi-sagittate, much shorter than the leaves; peduncles many-flowered, approximate, longer than the leaves; calycine teeth nearly equal, lanceolate, acute, length of the tube; legumes linear, clothed with silky tomentum; style very long, twisted at the base, linear-spatulate. ♃. G. Native of Buenos Ayres. Flowers large, purple?

Tomentose Lathyrus. Pl. cl.

2 L. SERI'CEUS (Lam. dict. 2. p. 708.) plant clothed with silky rufescent down; stems tufted, simple; leaves with one pair of linear leaflets; stipulas narrow, semi-sagittate, length of leaflets; tendrils very short; peduncles many-flowered. ♃. G. Native of Monte Video.

Silky Lathyrus. Pl. cl.

3 L. SYLVE'STRIS (Lin. spec. 1033.) plant quite glabrous; stems winged; leaves with one pair of lanceolate, attenuated, coriaceous leaflets; stipulas very narrow, semi-sagittate, shorter

than the leaves; peduncles 3-8-flowered, length of leaves; legumes compressed, reticulated lengthwise; seeds roundish, covered with wart-like dots. ♃. H. Native of Europe, in woods and hedges. In England in moist hedges and groves in chalky counties, but rare in Scotland. Corolla red, variegated with pale crimson, violet, and tints of green; the wings violet. Smith, engl. bot. 805. Curt. lond. 6. t. 52. Root creeping.

Var. α, ensifòlius (Ser. mss. in D. C. prod. 2. p. 369.) leaflets very narrow, and very much elongated. L. ensifòlius, Bidaro in diar. phys. chem. papiens. an. 1824.

Var. β, oblóngus (Ser. l. c.) leaflets shorter, elliptic-oblong. Oed. fl. dan. 325.

Wood Lathyrus or Narrow-leaved Everlasting-pea. Fl. July, Sept. Britain. Pl. cl.

4 L. PUBE´SCENS (Hook. in Beech. voy. p. 21.) plant clothed with soft pubescence above; stems winged; leaves cirrhiferous, having one pair of oblong-lanceolate leaflets, which are twice the length of the petiole; stipulas ovate, semi-sagittate, nearly one-half shorter than the petioles; peduncles many-flowered, longer than the leaves; calyx tubular, pubescent, with lanceolate teeth. ♃. H. Native of Chili, about Conception and Valparaiso. This species has many points in common with *L. sylvéstris*.

Pubescent Everlasting-pea. Pl. cl.

5 L. INTERME´DIUS (Wallr. sched. crit. p. 386.) plant quite glabrous; stems winged; leaves with one pair of oblong-lanceolate, self-coloured, mucronulate leaflets, which are obtuse at both ends; stipulas linear; peduncles many-flowered. ♃. H. Native of Germany. Flowers rose-coloured, larger than those of *L. sylvéstris*, as well as the legumes. L. sylvéstris, Muhl. fl. dan. 785. Perhaps only a variety of *L. sylvéstris*.

Intermediate Everlasting-pea. Fl. Ju. Sept. Clt. 1820. Pl. cl.

6 L. MAGELLA´NICUS (Lam. dict. 2. p. 708.) plant glabrous and blackish; stems a little branched, tetragonal, but not winged; leaves with one pair of ovate or ovate-oblong leaflets; stipulas broad, cordately-sagittate, broader than the leaves; tendrils trifid; peduncles long, 3-4-flowered; legumes unknown. ♃. H. Native of the Straits of Magellan. Flowers bluish purple.

Magellan Everlasting-pea. Fl. Ju. Sept. Clt. 1744. Pl. cl.

7 L. HOOKE´RI; plant glabrous, blackish; stems angular, hardly winged; leaves with one pair of linear-lanceolate leaflets; petioles furnished with a short tendril each: stipulas semi-sagittate, ovate, much shorter than the leaflets; peduncles twice the length of the leaves, usually 5-flowered; calyx campanulate, nerved, with nearly equal teeth. ♃. H. Native of Chili, about Conception. L. sessilifòlius, Hook. in Beech. voy. 1. p. 20. but not of Tenore. Closely allied to *L. praténsis* and *L. sylvéstris*. From *L. Magellánicus* it seems to differ principally in the shape of the leaflets.

Hooker's Everlasting-pea. Pl. cl.

8 L. LATIFÒLIUS (Lin. spec. 1033.) plant quite glabrous; stems winged; leaves with one pair of elliptic, rather glaucous, 3-5-nerved, obtuse, and mucronate leaflets; stipulas broad, ovate, semi-sagittate; peduncles many-flowered, longer than the leaves; legumes long, compressed, reticulated lengthwise. ♃. H. Native of Europe, in woods. In England, in Madingly, and other woods near Cambridge; on the rock by Red Neese, near Whitehaven, Cumberland; in Severn Stoke Copse, Worcestershire; and at Hawnes and Bromham, Bedfordshire. Smith, engl. bot. 1108. Mart. fl. rust. t. 8. Garid. prov. t. 108. Mill. fig. 52. Oed. fl. dan. 708. exclusive of the synonymes. Flowers large, rose-coloured. This is a shewy plant for shrubberies, arbours, wilderness quarters, and trellis-work. Bees resort much to it, and the flowers afford them abundance of honey.

Var. β, monstròsus (D. C. mem. legum. 1. t. 2.) calyx of 5 sepals; sepals linear; petals and stamens abortive; legumes foliaceous; seeds abortive.

Broad-leaved Everlasting-pea. Fl. Ju. July. Britain. Pl. cl.

9 L. PEDUNCULA´RIS (Poir. suppl. 2. p. 775.) stems thick, cylindrical, striated, winged, branched; leaves with one pair of oval, nerved, mucronate leaflets; stipulas semi-sagittate, lanceolate, setaceous at the apex; peduncles stiff, many-flowered, striated, very long; bracteoles setaceous. ♃. H. Native country unknown. Flowers pale rose-coloured.

Peduncled Everlasting-pea. Pl. cl.

10 L. NERVÒSUS (Lam. dict. 2. p. 708.) plant quite smooth; stems almost simple, striated; leaves with 1 pair of ovate, acute, nerved leaflets, which are longer than the internodes; petioles very short; tendrils trifid; stipulas sagittate, nerved; peduncles many-flowered; legumes long, linear, glabrous. ♃. G. Native of Monte Video. Flowers purple.

Nerved-leaved Everlasting-pea. Pl. cl.

11 L. ROTUNDIFÒLIUS (Willd. spec. 3. p. 1088.) plant quite glabrous; stems winged, branched; leaves with 1 pair of ovate-roundish, 3-5-nerved leaflets; stipulas semi-sagittate, a little toothed; peduncles many-flowered, longer than the leaves; calycine teeth broad and short; legumes compressed, reticulated lengthwise, dotted; seeds globose, obscurely dotted. ♃. H. Native of Tauria. Bieb. fl. taur. 2. p. 156. cent. pl. rar. ross. 1. t. 22. Flowers rose-coloured, very shewy, like those of *L. latifòlius*.

Var. β, ellipticus (Ser. mss. in D. C. prod. 2. p. 370.) stem with broader wings; stipulas larger; leaflets elliptic; corolla vermilion-coloured. ♃. H. Native in woods, on Mount Beschstau. Bieb. fl. taur. suppl. 466.

Round-leafletted Everlasting-pea. Fl. May, July. Clt. 1822. Pl. cl.

12 L. PRATE´NSIS (Lin. spec. 1033.) plant smoothish; stems tetragonal; leaves with 1 pair of oblong-linear or lanceolate, 3-nerved leaflets; tendrils usually simple; stipulas sagittate, ovate, shorter than the leaflets; peduncles many-flowered, twice the length of the leaves; calyx nerved, with nearly equal teeth, which are about the length of the tube; legumes compressed, obliquely reticulated; seeds globose, smooth. ♃. H. Native of Europe, in humid meadows. In England, in meadows, pastures, and thickets, very common. Curt. lond. fasc. 3. t. 44. Smith, engl. bot. 670. Mart. fl. rust. 52. Oed. fl. dan. 527. Flowers yellow. The plant is called in England *Tare everlasting*, *Meadow vetchling*, or *Common yellow vetchling*. In old authors it is much reprobated as a vile weed, that spreads much by means of its creeping roots. Many later writers, however, recommend it as an excellent food for cattle, and not without reason, since its quality is good and it bears a large burden of succulent leafy stalks. Among its patrons we may reckon Linnæus, Haller, Schreber, Curtis, and Young.

Var. β, velutìnus (D. C. fl. fr. 5. p. 575.) stem and leaves velvety: legumes rather pilose. Native of arid places.

Meadow Lathyrus. Fl. June, Aug. Brit. Pl. cl. 1 to 2 ft.

13 L. TUBERÒSUS (Lin. spec. 1033.) stems tetragonal; leaves with 1 pair of oblong-elliptic, rather mucronulate leaflets; stipulas semi-sagittate, narrow, acute, about equal in length to the petioles; peduncles 3-6-flowered, 2 or 3-times the length of the leaves; calyxes veinless, with almost equal, broad teeth, which are about equal in length to the tube; style arched; legumes compressed, reticulated lengthwise; seeds roundish, smooth. ♃. H. Native of Europe, on the margins of fields. Curt. bot. mag. 111. L. arvénsis, Riv. tetr. 42. L. attenuàtus, Viv. fragm. t. 19. ex Poir. suppl. 2. p. 776.?—Lob. icon. 2. p. 70. f. 2.—Moris. hist. sect. 2. t. 2. f. 1. Root creeping, putting out irregular, brown tubers. Flowers large, rose-coloured. The plant is cultivated in Holland for its roots, which are eaten there. Gerarde calls it *Peas-earth-nut*.

Tuberous-rooted Everlasting-pea. Fl. Ju. Jul. Clt. 1596. Pl.cl.

14 L. SESSILIFÒLIUS (Tenore, fl. neap. prod. append. 5. 1826.) root tuberous and fibrous; stems ascending, simple; leaves with 1 pair of leaflets, without a petiole; leaflets lanceolate-linear, mucronate; peduncles usually 3-flowered, longer than the leaves; calyx about equal in length to the tube of the corolla; the segments lanceolate and equal; legumes flat, many-seeded. ♃. H. Native of Naples, in Lucania, in hedges. L. attenuàtus, Tenore, prod. but not of Viv. Plant glabrous. Corolla blue, with the wings longer than the keel. Style flat, dilated in front, and rather villous. It differs from *L. tuberòsus*, in the leaflets being sessile and linear-lanceolate.

Sessile-leafletted Lathyrus. Pl. ascending.

15 L. RÒSEUS (Stev. in mem. soc. mosc. 4. p. 51. and Bieb. fl. taur. suppl. p. 466.) plant quite smooth; stem slender, not winged; leaves with 1 pair? of ovate-roundish leaflets; tendrils very short; stipulas small, subulate; peduncles filiform, longer than the leaves; calycine teeth acute, superior ones shortest. ♃. H. Native of Iberia. Flowers beautiful rose-coloured, rather smaller than those of *L. tuberòsus.*

Rose-coloured-flowered Everlasting-pea. Fl. Ju. Aug. Clt. 1822. Pl. cl.

16 L. GRANDIFLÒRUS (Sims, bot. mag. 1938.) hairy; stems tetragonal, winged; leaves with 1 pair of large, ovate, obtuse, waved leaflets; stipulas small, semi-sagittate, lanceolate; peduncles 2-3-flowered, longer than the leaves; teeth of calyx acute, longer than the tube; legumes long, linear, puberulous. ♃. H. Native of the south of Europe, in hedges and among bushes. In Sicily, about Palermo and on Mount Etna. Pìsum biflòrum, Rafin. car. di piant. p. 71. Perhaps *L. grandiflòrus*, Smith, fl. græc. t. 698. Flowers very large, rose-coloured, with an emarginate vexillum.

Great-flowered Everlasting-pea. Fl. June, Aug. Clt. 1814. Pl. cl.

17 L. PUS'ILLUS (Ell sketch. car. geogr. 2. p. 223.) tendrils simple; leaflets 2, linear-lanceolate; stipulas falcate; peduncles 1-flowered, elongated. Native of Carolina, at Cooper's River.

Small Lathyrus. Pl. cl.

* * *Leaves with 2-3-4 or more pairs of leaflets.*

18 L. PISIFÓRMIS (Lin. spec. 1034. but not of Houtt.) plant smoothish; leaves with 3-4 pairs of oval leaflets; stipulas unequally cordate, hastate, with the angles acute, equal in length to the leaflets; peduncles many-flowered, rather shorter than the leaves; the 2 upper segments of the calyx short; legumes linear-oblong, compressed, rather falcate, acute at the apex on the upper suture. ♃. H. Native of Europe, Siberia, and throughout North America, in the plains. L. marítimus, Begel. fl. bost. ed. 2. p. 262. L. Califórnicus, Dougl. in bot. reg. 1144. L. venòsus, Sweet, fl. gard. 2. ser. t. 37. but not of Willd. Begel. fl. bost. ed. 1. p. 167. but not of ed. 2. Pisum marítimum, Rich. in Frankl. 1. journ. ed. 2. append. p. 28.— Gmel. fl. sib. 4. p. 7. t. 1. Astrágalus Chinénsis, Buch. cent. 10. dec. 2. t. 5. Flowers purple. We have followed Dr. Hooker, in his recent publication, in adding the numerous synonymes, but we have some reason to believe that he is perfectly wrong with regard to some of the species.

Pea-formed Lathyrus. Fl. June, July. Clt. 1795. Pl. cl.

19 L. CALIFO'RNICUS (Dougl. in bot. reg. 1144.) stems tetragonal, glabrous; leaves glaucous, with 4-5 pairs of ovate-oblong, glabrous, mucronulate leaflets; tendrils 3-parted; stipulas semi-sagittate, about the size of the leaflets; peduncles many-flowered, about equal in length to the leaves; root creeping. ♃. H. Native of North California and the north-west coast of America. Flowers purple, elegantly veined, twice the size of those of *V. pisifórmis* or *V. mutábilis.* Legumes oblong, rather falcate, inflated.

Californian Lathyrus. Fl. July, Sept. Clt. 1826. Pl. cl.

20 L. MUTA'BILIS (Sweet, fl. gard. 194.) stems flexuous, winged: wings ciliately pubescent; leaves with 3-4 pairs of ovate, obtuse, glaucescent leaflets; stipulas semi-sagittate, ovate, acute, angularly toothed at the base; peduncles many-flowered, shorter than the leaves; calycine segments ovate-lanceolate, ciliated, unequal, length of tube; legumes convex, narrow, dotted, pubescent. ♃. H. Native of Siberia. Flowers changeable in colour, at first purplish pink, striped with numerous dark purple branching lines, but at length changing to a brownish green. Very like *L. pisifórmis.*

Changeable-flowered Lathyrus. Fl. June, Aug. Clt. 1825. Pl. cl.

21 L. OCHROLEU'CUS (Hook, in fl. bor. amer. p. 159.) plant quite glabrous; leaves with 3-4 pairs of broad, oval, or ovate leaflets; stipulas toothed, broad, semi-cordate, rather hastate, hardly smaller than the leaves, with the angles sometimes acute, and sometimes obtuse; peduncles many-flowered, about equal in length to the leaves; the 2 upper calycine segments short; legumes in an immature state, linear-elongated, acuminated, compressed, quite smooth. ♃. H. Native of North America, Hudson's Bay, and from the Red River, in lat. 49° through the whole woody country to Bear Lake, in lat. 66°. L. pisifórmis, Richards. in Frankl. 1st journ. edit. 2d append. p. 28. Flowers cream-coloured.

Cream-coloured-flowered Lathyrus. Pl. cl.

22 L. DECAPHY'LLUS (Pursh, fl. amer. sept. 2. p. 471.) plant glabrous or pubescent; leaves with 4-6 pairs of elliptic, rarely ovate or oblong leaflets; stipulas small, semi-sagittate, lanceolate, with the lobe deflexed and about equal in length to the stipulas; peduncles many-flowered, about equal in length to the leaves; calyx pubescent, with the superior teeth very short. ♃. H. Native of North America, on the banks of the Saskatchawan, abundant in bushy places in north-west America. Hook. bot. mag. 3123. Flowers purple.

Ten-leafletted Lathyrus. Fl. June. Clt. 1827. Pl. cl.

23 L. SPECIÒSUS; plant glabrous; leaves with 4 pairs of broad, elliptic, mucronate leaflets; stipulas as large as the leaflets; tendrils simple; peduncles many-flowered, longer than the leaves; segments of the calyx ovate-lanceolate, upper ones broadest and shortest, all mucronate. ♃. H. Native of Mexico. Flowers purplish-blue. (v. s. herb. Lamb.)

Showy Lathyrus. Pl. cl.

24 L. JAPÓNICUS (Willd. spec. 3. p. 1092.) stems acute-angular; leaves with 4 pairs of elliptic, acute leaflets; stipulas sagittate, stem-clasping, breadth of the leaflets, but shorter; peduncles many-flowered. ♃. H. Native of Japan. L. pisifórmis, Houtt. fl. syst. 8. t. 63. f. 1. but not of Lin. Flowers purple, or rose-coloured.

Japan Lathyrus. Pl. cl.

25 L. VENÒSUS (Muhl. in Willd. spec. 3. p. 1092.) stems tetragonal, not winged; leaves with many pairs of ovate, obtuse, nearly opposite, mucronulate, glabrous leaflets; tendrils trifid; stipulas semi-sagittate, ovate; peduncles many-flowered, shorter than the leaves. ♃. H. Native of Pennsylvania, and common throughout the great chain of lakes in Upper Canada; plentiful on the Red River and the river Winepeg. Oxypògon élegans, Rafin. in journ. phys. aug. 1819. p. 98, but the legume is said to be falciform and the ovary stipitate. Said to be like *L. pisifórmis*, but the stipulas are much smaller, and the leaflets are broader, ovate, and the corolla is larger. Flowers purple, veined.

Veiny Lathyrus. Pl. cl.

26 L. STIPULA'CEUS (Leconte, in cat. pl. new york, p. 92.) plant quite smooth; stems acutely tetragonal, hardly winged; leaves with 3 pairs of elliptic, mucronate leaflets; stipulas ovate, semi-sagittate, acuminated, large; peduncles 4-6-flowered, rather

longer than the leaves; legumes, when immature, linear, acuminated, compressed, glabrous. ♃. H. Native of North America, in meadows about New York, also of Upper Canada and about Lake Huron. Flowers large, purple.

Large-stipuled Lathyrus. Fl. July, Aug. Clt. 1816. Pl. cl.

27 L. MYRTIFÒLIUS (Muhl. in Willd. spec. 3. p. 1091.) stem weak, flexuous, tetragonal, not winged; leaves with 2-3 pairs of oblong-lanceolate, bluntish, stiffish, glabrous, mucronate leaflets, which are striated with veins; tendrils trifid; stipulas semi-sagittate, lanceolate, acuminated, with scabrous margins; peduncles 3-4-flowered, longer than the leaves. ♃. H. Native of North America, in Pennsylvania and the state of New York, and on the banks of the Niagara to Queenstown. This species has the habit of *L. palústris*, but differs in the calycine teeth being broad at the base, with the upper ones short. Flowers red.

Myrtle-leaved Lathyrus. Fl. July, Aug. Clt. 1822. Pl. cl.

28 L. POLYMÓRPHUS (Nutt. gen. amer. 2. p. 97.) stem tetragonal, not winged; leaves with many pairs of oblong or somewhat linear, obtuse, mucronate leaflets; stipulas semi-sagittate, lanceolate; peduncles many-flowered, longer than the leaves. ♃. H. Native on the grassy plains of the Missouri. Vìcia stipulàcea, Pursh, fl. amer. sept. p. 471. Allied to *L. palústris.* Flowers purple, streaked with deeper veins.

Polymorphous Lathyrus. Fl. June, July. Clt. 1824. Pl. cl.

29 L. MACRÆ'I (Hook, in Beech. voy. p. 21.) plant rather pilose; stems angular; leaves with 6 pairs of elliptic, retuse, feather-nerved leaflets, which are reticulately veined, white beneath, also full of pellucid dots; stipulas small, semi-sagittate, entire; peduncles many-flowered, longer than the leaves; lower segments of calyx very long and subulate, upper ones very short; style linear, pilose at the apex on all sides, but more conspicuous on the upper side. ♃. H. Native of Chili, about Valparaiso and Conception.

Mac Rae's Lathyrus. Pl. cl.

30 L. PALU'STRIS (Lin. spec. 1034.) plant quite glabrous; stems winged, erectish; leaves with 2-3 pairs of oblong, mucronulate leaflets; petioles subulate; tendrils bifid or trifid; stipulas semi-sagittate, acute, small; peduncles 3-5-flowered, hardly longer than the leaves; calycine segments unequal, nearly linear, length of tube; legumes compressed. ♃. H. Native of the north of Europe, in meadows and marshes; plentiful in Britain. Smith, engl. bot. t. 169. Oed. fl. dan. t. 399. Mart. fl. rust. t. 8. Garid. prov. t. 108. L. Narbonénsis, Riv. tetr. t. 40. Flowers variegated with blue and purple.

Var. β, linearifòlius (Ser. mss. in D. C. prod. 2. p. 371.) leaflets and stipulas very narrow. Native of Denmark and Switzerland.

Var. γ, subexstipulàtus (Ser. mss. in D. C. prod. 2. p. 371.) leaves with 2 pairs of linear-oblong leaflets; stipulas small, setaceous. L. palústris, Nestl. ex herb. D. C.

Marsh Lathyrus. Fl. July, Aug. Britain. Pl. cl.

31 L. HETEROPHY'LLUS (Lin. spec. 1034.) stem erect, rigid, winged; leaves with 1 or 2 pairs of lanceolate, mucronulate leaflets; petioles winged at the base; tendrils branched; stipulas lanceolate, semi-sagittate; peduncles 6-8-flowered; legumes compressed, glabrous. ♃. H. Native of Europe, at the bottom of mountains.—J. Bauh. hist. 2. p. 304. f. 1. Flowers large, with the standard and wings flesh-coloured and the keel whitish. By the leaves, the wings of the stem, and the size of the flowers, it appears to be intermediate between *L. latifòlius* and *L. sylvéstris.*

Various-leaved Lathyrus. Fl. July, Sept. Clt. 1731. Pl. cl.

32 L. VICIÆFÓRMIS (Wallr. sched. crit. p. 388.) stems simple, and are as well as the petioles winged; leaves with 6 pairs of linear-lanceolate, acuminated, mucronate leaflets; stipulas semi-sagittate, lanceolate; peduncles many-flowered, longer than the leaves. ♃. H. Native of Germany, in bushy places. Flowers violaceous, about the size of those of *O'robus vérnus.*

Vetch-formed Lathyrus. Pl. cl.

§ 2. *Annual plants, having the peduncles bearing from* 1-3 *flowers.*

* *Petioles leafless.*

33 L. A'PHACA (Lin. spec. 1029.) stems erect; tendrils cylindrical, filiform, leafless (rarely with 2 leaflets); stipulas ovate, sagittate, large; peduncles 1-flowered (rarely 2-flowered), articulated at the apex, furnished with a pair of small, narrow bracteas; calycine segments twice the length of the tube; legumes much compressed, broad, few-seeded; seeds compressed. ⊙. H. Native of Europe, in cultivated fields. In Britain, on the borders of sandy or gravelly fields, but rare; in Cambridgeshire and Oxfordshire; about Tottenham and Enfield; in a gravel-pit between Norwich and Brooke; and near Forncet, Norfolk. Smith, engl. bot. 1167. Curt. fl. lond. 5. t. 51.—Mill. fig. t. 43. Flowers small, yellow, with a paler keel. A smooth, glaucous herb.

Yellow-vetchling Fl. June, July. Brit. Pl. cl. 1 foot.

34 L. NISSÒLIA (Lin. spec. 1029.) stem erect; petioles dilated, foliaceous, grass-like, 3-5-nerved; stipulas small, subulate, usually wanting; flowers solitary, on long peduncles; peduncles articulated at the apex, and downy on the upper part, where they bear 2 little awl-shaped bracteas; legumes compressed, narrow, nerved, reflexed. ⊙. H. Native of Europe, in corn-fields. In Britain, in bushy places and grassy borders of fields. Smith, engl. bot. 112.—Magn. hort. t. 112. Curt. lond. fasc. 6. t. 51. Buxb. cent. 3. p. 84. t. 45. f. 1.—Moris. hist. sect. 2. t. 3. f. 7. Flowers beautiful crimson, variegated with purple and white. The plant, when young, very much resembles a grass.

Nissol's Lathyrus or Crimson Grass-vetch. Fl. May, June. Britain. Pl. ½ to 1 foot.

* * *Leaves with* 1 *pair of leaflets.*

35 L. SUBULA'TUS (Lam. dict. 2. p. 707.) plant pilose; stems tufted, filiform, tetragonal; leaves on short petioles; tendrils very short; leaflets linear, acute; stipulas linear, semi-sagittate, nearly the length of the leaflets; peduncles 1-3-flowered; calycine segments narrow, acute, nearly equal, length of tube. ⊙. H. Native of Monte Video. Flowers purple, like those of *L. tomentòsus*, but much smaller.

Subulate-leafletted Lathyrus. Pl. 1 foot.

36 L. INCONSPI'CUUS (Lin. spec. 1030.) stems obsoletely triquetrous; leaflets lanceolate, striated beneath, acuminated; stipulas semi-sagittate, lanceolate; tendrils on the lower leaves almost wanting, on the upper ones filiform and elongated; peduncles very short, 1-flowered. ⊙. H. Native of the Levant. Jacq. hort. vind. 1. t. 86. Corolla small, red, very little longer than the calyx. Legumes glabrous, straight, about the length of the leaflets, but broader.

Var. β, oblóngus (Ser. mss. in D. C. prod. 2. p. 372.) leaflets broad, elliptic; legumes finely reticulated, puberulous. ⊙. H.

Inconspicuous-flowered Lathyrus. Fl. June, Aug. Clt. 1739. Pl. ½ to 1 foot.

37 L. SPHÆ'RICUS (Retz. obs. 3. p. 39.) plant smoothish; stems erect, tetragonal, subulate at the apex; leaflets ensiform, mucronate, nerved; stipulas semi-sagittate, linear, length of peduncles and petioles; peduncles 1-flowered, thickish; calycine teeth narrow, longer than the tube; legumes somewhat torulose, nerved lengthwise; the nerves numerous and thick; seeds spherical. ⊙. H. Native of the south of Europe, in cultivated fields. D. C. icon. rar. 1. p. 10. t. 32. L. coccíneus, All. pedem. no. 1222. L. axillàris, Lam. dict. 2. p. 706.

Flowers beautiful crimson, about the size of those of *L. Nissòlia.*

Var. β, pilòsus (D. C. prod. 2. p. 372.) stems hairy; leaflets ciliated. ⊙. H. Native of Tauria. L. angulàtus, Stev. in litt.

Round-seeded Lathyrus. Fl. June, July. Clt. 1801. Pl. 1 ft.

38 L. MICRA'NTHUS (Gerard. in Lois. not. 106.) stems tetragonal; tendrils simple, very short; leaflets linear-lanceolate; peduncles very short, 1-flowered? ; stipulas ? ; calycine segments about equal in length to the corolla; legumes almost sessile, straight, spreading, cylindrical, rather villous. ⊙. H. Native of Provence, in corn-fields. Flowers purplish. Perhaps only a variety of *L. inconspícuus.*

Small-flowered Lathyrus. Fl. Ju. Jul. Clt. 1816. Pl. ½ to 1 ft.

39 L. ANGULA'TUS (Lin. spec. 1031.) plant glabrous; stems erect, tetragonal; leaflets linear, acuminated; tendrils trifid; stipulas semi-sagittate, linear, acute, hardly longer than the petiole; peduncles filiform, 1-flowered, hardly equal in length to the leaves, somewhat cirrhiferous; bracteas ovate, very short; calycine teeth acute, length of tube; legumes narrow, compressed, veinless; seeds angular. ⊙. H. Native of the south of Europe, in cultivated fields.—Buxb. cent. 3. p. 23. t. 42. f. 2. Flowers small, red, or purple.

Angular-seeded Lathyrus. Fl. June, July. Clt. 1683. Pl. ½ to 1 foot.

40 L. LONGIPEDUNCULA'TUS (Ledeb. hort. dorp. suppl. 1824. p. 5.) leaflets linear; tendrils trifid; peduncles 1-flowered, awned, exceeding the leaves; legumes cylindrical, nerveless; seeds angular. ⊙. H. Native country unknown. Perhaps *A. angulàtus,* Roth. cat. 3. p. 68. Flowers red.

Long-peduncled Lathyrus. Fl. Ju. Jul. Clt. 1817. Pl. 1 ft.

41 L. LEPTOPHY'LLUS (Bieb. fl. taur. 2. p. 155. suppl. p. 465.) stems erect; leaflets linear-lanceolate; tendrils branched; stipulas narrow, subulate, semi-sagittate; peduncles short, 1-flowered; calycine teeth lanceolate; legumes lanceolate, glabrous; seeds globose, tubercled. ⊙. H. Native of eastern Caucasus. Flowers purple but with the keel white.

Slender-leaved Lathyrus. Fl. June, Jul. Clt. 1818. Pl. 1 ft.

42 L. SETIFÒLIUS (Lin. spec. 1031.) plant glabrous; stems erect, tetragonal; leaflets linear, very narrow; stipulas very narrow, semi-sagittate, length of petiole; tendrils trifid; peduncles 1-flowered, filiform, shorter than the leaves, jointed at the apex, furnished each with a small bractea; calycine teeth acute, length of tube; tendrils trifid; legumes ovate-oblong, short, reticulated; seeds globose, warted, purple. ⊙. H. Native of the south of Europe; Italy, and France. L. prostràtus, Brign. pl. foro-juliens. 1. p. 28.?—J. Bauh. hist. 2. p. 308. with a figure. Flowers small, rose-coloured, or scarlet.

Bristle-leaved Lathyrus. Fl. Ju. Jul. Clt. 1739. Pl. ½ to 1 ft.

43 L. AMPHICA'RPOS (Lin. spec. 1029.) stems winged, diffuse; leaflets lanceolate; tendrils simple; stipulas semi-sagittate, 1-toothed, longer than the petioles; peduncles 1-flowered, longer than the leaves; cauline as well as subterraneous legumes ovate, 2-winged in front, and a little compressed on the sides, 2-seeded. ⊙. H. Native of Syria. Brot. fl. lus. 162. t. 66. Sweet, fl. gard. 236.—Moris. hist. 2. p. 61. sect. 2. t. 25. f. 1. Flowers pink, tinged with blue. In this singular plant there are underground stems, which are whitish, and bear flowers and legumes absolutely perfect, and resembling those on the stems above-ground, except that the flowers are smaller and do not expand.

Both-sides-fruited Lathyrus, or Underground or Earth-pea. Fl. June, July. Clt. 1680. Pl. ½ to 1 foot.

44 L. SATI'VUS (Lin. spec. 1030.) plant smoothish; stems winged; leaflets linear-oblong; tendrils trifid; stipulas semi-sagittate, ovate, ciliated, hardly the length of the petioles; peduncles 1-flowered, longer than the petioles, bracteolate and articulated at the apex; calycine segments lanceolate, foliaceous, almost 3-times the length of the tube; legumes ovate, broad, short, irregularly reticulated, winged on the back; seeds trigonal, smooth, rather truncate. ⊙. H. Native of Spain, France, and Italy. Jacq. fil. ecl. 116. Curt. bot. mag. t. 115. —Riv. tetr. irr. t. 47. Cicércula alàta, Mœnch. meth. p. 163. Flowers white.

Var. β, angustàtus (Ser. mss. in D. C. prod. 2. p. 373.) leaflets and stipulas linear, and very narrow.

Var. γ, coloràtus (Ser. mss. l. c.) corolla white, having the vexillum violaceous on the under side in front, and with deeper veins, and with the wings having each a large blue spot. ⊙. H. Native of Teneriffe. L. sativus β, Hoffm. verz. fl. 1824. p. 235.

The seeds of *L. satìvus* are commonly sown in Switzerland for soiling horses, under the name of *Gesse.* In several parts of the continent a white, light, pleasant bread is made from the flour of the pulse, but it produced such dreadful effects in the seventeenth century, that the use of it was forbidden by an edict of George, duke of Wirtemberg, in 1671, and was enforced by two other edicts under his successor Leopold, in 1705 and 1714. Mixed with wheat-flour in half the quantity makes a very good bread, and appears to be harmless. But bread made with this flour exclusively has brought on a most surprising rigidity of the limbs in those who have used it for a continuance, insomuch that the exterior muscles could not by any means be reduced, or have their natural action restored. These symptoms usually appeared on a sudden without any previous pain. The disease was regarded as incurable, and being neither very painful nor fatal, those who were seized with it usually submitted to it with patience. "Swine fattened with this meal lost the use of their limbs, but grew very fat lying on the ground. A horse fed some months on the dried herb was said to have his legs perfectly rigid. Kine are reported to grow lean on it, but sheep not to be affected. Pigeons, especially young ones, lose the power of walking by feeding on the seeds. Poultry will not readily touch it, but geese eat it without any apparent damage. In some parts of Switzerland cattle feed on the herb without any apparent harm." Duvernoy Fabbroni, of Florence, says, that the government there had cautioned the peasants against the use of *Láthyrus satìvus,* in 1786, swine having lost the use of their limbs, and become pitiable monsters, by being fed on this pulse exclusively. The peasants, however, eat it boiled or mixed with wheat flour, in the quantity of one-fourth, without any harm.

Cultivated Lathyrus or Chickling-vetch. Fl. June, July. Clt. 1640. Pl. cl.

45 L. CÍCERA (Lin. spec. 1030.) plant smoothish; stems diffuse, winged; leaflets linear-oblong; tendrils trifid or quadrifid; stipulas semi-sagittate, lanceolate, a little toothed, ciliated, length of the petiole; peduncles 1-flowered, longer than the stipulas; bracteoles small; calycine segments lanceolate, foliaceous, nearly 3 times the length of the tube; legumes oblong, irregularly-reticulated, channelled on the back, not winged; seeds trigonal, somewhat truncate, bay-coloured, smooth. ⊙. H. Native of Spain. Jacq. fil. eclog. t. 115. L. sativus β, Lam. dict. 2. p. 705. Cicércula ánceps, Mœnch. meth. 163. Flowers purple or red, rather variable.

Cicer-like or Flat-podded Lathyrus or Dwarf Chickling-vetch. Fl. June, July. Clt. 1633. Pl. cl. 1 to 2 feet.

46 L. A'NNUUS (Lin. spec. 1032.) plant glabrous; stems diffuse, winged; leaflets linear, elongated; tendrils trifid; stipulas semi-sagittate, very narrow, much shorter than the petioles; peduncles 1-2-flowered, length of the leaves; bracteoles small; calycine segments lanceolate, hardly longer than the tube; legumes oblong-linear, densely-reticulated, not winged; seeds roundish. ⊙. H. Native of Spain.—Buxb. cent. 3. t. 42. f. 1. —Riv. tetr. irr. t. 42. Flowers small, yellow.

Annual Lathyrus. Fl. June, July. Clt. 1621. Pl. cl.

47 L. HIRSU'TUS (Lin. spec. 1032.) stems winged; leaflets linear-lanceolate, 3-nerved; stipulas semi-sagittate, linear, about equal in length to the petiole; peduncles usually 2-flowered, hardly longer than the leaves; calyx hairy; segments ovate, acuminated, length of the tube; legumes oblong, hairy; seeds globose, warted. ⊙. H. Native of the south of Europe, in corn-fields. In Britain, but rare, in various places, at Rochford Hundred, Essex; at Southend, Essex; between Bath and Bristol. Sims, bot. mag. 1255. Smith, engl. bot. 1255. J. Bauh. hist. 2. p. 305. with a figure.—Riv. tetr. irr. t. 41. Corolla with a bright crimson standard, pale blue wings, and whitish keel.

Hairy Lathyrus. Fl. June, July. Britain. Pl. cl.

48 L. HIRTUS (Lam. dict. 2. p. 706.) stems tetragonal, not winged; leaflets oblong or obovate; stipulas semi-sagittate, linear, about equal in length to the petioles, or sometimes shorter; peduncles 1-flowered, hardly longer than the leaves; calycine segments ovate, length of the tube; legumes oblong-obovate, hairy; seeds globose, warted with dots. ⊙. H. Native country unknown. Flowers purplish. Perhaps a variety of *L. hirsùtus*, with short pods, and 1-flowered peduncles. Habit of *L. tuberòsus*.

Hairy-podded Lathyrus. Fl. Ju. Aug. Clt. 1800. Pl. cl.

49 L. ODORA'TUS (Lin. spec. 1032.) plant hairy; stems winged; leaflets ovate, mucronulate; stipulas semi-sagittate, lanceolate, much shorter than the petioles; peduncles 2-3-flowered, much longer than the leaves; calycine teeth broad, longer than the tube; legumes oblong-linear, compressed, hairy; seeds roundish. ⊙. H. Native of Sicily. Flowers sweet-scented.

Var. α, *purpùreus*; vexillum purple. Native of Sicily. Curt. bot. mag. t. 60.

Var. β, *ròseus*; vexillum rose-coloured. Native of Ceylon. New Painted Lady Sweet-pea.

Var. γ, *álbus*; flowers white. White Sweet-pea.

Var. δ, *píctus*; wings and keel white; vexillum flesh-coloured. Old Painted Lady-pea. [illegible] glabro

Var. ε, *cærùleus*; wings and [illegible] pairs of [illegible] ro-
purple. [illegible]ate; tend[illegible]

Var. ι, *violàceu*[illegible]ate, small [illegible] keel pale blue; vexillum dark
lum dark pur[illegible] leaves; c[illegible]
[illegible]be; l[illegible] keel pale violet; wings deep violet; vexil-
[illegible] of Euro[illegible]ple.

Smith [illegible]*et-peas* are a great ornament to flower-borders in autumn. The seeds only require to be sown in drills or in clumps in April. Gardeners who raise *Sweet-peas* for the London markets, sow them in the autumn in pots, and secure them from severe weather by placing them in hot-bed frames, by which means they can bring them early to market. They may be continued in flower the whole summer by repeated sowings in the spring. When sown in pots they require to be frequently refreshed with water.

Sweet-pea or Sweet-scented Lathyrus. Fl. July. Aug. Clt. 1700. Pl. cl.

50 L. TINGITA'NUS (Lin. spec. 1032.) plant quite smooth; stems winged; leaflets ovate, obtuse, mucronulate; stipulas ovate, semi-sagittate, much shorter than the petioles; peduncles 2-flowered, longer than the leaves; calycine teeth nearly equal, shorter than the tube; legumes oblong-linear, much reticulated, compressed, tomentose, with the sutures thick; seeds hardly angular, variegated with black and brown. ⊙. H. Native of the north of Africa, at Tangiers. Curt. bot. mag. t. 100. Jacq. hort. vind. t. 46. Flowers with a large purple vexillum, and with the wings and keel bright red. This species of *Láthyrus* is usually sown in gardens with other annuals, but the flowers have not the agreeable scent or variety of colours of the sweet-pea.

Tangier Pea. Fl. June, July. Clt. 1680. Pl. cl.

51 L. BRU'TIUS (Tenore, ex Spreng. syst. append.) leaflets 2, elliptic-oblong; stipulas semi-sagittate, setaceous; stem angular, smooth; legumes glabrous. ⊙. H. Native of Calabria.

Brutian Lathyrus. Pl. cl.

* * * *Leaves with 2 or 3 pairs of leaflets.*

52 L. CLYMENOÌDES (D. C. prod. 2. p. 374.) plant smoothish; stems winged; leaves with 2 pairs of linear-lanceolate mucronate leaflets; stipulas semi-sagittate, lanceolate, much shorter than the petioles; peduncles 1-flowered, filiform, shorter than the leaves; calycine segments lanceolate, twice the length of the tube; legumes lanceolate. ⊙. H. Native of the Mauritius. Flowers purple.

Clymenum-like Lathyrus. Pl. cl.

53 L. CIRRHÒSUS (Ser. mss. in D. C. prod. 2. p. 374.) plant quite smooth; stems tetragonal, winged; petioles winged, bearing 5 or 6 leaflets; tendrils much branched; leaflets alternate, elliptic, mucronulate, reticulately veined; stipulas semi-sagittate, linear, acute; peduncles many-flowered, longer than the leaves; calycine segments unequal, narrow, shorter than the tube; legumes oblong, finely reticulated; style arched. ⊙. H. Native of the Pyrenees, about Olette.

Tendrilled Lathyrus. Pl. cl.

54 L. TU'RGIDUS (Lam. dict. 2. p. 706.) plant pilose; stems tetragonal; lower leaves with one pair of ovate-oblong mucronate leaflets, upper ones with 2 pairs of linear-lanceolate leaflets; stipulas semi-sagittate, toothed; peduncles short or elongated, 1-2-flowered; calycine segments linear, length of tube or longer; style bearded; legumes oblong, compressed, villous, reticulated, turgid; seeds roundish. ⊙. H. Native of the Levant, and the south of France. L. túmidus, Willd. spec. 3. p. 1082. Flowers with a purple vexillum, and white wings.

Turgid-podded Lathyrus. Fl. June, Jul. Clt. 1817. Pl. cl.

55 L. PURPU'REUS (Presl. del. prag. p. 39. Guss. pl. rar. 297.) leaves with 2 pairs of linear leaflets; stipulas semi-sagittate; peduncles 1-flowered, bracteate, articulated beyond the middle, longer than the stipulas; legumes lanceolate. ⊙. H. Britain [illegible]e of Calabria, in corn-fields. Flowers purplish.

Pur[illegible]ple-flowered Lathyrus. Fl. May. Pl. cl.

5[illegible] L. CILIA'TUS (Guss. pl. rar. p. 296.) leaves with 2, rarely 3, pairs of leaflets; leaflets cuneiform[illegible]-obovate, retuse, mucronate, ciliated, superior ones linear [illegible] elongated, acute; petioles ending in a bristle; pedun[illegible]cles 1-flowered, articulated beyond the middle, short[illegible] than the petioles; legumes linear, compressed, 4-5-se[illegible] [illegible]ve of Monte V[illegible]ded; seeds small, globose, smooth. ⊙. H. Native of Calabria, on hills. Corolla small, with a greenish vexillum marked with purple veins; the keel and wings greenish-yellow.

Ciliated-leaved Lathyrus. Fl. May. Pl. dec. or cl.

SECT. II. CLY'MENUM (the Latin name for *Water Betony*, or from κλυμενος, *clymenos*, clear). D. C. prod. 2. p. 375. Vexillum furnished with a conical gibbosity on each side at the base. Lower petioles leafless, upper ones bearing 2-6, usually alternate leaflets. Petioles usually winged.

57 L. DIFFU'SUS; plant glabrous; stems furrowed; leaves with numerous alternate leaflets, which are lanceolate or elliptic-lanceolate, retuse, and mucronate; stipulas small, semi-sagittate, bidentate on one side; racemes shorter than the leaves; flowers secund; calycine segments short and broad, lower one elongated; calyx pubescent. ♃. H. Native of North America, on the Missouri. O'robus diffùsus, Nutt. in Fraser. cat. Flowers large, bluish-purple.

Diffuse Lathyrus. Pl. cl.

58 L. INCU'RVUS (Roth. abh. 13. t. 4.) stems tetragonal, subulate; leaflets elliptic-lanceolate, mucronulate, glabrous, rugged from dots; stipulas semi-sagittate; peduncles many-flowered, longer than the leaves; calycine teeth unequal, much shorter

than the tube; legumes curved. ♃. H. Native of Siberia. Willd. spec. 3. p. 1091.—Buxb. cent. 4. p. 27. t. 46. This plant is said to have the habit of and flowers of *O'robus tuberòsus.* Two of the angles of the stem are more winged than the other two, but all ciliated.

Incurved-podded Lathyrus. Fl. Ju. Jul. Clt. 1808. Pl. cl.

59 L. ALA'TUS (Tenore, prod. 42. but not of Smith,) stems tetragonal, winged; leaflets 6-8, oblong-lanceolate, mucronulate, alternate; petioles winged; stipulas lanceolate, unequal, somewhat sagittate; peduncles 2-3-flowered, longer than the leaves; calycine teeth unequal, shorter than the tube; legumes compressed, flat, many-seeded. ⊙. H. Native of Italy. Flowers large, purple. This plant comes very near *L. Clýmenum.*

Winged-stemmed Lathyrus. Fl. Ju. Aug. Clt. 1823. Pl. cl.

60 L. CLY'MENUM (Lin. spec. 1032.) stem tetragonal, winged; lower petioles dilated, leafless, linear-lanceolate, upper ones bearing 5-6 linear leaflets; stipulas semi-sagittate, linear; peduncles 1-6-flowered, about equal in length to the leaves; calycine teeth unequal, longer than the tube; legumes oblong, compressed, finely reticulated, with the seminiferous suture tumid; seeds compressed, variegated. ⊙. H. Native of the south of Europe. Clýmenum uncinàtum, Mœnch. meth. 150. Flowers blue. There is also a variety having the vexillum red and the wings blue.

Clear Vetchling. Fl. June, July. Clt. 1713. Pl. cl.

61 L. ARTICULA'TUS (Lin. spec. 1031.) stem tetragonal, winged; lower petioles leafless, linear, acuminated, upper ones bearing 5-6 linear leaflets; stipulas lanceolate, semi-sagittate; peduncles 1-3-flowered, about equal in length to the leaves; calycine teeth nearly equal, shorter than the tube; legumes rather turgid, finely reticulated and nodose at the seeds, having the seminiferous suture tumid; seeds compressed, dark purple, rather velvety. ⊙. H. Native of the south of Europe. Gærtn. fruct. 2. p. 331. t. 152. f. 2. Curt. bot. mag. 253. Tourn. inst. t. 218. Mill. fig. t. 96. Clýmenum bícolor, Mœnch. meth. 150.—Riv. tetr. irr. t. 48. Corolla with a bright red standard, and white wings and keel.

Articulated-podded Lathyrus. Fl. Ju. Jul. Clt. 1640. Pl. cl.

62 L. AURICULA'TUS (Bert. pl. rar. dec. 2. p. 38.) stem tetragonal, winged; lower petioles leafless, broadly auricled; upper ones with 5-6 linear leaflets; stipulas lanceolate, semi-sagittate; peduncles few-flowered; calycine teeth unequal; legumes torulose, thickened at the seminiferous suture; seeds velvety. ⊙. H. Native of Italy. L. articulàtus β, auriculàtus, Ser. in D. C. prod. 2. p. 375. Flowers purple, but at length becoming blue.

Auriculate-petioled Lathyrus. Fl. Ju. Jul. Clt. 1800. Pl. cl.

63 L. SPU'RIUS (Willd. enum. 760.) stems winged; petioles broadly winged, bearing about 4 leaflets, terminating in a branched tendril; stipulas lanceolate; peduncles 1-flowered; legumes compressed. ⊙. H. Native country unknown. Perhaps only a variety of *L. articulàtus.* Flowers purplish-blue.

Spurious Lathyrus. Fl. June, July. Clt. 1815. Pl. cl.

64 L. TENUIFÒLIUS (Desf. fl. atl. 2. p. 160.) stem simple, tetragonal, winged; lower petioles leafless, linear, acuminated, upper ones bearing 4 or 6 linear leaflets; lower stipulas small or wanting, upper ones large, semi-sagittate; peduncles usually 2-flowered, longer than the leaves; calycine teeth unequal, shorter than the tube; legumes oblong, compressed, glabrous. ⊙. H. Native of Algiers. Corolla blue, about the size of those of *L. satìvus.*

Fine-leaved Lathyrus. Fl. June, Aug. Clt. 1820. Pl. cl.

65 L. PURPU'REUS (Desf. cor. p. 81. t. 61.) stem and petioles winged; lower petioles leafless, lanceolate; upper ones bearing 4-6 ovate-lanceolate leaflets; stipulas lanceolate, semi-sagittate; peduncles 1-flowered, shorter than the leaves. ⊙. H. Native of Greece and Candia. L. alàtus, Smith, fl. græc. t. 697. prod. 2. p. 66.? but not of Tenore. Flowers purple, about the size of those of *L. odoràtus.*

Purple-flowered Lathyrus. Fl. June, Aug. Clt.? Pl. cl.

66 L. CORNU'TUS (Horn. hort. hafn. 686.) stems unknown; lower petioles leafless, winged, upper ones bearing 4-6, lanceolate alternate leaflets; legumes unknown. ⊙. H. Native country unknown. Flowers purple.

Horned Lathyrus. Fl. June, Aug. Clt. 1818. Pl. cl.

† *Species not sufficiently known.*

67 L. AMERICA'NUS (Mill. dict. no. 19.) stems procumbent; leaves kidney-shaped, simple, veiny beneath; peduncles 2-flowered. ♃. H. Native of North America. Flowers yellow. Perhaps *Baptísia perfoliàta.*

American Lathyrus.

68 L. PARISIE'NSIS (Mill. dict. no. 4.) leaves with many pairs of leaflets; stipulas lanceolate; peduncles 1-flowered. ⊙. H. Native country unknown.

Parisian Lathyrus. Fl. July. Clt.? Pl. cl.

69 L. MAGNOFLÒRE (Mill. dict. no. 14.) stems winged; leaves with one pair of ovate-lanceolate leaflets; peduncles many-flowered. ♃. H. Perhaps only a variety of *L. latifòlius.*

Large-flowered Lathyrus. Fl. June, Aug. Clt.? Pl. cl.

70 L. ERE'CTUS (Lag. nov. gen. 22.) leaflets linear; peduncles awnless, 1-flowered, short; legumes linear, many-seeded. ♂. H. Native about Madrid.

Erect Lathyrus. Pl. 1 foot.

† *Species only known by name from the catalogues of gardens, which are probably identical with some of those described above.*

1 *L. Hallersteinii,* Baumg. 2 *L. helòdes,* Link. 3 *L. Itálicus,* Fisch. 4 *L. Lusitánicus,* Martius. 5 *L. Sinénsis,* Martius.

Cult. The greater part of the species of *Láthyrus* are very handsome when in bloom, the larger kinds are very fit for arbours or shrubberies, and being mostly climbing plants, should be supported by branches stuck in round their roots, or other supports. They all grow in any common soil, and are increased by seeds, and some of the perennial kinds by dividing at the root.

CLXXIII. O'CHRUS (from *ωχρος, ochros,* yellow; in reference to the colour of the flowers, which are of a pale yellow). Pers. ench. 2. p. 305.

LIN. SYST. *Diadélphia, Decándria.* Calyx campanulate, 5-cleft, the 2 superior lobes the shortest and conniving. Stamens diadelphous. Vexillum furnished with a tooth on each side. Style flattened, villous in front at the apex. Legumes with a longitudinal membranous wing on each side of seminiferous suture, few-seeded. Seeds globular.—A herb, with bifoliate tendrilled leaves, and axillary, solitary, cream-coloured flowers and ovate stipulas.

1 O. PA'LLIDA (Pers. l. c.) stem prostrate, tetragonal, winged; petioles winged, lower ones for the most part leafless, upper ones bearing usually 2 leaflets, cirrhiferous; lower stipulas wanting, upper ones ovate; teeth of calyx rather unequal, length of tube. ⊙. H. Native of the south of Europe. Písum òchrus, Lin. spec. 1027. Láthyrus òchrus, D. C. fl. fr. 4. p. 578.—Tourn. inst. t. 219. Flowers pale yellow. Leaves glaucous.

Pale-flowered Yellow-pea. Fl. Ju. Aug. Clt. 1790. Pl. cl. 1 ft.

Cult. The seeds of this plant only require to be sown in the open border, in any light soil.

CLXXIV. O'ROBUS (*οροβος* of Theophrastus and Dioscorides, from *ορω, oro,* to excite, and *βους, bous,* an ox; the present genus, however, has nothing to do with the plant of Theophrastus and Dioscorides, which whatever it was, was used for fattening oxen). Tourn. inst. t. 214. Lin. gen. no. 871. D. C. fl. fr. 4. p. 586. D. C. prod. 2. p. 376.

Lin. syst. *Diadélphia, Decándria.* Calyx campanulate, 5-cleft, the 2 superior lobes shortest. Corolla papilionaceous. Stamens diadelphous. Style slender, linear, villous at the apex. Legume cylindrical, oblong, 1-celled, 2-valved, many-seeded. Seeds with a linear hylum.—Erect herbs, with semi-sagittate stipulas. Petioles ending in a short simple bristle. Leaves abruptly pinnate, with few pairs of leaflets. Racemes of flowers axillary, pedunculate.

§ 1. *Leaves with only one pair of leaflets, which are either ovate, lanceolate, or linear.*

1 O. LAXIFLÒRUS (Desf. cor. p. 83. t. 62. ann. mus. par. 12. p. 57. t. 8.) plant villous; leaflets ovate, acute, with parallel nerves; stipulas unequally ovate-sagittate, rather larger than the leaflets; racemes axillary, few-flowered; calycine segments nearly equal, setaceously-subulate, much longer than the tube, but much shorter than the corolla; legumes compressed, villous, many-seeded. ♃. H. Native of Candia. Flowers violaceous.

Loose-flowered Bitter-Vetch. Fl. May, Jul. Clt. 1820. Pl. 1 ft.

2 O. HIRSU'TUS (Lin. spec. 1027.) plant hairy; leaflets ovate, acute, with parallel nerves; stipulas unequally sagittate, lanceolate, about the size of the leaflets; racemes axillary, few-flowered, longer than the leaves; calycine segments nearly equal, setaceously-subulate, much longer than the tube, but much shorter than the corolla; legume compressed, hairy. ♃. H. Native of Thrace. Sims, bot. mag. 2315. Buxb. cent. 3. p. 22. t. 41. Flowers red or purple.

Var. β, glabriúsculus (Ser. mss. in D. C. prod. 2. p. 376.) stems, leaves, and peduncles quite smooth; calyx pilose. ♃. H. Native of Tauria.

Hairy Bitter-Vetch. Fl. May, June. Clt. 1822. Pl. 1 ft.

3 O. FORMÒSUS (Stev. mem. soc. mosq. 4. p. 50. Lin. soc. trans. 11. p. 413. t. 36.) plant quite smooth; leaflets ovate, mucronulate; stipulas small, semi-sagittate, acute, denticulated, with diverging nerves; peduncles axillary, usually 2-flowered, longer than the leaves; calycine segments lanceolate, length of tube, but much shorter than the corolla; legumes lanceolate, glabrous. ♃. H. Native of the alps of Caucasus. Corollas beautiful purple, about the size of those of *O. vérnus.*

Var. β, microphýllus (Ser. mss. in D. C. prod. 2. p. 377.) leaflets roundish, much smaller; stipulas hardly toothed. ♃. H.

Beautiful Bitter-Vetch. Fl. May, Jul. Clt. 1818. Pl. ¾ ft.

4 O. LATHYROÌDES (Lin. spec. 1027.) plant smoothish; leaflets ovate, mucronate, with divaricate nerves; stipulas semi-sagittate, a little toothed, smaller than the leaflets; peduncles many-flowered, axillary, about equal in length to the leaves; calycine teeth shorter than the tube; legumes compressed, glabrous, 2-3-seeded. ♃. H. Native of Siberia.—Amm. ruth. 151. t. 7. f. 2. Stems branched a little. Flowers crowded, of a beautiful blue colour, usually 3 or 4 racemes standing together. An elegant plant, with broad, shining leaflets and black roots.

Lathyrus-like Bitter-Vetch. Fl. Ju. Jul. Clt. 1758. Pl. 1 to 2 ft.

5 O. SESSILIFLÒRUS (Smith, in Rees' cycl. vol. 25.) root creeping, branched; stems weak, undivided, angular, but not winged; leaflets narrow, almost linear, nearly sessile; stipulas very narrow, semi-sagittate, entire; racemes few-flowered. ♃. H. Native country unknown. Flowers purple.

Sessile-flowered Bitter-Vetch. Pl. ½ to 1 foot.

6 O. FISCHE'RI (Sweet, fl. gard. t. 289.) stem tetragonal, almost simple, smoothish; leaflets linear, bluntish, mucronulate, nerved lengthwise, rather silky beneath; stipulas linear, acute, a little toothed, with one auricle at the base; racemes pedunculate, many-flowered; flowers secund; legumes reticulately veined, 6-7-seeded. ♃. H. Native of Siberia. O. atropurpùreus, Fisch. in litt. but not of Desf. Flowers large, beautiful purple.

Fischer's Bitter-Vetch. Fl. May, Jul. Clt. 1827. Pl. 1 ft.

7 O. QUADRA'NGULUS (Spreng. syst. 3. p. 258.) stem simple, quadrangular; leaves with 1 pair of linear, glabrous leaflets; stipulas semi-sagittate, setaceous; peduncles many-flowered; flowers secund. ♃. H. Native of Sicily.

Quadrangular-stemmed Bitter-Vetch. Pl. 1 foot.

§ 2. *Leaves with many pairs of broadish leaflets. Stipulas much smaller than the leaflets.*

8 O. VE'RNUS (Lin. spec. 1028.) plant rather pubescent; stems simple, flexuous; leaves with 2-3 pairs of ovate-lanceolate, acuminated, shining leaflets, with rather parallel nerves; stipulas semi-sagittate, entire; peduncles axillary, many-flowered, shorter than the leaves; flowers secund, nodding; calycine segments broad, hardly the length of the tube, lower one longest; legumes rather compressed, obliquely and reticulately veined, many-seeded; style jointed; seeds roundish, smooth. ♃. H. Native of Europe, in groves, in many parts, particularly in the south. Sturm, deutschl. fl. 7. with a figure. Curt. bot. mag. 521. Riv. tetr. irr. t. 58. Schmidel, t. 59. f. 79. Flowers handsome, singular in the different shades of colour, the upper part of the vexillum is purple, with blood-red veins; the wings blue, and the keel is blue tinged with green; the colours change as the corolla advances, and becomes blue. The roots are black.

Var. β, ruscifòlius (Ser. mss. in D. C. prod. 2. p. 377.) leaflets stiff, elongated, taper-pointed. O. ruscifòlius, Willd. in herb. Desf. ex Poir. suppl. 4. p. 203.

Var. γ, fláccidus (Ser. mss. in D. C. l. c.) leaflets very narrow and flaccid. ♃. H. Native of Croatia and Switzerland.

Spring Bitter-Vetch. Fl. Mar. April. Clt. 1629. Pl. ¾ to 1 ft.

9 O. VENÒSUS (Willd. herb. ex Link. enum. 236.) stem simple; leaves with 2 pairs of lanceolate, taper-pointed leaflets, with divaricate veins; stipulas semi-sagittate; racemes few-flowered. ♃. H. Native of Siberia.—Gmel. fl. sib. t. 5. f. 1. Flowers blue and veined with purple.

Veiny-flowered Bitter-Vetch. Fl. May, Ju. Clt. 1820. Pl. 1 ft.

10 O. ALPE'STRIS (Waldst. et Kit. hung. 2. p. 133. t. 126.) plant glabrous; stems angular, simple; leaves with 2-3 pairs of oblong-lanceolate, acuminated leaflets, with somewhat parallel nerves; stipulas semi-sagittate, entire, or toothed; peduncles axillary, many-flowered, about equal in length to or a little longer than the leaves; flowers secund, nodding; calycine segments broad, hardly the length of the tube; legumes rather compressed: style hooked; seeds roundish, brown. ♃. H. Native of Hungary. Flowers purple, having the vexillum veined with crimson, fading to blue.

Alp Bitter-Vetch. Fl. June, Jul. Clt. 1817. Pl. 1 to 2 ft.

11 O. MULTIFLÒRUS (Sieb. in fl. 1821. p. 97.) stem almost simple; leaves with 3-4 pairs of ovate, acuminated leaflets; stipulas semi-sagittate; peduncles elongated, incurved, many-flowered. ♃. H. Native of Italy, near Naples. Flowers pale red, about the size of those of *O. níger.*

Many-flowered Bitter-Vetch. Fl. My. Jul. Clt. 1820. Pl. 1 to 2 ft.

12 O. VARIEGA'TUS (Tenore, prod. suppl. 1. p. 62. and cat. 1819. p. 57. fl. neap. t. 68. but not of Lapeyr.) plant pilose; stems simple, flexuous; leaves with 2-3 pairs of lanceolate, acuminated leaflets, with parallel nerves; stipulas ovate, semi-sagittate, quite entire, acute, much smaller than the leaflets; calycine segments narrow, acute, length of tube; legumes compressed, nerveless, dotted; style straight. ♃. H. Native near Naples, in woods. Colúmn. phytob. p. 59. with a figure. O. seròtinus, Presl. according to Gussone in litt. Flowers purple and variegated.

Variegated-flowered Bitter-Vetch. Fl Ju. Jul. Clt. 1821. Pl. 1 ft.

13 O. VICIOÌDES (D. C. prod. 2. p. 377.) plant smoothish; stems simple, flexuous; leaves with 2-3 pairs of ovate-lanceolate,

acuminated leaflets, with diverging nerves; stipulas ovate-lanceolate, small; peduncles few-flowered, axillary, shorter than the leaves; calycine segments narrow, acute, deflexed, length of tube; legumes compressed, almost nerveless; style flexuous, bearded at the apex; seeds globose. ♃. H. Native of the alps of Croatia and Carniola. Vícia oroboìdes, Wulf. in Jacq. coll. 4. p. 323. Waldst. et Kit. hung. 3. p. 269. t. 242. O. Clùsii, Spreng. syst. 3. p. 259. Flowers yellow.

Vicia-like Bitter-Vetch. Fl. June, July. Clt. 1819. Pl. 2 ft.

14 O. LU'TEUS (Lin. spec. 1028.) plant smoothish; stems simple, angular; leaves with 3-5 pairs of elliptic-lanceolate, mucronulate leaflets, which are glaùcous beneath; stipulas roundish, semi-sagittate, toothed at the base, much smaller than the leaflets; peduncles elongated, many-flowered, about equal in length to the leaves; calyx smoothish, with short unequal teeth; legumes compressed, longitudinally and reticulately veined, sessile; seeds globose, variegated. ♃. H. Native of the alps of Switzerland, France, Italy, and Siberia. Lodd. bot. cab. 783. Sweet, fl. gard. 2. series t. 115. Mill. fig. t. 193. f. 1. O. Gmelìni, Fisch. in litt.—Gmel. sib. 4. p. 13. no. 17. t. 4. Flowers from orange to pale yellow.

Yellow-flowered Bitter-Vetch. Fl. June, July. Clt. 1759. Pl. 1 to 2 feet.

15 O. TOURNEFÓRTII (Lapeyr. mem. mus. 2. p. 298. t. 10.) plant glabrous; stem quadrangular, simple; leaves with usually 4 pairs of alternate, elliptic, lanceolate, parallel-nerved leaflets, which are glaucous beneath; stipulas large, roundish, semi-sagittate, stem-clasping, undulated; peduncles many-flowered, rather longer than the leaves; calycine segments linear, the two superior ones very short; legumes linear, flat. ♃. H. Native of the Pyrenees. Flowers purple; the wings and keel having a white base.

Tournefort's Bitter-Vetch. Fl. Ju. Jul. Clt. 1821. Pl. 1 to 2 ft.

16 O. LÆVIGA'TUS (Waldst. et Kit. hung. 3. p. 270. t. 243.) plant quite smooth; stem simple; leaves with 3-4 pairs of ovate, mucronate leaflets; stipulas semi-sagittate, toothed at the base, much smaller than the leaflets; peduncles elongated, many-flowered, inclined, shorter than the leaves; calyx with short teeth; legumes erect, compressed, flat, smooth; style jointed. ♃. H. Native of Hungary. Flowers pale yellow. Very like *O. lùteus.*

Smooth Bitter-Vetch. Fl. May, Jul. Clt. 1820. Pl. $1\frac{1}{2}$ ft.

17 O. TRANSYLVA'NICUS (Spreng. syst. 3. p. 260.) stem villous; leaves with usually 4 pairs of oblong, obtuse, mucronate rather ciliated leaflets; stipulas broad, semi-sagittate, quite entire; peduncles axillary, few-flowered; superior teeth of calyx very short. ♃. H. Native of Transylvania. O. lævigàtus, Baumg. but not of Waldst ex Kit.

Transylvanian Bitter-Vetch. Pl. 1 foot.

18 O. AURA'NTIUS (Stev. in Bieb. fl. taur. suppl. 462.) plant pilose; stems simple, angular; leaves with 5-6 pairs of lanceolate, bluntish leaflets, with diverging nerves; peduncles elongated, shorter than the leaves; calyx pilose, with unequal teeth, 4 very short and 1 very long; legumes pedicellate. ♃. H. Native of western Iberia. Corolla deep yellow. Very like *O. lùteus.*

Orange-coloured-flowered Bitter-Vetch. Fl. June, Jul. Clt. 1818. Pl. $1\frac{1}{2}$ foot.

19 O. CRÒCEUS (Desf. cor. p. 85. t. 63. ann. mus. 12. p. 59. t. 9.) plant pilose; stem simple, angular; leaves with 3 pairs of leaflets, floral ones deflexed; leaflets ovate, obtuse; stipulas unequal, ovate; peduncles many-flowered, about equal in length to the leaves; calycine teeth nearly equal; length of tube; style jointed. ♃. H. Native of Cappadocia. Flowers copper-coloured, about the size of those of *O. lùteus.*

Copper-coloured-flowered Bitter-Vetch. Pl. 2 foot.

20 O. SYLVA'TICUS (Lin. amœn. 4. p. 284. spec. 1029.) stems branched, decumbent, hairy as well as the leaves; leaves with many pairs of small, ovate-oblong, acute, or elliptic mucronate leaflets; stipulas semi-sagittate, single-toothed; peduncles many-flowered, about equal in length to the leaves; calycine teeth unequal, short; legumes ovate-oblong, glabrous, pedicellate; style jointed. ♃. H. Native of several parts of Europe. In Britain, in mountainous woods and thickets, at Gamblesby, Cumberland, about 6 miles from Penrith, on the way to Newcastle; plentiful in several parts of Wales and the lowlands of Scotland; also of Ireland. Smith, engl. bot. 518. Lightf. fl. scot. t. 16. Petioles ending in tufts of hairs. Three lower teeth of calyx fringed. Flowers crowded, cream-coloured, streaked and tipped with purple on the outside, white and veined within.

Wood Bitter-Vetch. Fl. May, July. Britain. Pl. proc.

21 O. OCHROLEU'CUS (Waldst. et Kit. hung. 2. p. 123. t. 118.) stems branched, rather ascendent, villous; leaves hairy, usually with about 10 pairs of ovate-lanceolate, obtuse leaflets; stipulas ovate, upper ones linear; peduncles many-flowered, shorter than the leaves; teeth of calyx unequal, short; legumes compressed, sessile; style jointed; seeds globose, brown. ♃. H. Native of Hungary. Flowers cream-coloured.

Cream-coloured-flowered Bitter-Vetch. Fl. May, July. Clt. 1816. Pl. 2 to 3 feet.

22 O. 'NÌGER (Lin. spec. 1028.) plant smoothish; stem branched, angular, flexuous; leaves with 3-6 pairs of elliptic, mucronulate leaflets, with parallel nerves; stipulas linear-lanceolate, acute; peduncles many-flowered, longer than the leaves; calycine teeth unequal, shorter than the tube; legumes compressed, obsoletely and reticulately veined; style jointed; seeds globose. ♃. H. Native of many parts of Europe in sub-alpine places. In Scotland in the den of Airly, Forfarshire, and on Craiganain near Moy-house, Inverness-shire. Oed. fl. dan. t. 1170. Sims, bot. mag. 2261.—Riv. tetr. irr. t. 60. Flowers purple, easily changing colour. Herb turning black on drying.

Black Bitter-Vetch. Fl. June, July. Britain. Pl. 2 feet.

23 O. JORDA'NI (Tenore, fl. neap. prod. append. 5.) root tuberously fasciculate; leaves with 3-4 pairs of oblong-lanceolate, cuspidate leaflets; stipulas semi-sagittate, subulate; peduncles 4-6-flowered, twice the length of the leaves; style jointed. ♃. H. Native of Lucania, in humid meadows. Flowers blue.

Jordan's Bitter-Vetch. Fl. May, June. Clt. 1830. Pl. pr.

24 O. HU'MILIS (Ser. mss. in D. C. prod. 2. p. 378.) plant quite smooth; stem simple, striated; leaves with 3 pairs of ovate, mucronulate leaflets, with diverging nerves; stipulas semi-hastate; peduncles few-flowered, about equal in length to the leaves; calycine teeth unequal, shorter than the tube. ♃. H. Native of Dahuria. Láthyrus hùmilis, Fisch. in litt.

Humble Bitter-Vetch. Fl. July, Aug. Clt. 1825. Pl. $\frac{1}{2}$ ft.

25 O. TUBERÒSUS (Lin. spec. 1028.) plant quite smooth; stem winged, erect, or prostrate, tuberculate at the base; leaves with 2-3 pairs of elliptic-lanceolate, mucronulate, dotted leaflets, with rather parallel nerves; stipulas semi-sagittate, jagged at the base; peduncles few-flowered, hardly exceeding the leaves; calycine teeth unequal, ovate, bluntish, shorter than the tube; legumes terete, obsoletely and reticulately veined; style jointed, seeds globose. ♃. H. Native of almost every part of Europe, in woods and among bushes; plentiful in Britain. Sturm, deutschl. fl. fasc. 21. Oed. fl. dan. 781. Smith, engl. bot. 1153.—Riv. tetr. irr. t. 59. Roots creeping, swelling into tubers at irregular intervals. Calyx purple. Corolla elegant, variegated and veined with purple crimson, and shades of blue and flesh-colour, changing to blue as it fades. The highlanders of Scotland have a great esteem for the tubercles of the roots; they dry and chew them to give a better relish to their whisky;

they also affirm that they are good against most diseases of the thorax, and that by the use of them, they are enabled to repel hunger and thirst for a long time. In Breadalbane and Rosshire, they sometimes bruise and steep them in water, and make an agreeable fermented liquor with them. They have a sweet taste, something like the roots of liquorice, and when boiled are well flavoured and nutritive, and in times of scarcity have served as a substitute for bread. Boiled well a fork will pass through the tubers, and dried slightly and roasted they are served up in Holland and Flanders in the manner of chestnuts. The plant is called *Wood-pea* or *Heath-pea* in England, and *Knapperts* in the lowlands of Scotland. In Gaelic it is called *Cor-meille*.

Tuberous-rooted Bitter-Vetch. Fl. May, July. Britain. Pl. ½ to 1 foot.

26 O. TENUIFÒLIUS (Roth. fl. germ. 1. p. 305.) plant quite smooth; leaves with 2-3 pairs of very narrow, linear leaflets; stem winged, erect; stipulas narrow, semi-sagittate, ciliated, bidentate behind; peduncles few-flowered, hardly longer than the leaves; calycine teeth unequal; legumes terete; roots swelling in tubers at intervals. ♃. H. Native of most parts of Europe, in woods, along with *R. tuberòsus.* O. tuberòsus, var. δ, tenuifòlius, Ser. mss. in D. C. prod. 2. p. 376. Roots and flowers like those of *O. tuberòsus.* Leaflets channelled above, and mucronate.

Fine-leafletted Bitter-Vetch. Fl. May, Jul. Brit. Pl. ½ to 1 ft.

27 O. PYRENA'ICUS (Lin. spec. 1029.) stem simple, terete; leaves with 2-3 pairs of ovate, nerved, mucronate leaflets, which are glaucous beneath; stipulas semi-sagittate, linear, awned on both sides; peduncles 1-2-flowered; teeth of calyx triangular, the lowest one the longest; style jointed. ♃. H. Native of the Pyrenees. O. Plukenètii, Lapeyr. mem. mus. 2. p. 299.—O. tuberòsus var. β, Pyrenàicus, Ser. in D. C. prod. 2. p. 376.—Pluck. phyt. t. 200. Flowers pure purple.

Pyrenean Bitter-Vetch. Fl. May, July. Clt. 1622. Pl. 1 ft.

28 O. DIVARICA'TUS (Lapeyr. in mem. mus. 2. p. 302. t. 2.) stem branched, divaricate, winged in the middle, but naked at both extremities; leaves with 2-3 pairs of elliptic-lanceolate, obtuse, mucronate leaflets; stipulas of the lower leaves acute, entire, of the upper ones sharply and deeply toothed at the base; peduncles few-flowered; calycine segments triangular, acute, lower one longest. ♃. H. Native of the Pyrenees. O. tuberòsus γ, divaricàtus, Ser. in D. C. prod. 2. p. 376. Flowers purple.

Divaricate Bitter-Vetch. Fl. May, July. Clt. 1816. Pl. ? ft.

29 O. ERE'CTUS (Poir. in Lam. dict. 4. p. 627.) stem branched; leaves with 4-6 pairs of elliptic, glabrous, mucronate leaflets; stipulas semi-sagittate, acute; peduncles villous, 4-6-flowered. ♃. H. Native country unknown.

Erect Bitter-Vetch. Fl. July, Aug. Pl. 1 foot.

30 O. VICIÆFÓRMIS (Lag. gen. et spec. p. 22.) leaves pinnate; leaflets oblong, bluntish; stipulas bifid, somewhat stipitate; peduncles 1-7-flowered; legumes lanceolate, glabrous. ♃. H. Native of Spain. Flowers pale blue.

Var. α, calcaràtus; peduncles 1-flowered, furnished with a short awn. Vìcia calcaràta, Desf. fl. atl. 2. p. 166. Lagasc. l. c.

Var. β, multiflòrus; peduncles 2-7-flowered. Lagasc. l. c.

Vicia-flowered Bitter-Vetch. Pl. decumbent.

31 O.? PISCI'DIA (Spreng. pl. min. cogn. 1. p. 47.) stem unknown; leaves impari-pinnate; leaflets cuneate, retuse; stipulas subulate; peduncles racemose, few-flowered, longer than the leaves.—Native of New Caledonia. Vicia Piscídia, Forst. mss. The plant from the name appears to be used in New Caledonia for intoxicating fish.

Fish-poison Bitter-Vetch. Pl.

§ 3. *Leaves with many pairs of very narrow leaflets.*

32 O. VA'RIUS (Soland. in Sims's bot. mag. t. 675.) stems simple, angular; leaves with 3-4 pairs of linear-lanceolate, mucronulate leaflets; stipulas semi-sagittate; peduncles many-flowered, longer than the leaves; calycine teeth lanceolate, unequal, shorter than the tube; style almost filiform. ♃. H. Native of Italy. O. versícolor, Gmel. syst. 2. p. 1108. Flowers having the vexillum rose-coloured, and the keel and wings yellowish.

Various-flowered Bitter-Vetch. Fl. May, June. Clt. 1759. Pl. 1½ foot.

33 O. CANE'SCENS (Lin. fil. suppl. p. 327.) stem tetragonal; leaves with usually 2-3 pairs of linear, bluntish, pubescent, or dotted leaflets, with parallel nerves; stipulas semi-sagittate, linear, acute; peduncles many-flowered, longer than the leaves; calycine teeth lanceolate, unequal, shorter than the tube; legumes straight, compressed, glabrous, reticulately veined lengthwise; style jointed, rhomboid. ♃. H. Native of the south of Europe. O. filifórmis, Lam. fl. fr. 2. p. 568. Flowers white, with a tinge of blue.

Var. β, tènuis (Ser. l. c.) leaflet linear; flowers dark-purple. ♃. H. Native of the Pyrenees. O. atropurpùreus, Lapeyr. abr. 413.

Canescent Bitter-Vetch. Fl. May, June. Clt. 1816. Pl. 1½ ft.

34 O. PALLE'SCENS (Bieb. fl. taur. 2. p. 152. suppl. p. 463.) stem simple, pubescent, tetragonal; leaves with 2 pairs of linear, subulate, pubescent leaflets; stipulas semi-sagittate, subulate, almost entire; peduncles many-flowered, longer than the leaves; style very thick at the apex. ♃. H. Native of Tauria. O. canéscens β palléscens, Ser. in D. C. prod. 2. p. 376. Flowers white. Perhaps a species of *Platýstylis.*

Pale-flowered Bitter-Vetch. Fl. May, Ju. Clt. 1823. Pl. 1 ft.

35 O. ENSIFÒLIUS (Lapeyr. in mem. mus. 2. p. 303. t. 12.) stem terete, striated; leaves with 2-3 pairs of ensiform, acute, erect, nerved, crowded leaflets; stipulas semi-sagittate, acute; peduncles many-flowered, twice the length of the leaves; calycine teeth ovate, acute, lower ones longest; wings and keel coadunate. ♃. H. Native of the Pyrenees. O. canéscens var. γ, ensifòlius, Ser. in D. C. prod. 2. p. 376. Flowers white.

Sword-leafletted Bitter-Vetch. Fl. May, June. Pl. 1 foot.

36 O. A'LBUS (Lin. fil. suppl. 327.) stem simple; leaves with 2-3 pairs of linear mucronate leaflets, with parallel nerves; stipulas broadish, semi-sagittate, shorter than the petiole, which is winged; peduncles many-flowered, longer than the leaves; calycine teeth lanceolate, very unequal, lower ones much the longest; legumes compressed, glabrous, rather flexuous; style linear. ♃. H. Native of the south of Europe, Austria, Hungary, &c. Sweet, fl. gar. t. 22. O. Pannónicus, Jacq. austr. 1. t. 39. O. læ'tus, Bieb. fl. taur. 2. p. 152.—J. Bauh. hist. 2. p. 326. f. 2. Flowers white, tinged with rose-colour.

Var. β, asphodeloìdes (Ser. in D. C. prod. 2. p. 376.) leaflets shorter and broader, tubers of root oblong. O. asphodeloìdes, Gouan. ill. p. 48. Perhaps a distinct species.

White-flowered Bitter-Vetch. Fl. May, June. Clt. 1794. Pl. 1 foot.

37 O. ANGUSTIFÒLIUS (Lin. spec. 1028.) stem simple; leaves with 2 pairs of narrow, ensiform, acute leaflets; stipulas subulate, semi-hastate; peduncles many-flowered, longer than the leaves. ♃. H. Native of Siberia.—Gmel. fl. sib. 4. p. 14. t. 5. Flowers yellow. The leaflets are remarkably narrow.

Narrow-leafletted Bitter-Vetch. Fl. May, June. Clt. 1766. Pl. 1 foot.

38 O. ATRO-PURPU'REUS (Desf. fl. atl. 2. p. 157. t. 196. but not of Lapeyr.) stem simple or branched, striated or angular; leaves with 3 pairs of linear acute leaflets; stipulas semi-sagittate, very narrow, awned; peduncles many-flowered, longer than the leaves; flowers secund, drooping; teeth of calyx almost equal, obtuse, and very short; style filiform, crowned by a glo-

bose stigma; legumes compressed, somewhat elliptic, irregularly and reticulately veined. ♃. H. Native of Algiers, in uncultivated fields, and of Calabria. O. Sículus, Rafin. O. Rafinésquii, Presl. del. pr. p. 41. Petals elongated, purple.

Dark-purple-flowered Bitter-Vetch. Pl. 1 to 2 feet.

39 O. SAXA'TILIS (Vent. hort. cels. t. 94.) stems simple, weak; leaves with 2 pairs of linear leaflets; stipulas small, semi-sagittate; peduncles 1-flowered, much shorter than the leaves, articulated, and bracteolate; calycine segments lanceolate, nearly equal, shorter than the tube; legumes nearly cylindrical, grey. ⊙. H. Native of Provence, on arid hills. D. C. fl. fr. 4. p. 589. Flowers blue and white mixed.

Rock Bitter-Vetch. Fl. June, Aug. Clt. 1820. Pl. ½ foot.

40 O. LONGIFÒLIUS (Nutt. gen. amer. 2. p. 95.) plant clothed with silky villi; leaves ternate, and with 2 pairs of leaflets, uppermost ones simple; leaflets very long, filiform-linear; stipulas undivided, ovate-lanceolate, acuminated; racemes pedunculate, filiform, shorter than the leaves; 2 upper teeth of calyx shortest. ♃. H. Native of North America, on the plains of the Missouri. Psoràlea longifòlia, Pursh. fl. sept. amer. 2. p. 741. Racemes usually solitary. Flowers pale-red. Roots creeping.

Long-leafletted Bitter-Vetch. Pl. 1 foot.

41 O.? DI'SPAR (Nutt. gen. amer. 2. p. 95.) leaves unequally pinnate, with 6-8 pairs of linear obtuse leaflets; stipulas simple, ovate; racemes sessile, twin or tern; segments of the calyx equal, the superior indenture, however, more profound and wider than the rest; legumes, glabrous. ♃. H. Native of North America, on arid hills about Fort Mandan. Flowers cream-coloured, having the wings longer than the keel. Habit of a species of *Astrágalus*.

Unlike Bitter-Vetch. Pl. decumbent.

† *Species not sufficiently known.*

42 O.? PROCU'MBENS (Mill. dict. no. 11.) stems procumbent; leaves impari-pinnate, tomentose; outer leaflets largest; leaflets 5 pairs. Native of Mexico, about Vera Cruz. Flowers bright purple, disposed in short axillary racemes. Legumes compressed. Seeds 6, roundish.

Procumbent Bitter-Vetch. Pl. procumbent.

43 O. VENE'TUS (Mill. dict. no. 8. fig. t. 193. f. 2.) stems simple; leaves with 4 pairs of ovate acute leaflets; legumes tumid, containing 3-4 roundish seeds; peduncles 4-flowered. ♃. H. Native of Germany and Italy. Flowers purple. Perhaps a variety of *O. vérnus*.

Venetian Bitter-Vetch. Fl. March, April. Pl. 1 foot.

44 O. MONTA'NUS (Scop. fl. carn. 2. p. 80. t. 41.) stem simple, striated; leaves with 3-4 pairs of ovate leaflets; racemes 5-6-flowered, a little longer than the leaves; legumes glabrous, purple. ♃. H. Native of Carniola. Flowers yellowish-white. Perhaps a variety of *O. vérnus*.

Mountain Bitter-Vetch. Pl. 1 foot.

45 O.? COCCI'NEUS (Mill. dict. no. 12.) stems procumbent; flowers axillary and terminal; leaves abruptly-pinnate, with 3-4 pairs of linear villous leaflets. ♃. S. Native of Mexico, about Vera Cruz. Peduncles short, 3-4-flowered. Flowers small, scarlet, succeeded by short taper pods, containing 3-4 small roundish seeds each.

Var. β, *unijùgus* (Ser. in D. C. prod. 2. p. 380.) stipulas semi-hastate; leaves with one pair of linear-lanceolate leaflets; flowers solitary, length of the pedicels. Lodd. bot. cab. 883.

Scarlet-flowered Bitter-Vetch. Fl. April, May. Pl. procumbent.

46 O.? ARGE'NTEUS (Mill. dict. no. 10.) stems erect, tomentose; leaves pinnate; leaflets oblong-ovate, silky beneath; flowers disposed in terminal spikes. ♄. S. Native of Mexico, about Vera Cruz. Leaves with 4-8 pairs of leaflets, hairy on the upper surface. Flowers deep purple, succeeded by long, woolly, compressed pods, each containing 4-5 seeds.

Silvery Bitter-Vetch. Shrub 5 to 6 feet.

47 O.? AMERICA'NUS (Mill. dict. no. 9.) stem much branched, frutescent; leaves pinnate, with 5-6 pairs of linear-lanceolate leaflets, which are tomentose beneath; legumes compressed, glabrous. ♄. G. Native of Jamaica. Flowers pale purple, disposed in loose terminal spikes.

American Bitter-Vetch. Clt. 1731. Shrub 3 feet.

Cult. *O'robus* is a genus of very elegant pea-flowering plants, and being all hardy, deserve to be cultivated in every flower border. They thrive best in light soil, and are easily propagated by seeds, or by dividing the plants at the roots in spring.

CLXXV. PLATY'STYLIS (from πλατυς, *platys*, broad, and στυλος, *stylos*, a style; in reference to the dilated style, which separates the genus from *O'robus*). Sweet. fl. gard. 239.

LIN. SYST. *Diadélphia, Decándria.* Calyx campanulate, 5-cleft, the 2 upper lobes shortest. Corolla papilionaceous. Stamens diadelphous. Style broad, spatulate, villous at the apex. Legumes oblong, many-seeded; seeds nearly globose.—Erect herbs, with semi-sagittate stipulas. Leaves abruptly-pinnate, with few pairs of leaflets. Petioles ending in a bristle.

1 P. CYANE'A (Sweet, fl. gard. 239.) stem simple, striated; leaves with 2-3 pairs of approximate, linear-lanceolate, acute leaflets; stipulas about equal in length to the petioles; peduncles few-flowered, longer than the leaves; calycine segments lanceolate, hardly the length of the tube. ♃. H. Native of Eastern Caucasus, in subalpine places. O'robus cyanæ'us, Stev. in mem. soc. cur. mosq. 4. p. 51. Bieb. fl. taur. suppl. p. 464. Flowers large, bluish purple.

Blue-flowered Platystylis. Fl. May, June. Clt. 1823. Pl. 1 ft.

2 P. SESSILIFÒLIA (Sweet. l. c. in a note,) stems simple, striated; leaves with 1 pair of linear-subulate approximate leaflets; stipulas semi-sagittate, subulate, much longer than the petioles; peduncles few-flowered. [illegible]ger than the leaves; calycine segments linear, hardly the l[illegible] of the tube; style jointed, spatulate; legumes narrow. ♃. H. Native of Tauria, in woods, and about Athens in Greece. O'robus sessilifòlius, Smith, fl. græc. t. 692. ex prod. 3. p. 64. O. digitàtus, Bieb. fl. taur. 2. p. 153. et suppl. 462.—Buxb. cent. 2. p. 36. t. 38. Flowers large, bluish purple.

Sessile-leafletted Platystylis. Fl. May, Ju. Clt. 1823. Pl. 1 ft.

3 P. STIPULA'CEA; stem erect, angular, branched above; leaves with 2-3 pairs of linear, attenuated, very long leaflets, which are obscurely 3-nerved, and glabrous; stipulas large, semi-sagittate; peduncles axillary and terminal, few-flowered, shorter than the leaves; calycine teeth unequal, lower ones the longest. ♃. H. Native of Siberia? O'robus stipulàceus, Hook. bot. mag. 2937. Flowers with a purple vexillum, blue wings, and purple keel.

Large-*stipuled* Platystylis. Fl. May. Pl. 1 foot.

Cult. Elegant plants, well adapted for the front of flower borders. A light sandy soil suits them best, and they are easily increased by seeds, or by dividing the plants at the roots in spring.

Tribe V.

PHASEO'LEÆ (plants agreeing with *Phasèolus* in some important characters). Bronn. diss. p. 133. D. C. legum. mem. ix. prod. 2. p. 381.—Phasèoli, Adans. fam. 2. p. 325. exclusive of numerous genera. Corolla papilionaceous (f. 47. c. f. 48. *b.*). Stamens monadelphous (f. 49. *a.*), but usually diadelphous (f. 48. *c.* f. 47. *g.*), 9 joined together, and 1 free. Legume many-seeded, dehiscent, continuous, usually subdivided internally into

1-seeded cells by cellular transverse membranes, never truly articulated. Radicle curved back upon the fissure formed by the cotyledons (f. 21. *e. f.*). Cotyledons thick, filled with fecula, and destitute of cortical pores, and do not undergo any change at the time of germination, but nourish the young plant by means of that supply of food they already contain; they rise above the earth, and are usually protruded from the spermaderm. Primordial leaves opposite, all the rest of the leaves are furnished with an odd leaflet; the leaflets always pinnately disposed, rarely disposed palmately. This tribe of plants is more natural than the preceding; it is allied to *Hedysàreæ*, from the pods being divided into transverse cells by cellular membranes, and to *Vicièæ* in the cotyledons being thick, and protruding from the spermaderm.

CLXXVI. A'BRUS (from *αβρος*, *abros*, soft; in reference to the extreme tenderness of the leaves). Lin. gen. no. 1286. Gærtn. fruct. 2. p. 328. t. 151. D. C. prod. 2. p. 381.

Lin. syst. *Monadélphia, Enneándria.* Calyx bluntly 4-lobed, upper lobe broadest. Corolla papilionaceous, with an acute vexillum. Stamens 9, monadelphous at the base, having the tube or sheath gaping in front. Stigma obtuse. Legume oblong, compressed, 4-6-seeded. Seed roundish, separated by cellular membranes.—A delicate twining shrub, with abruptly-pinnate leaves, bearing many pairs of leaflets. This genus differs from the rest of the present tribe in the leaves being abruptly-pinnate.

1 A. precatòrius (Lin. syst. 533.) ♄. ⌒. S. Native of the East Indies, from whence it has probably migrated to the tropical parts of Africa and America.—Rumph. amb. 5. t. 32.—Rheed. mal. 8. t. 39. Flowers pale purple, disposed in axillary bunches. There are different varieties of this plant, varying in the colour of the seeds, which are probably as many distinct species; some are red, with a black spot, some blood-coloured, others white, rufous, and black. The leaves and roots of this plant taste like liquorice, whence the inhabitants of the West Indies call it *wild liquorice*, and they use the roots for the same purposes as we do liquorice. The seeds of the commonest variety are of a glossy scarlet-colour, with a black spot or eye at the hylum, or that part which is fixed to the pod; they are commonly strung, and used as ornaments by the inhabitants of those countries where the herb grows wild; they are frequently brought to Europe from Guinea, and the West and East Indies, bored, and used as beads, with other hard seeds and shells; they are also used as beads for rosaries, hence the trivial name, and in Egypt as pulse, but they are the hardest and most indigestible of the whole pea tribe.

Prayer Wild-liquorice. Fl March, May. Clt. 1686. Sh. tw.

Cult. This plant requires a strong heat to keep it in a growing healthy condition. A mixture of sand and loam is the best soil for it, and it is increased by cuttings under a hand-glass in sand, or by seeds, which should be raised on a hot-bed.

CLXXVII. SWEE'TIA (named by De Candolle in honour of Robert Sweet, F.L.S. author of Hortus Suburbanus Londinensis, Hortus Britannicus, British Flower-garden, and Flora Australasica, &c.) D. C. legum. mem. ix. prod. 2. p. 381.

Lin. syst. *Diadélphia, Decándria.* Calyx 4-cleft, naked at the base, with lanceolate, acuminated, nearly equal lobes. Corolla papilionaceous, with an obtuse wedge-shaped vexillum, and an obtuse 2-edged keel. Stamens diadelphous. Ovary sessile. Legumes linear, compressed, many-seeded, 1-celled.—Slender twining herbs, which are frutescent at the base. Leaves pinnately-trifoliate. Stipulas subulate. Peduncles axillary, filiform. Flowers purple. Legumes pubescent. Style filiform, glabrous.

1 S. longifòlia (D. C. prod. 2. p. 381.) leaflets oblong-lanceolate; legume straight; racemes axillary, few-flowered. ♄. ⌒. S. Native of South America. Galèga longifòlia, Jacq. icon. rar. t. 572. coll. 2. p. 349. Tephròsia longifòlia, Pers. Spreng.

Long-leafletted Sweetia. Fl. June, Aug. Clt. 1818. Pl. tw.

2 S. filifórmis (D. C. prod. 2. p. 382.) leaflets oval-oblong, hardly twice the length of the breadth; legumes falcate; peduncles few-flowered. ♄. ⌒. S. Native of South America. Galèga filifórmis, Jacq. coll. 2. p. 348. icon. rar. 573.

Filiform Sweetia. Fl. July, Aug. Clt. 1820. Shrub tw.

3 S. veluti'na; leaflets oblong, obtuse, villous on both surfaces; racemes few-flowered; legumes lanceolate, pubescent. ♄. ⌒. S. Native of St. Domingo. Tephròsia velutìna, Spreng. syst. 3. p. 232.

Velvety Sweetia. Shrub tw.

4 S.? uliginòsa; leaflets oblong, acuminated, glabrous; peduncles 3-flowered. ♄. ⌒. S. Native of the East Indies. Robínia uliginòsa, Roxb. Willd. Tephròsia uliginòsa, Spreng. syst. 3. p. 232.

Bog Sweetia. Shrub tw.

5 S.? lignòsa (D. C. prod. 2. p. 382.) leaflets cuneate-obovate, emarginate, rather coriaceous, glabrous; racemes longer than the leaves; bracteas setaceous; legumes rather falcate. ♄. ⌒. S. Native of St. Domingo. Glýcine lignòsa, Turp. in Pers. ench. 2. p. 301. Calycine segments 4, acute, of these the two lateral ones are the shortest. Vexillum very broad, green at the base.

Woody Sweetia. Clt. 1824. Shrub tw.

Cult. See *A'brus* for culture and propagation.

CLXXVIII. MACRA'NTHUS (from *μακρος*, *makros*, long, and *ανθος*, *anthos*, a flower; in reference to the long flowers). Poir. suppl. 3. p. 569. D. C. prod. 2. p. 382.—Marcánthus, Lour. fl. coch. p. 461. from a typographical error.

Lin. syst. *Diadélphia, Decándria.* Calyx tubular, coloured, permanent, 4-cleft; lobes acute, the 2 lateral ones the shortest. Corolla papilionaceous, with an ovate, concave, emarginate vexillum, which is not half the length of the oblong wings. Stamens 10, diadelphous, of these 4 are thicker than the rest, bearing ovate anthers, and the other 6 slender, bearing oblong anthers. Style filiform, pilose, crowned by an obtuse stigma. Legume straight, nearly terete, thick, acuminated, many-seeded.—Twining herbs, with trifoliate leaves, ovate-rhomboid pilose leaflets, filiform stipulas, axillary peduncles, bearing many white flowers, and eatable legumes.

1 A. Cochinchine'nsis (Lour. l. c.) ♄. ⌒. G. Native of Cochin-china, and where also it is cultivated for the legumes, which are dressed and eaten by the inhabitants, as we do French beans.

Cochin-china Long-flowered Bean. Fl. July, Aug. Pl. tw.

Cult. A mixture of loam and peat will suit this plant. It is increased by seeds, which should be raised on a hot-bed.

CLXXIX. RO'THIA (in honour of Alb. Wilh. Roth, of Bremen, author of Tentamen Floræ Germanicæ, 3 vols. 8vo. Leipsic, 1788, 1789, 1793, and 1801, and a great number of other botanical works). Pers. ex D. C. prod. 2. p. 382. Dillwýnia, Roth, cat. bot. 3. p. 71. Pers. ench. 2. p. 302. but not of Smith.

Lin. syst. *Monadélphia, Decándria.* Calyx 5-cleft, the 2 superior segments arched, falcate, and coadunate, pressing down upon the vexillum, which is deflexed. Corolla papilionaceous, with a 2-edged keel. Stamens monadelphous, with the tube or sheath gaping on the back. Legume linear-ensiform, many-seeded. Seeds reniform.

1 R. trifolia'ta (Pers. l. c.) ⊙. H. Native country unknown. Dillwýnia trifoliàta, Roth, l. c. Glýcine humifùsa, Willd. enum. 756. ex Roth, nov. spec. 349. Cleòme prostràta,

Hortul. ex Steud. nom. Herb prostrate. Leaflets rather fleshy, oval, shining. Flowers usually solitary, at first sulphur-coloured, but at length changing to reddish.

Trifoliate Rothia. Fl. June, July. Pl. prostrate.

Cult. The seeds of this plant only require to be sown in a warm border, in the front of a stove or green-house.

CLXXX. TERA'MNUS (from *τεραμνος*, *teramnos*, soft; in reference to the soft pods and leaves of the species). P. Browne, jam. 290. Swartz, fl. ind. occid. 3. p. 1238. t. 25. D. C. prod. 2. p. 382.

Lin. syst. *Monadélphia, Decándria.* Calyx bilabiate, upper lip the longest, and bifid, lower lip 3-parted, with all the lobes acute. Corolla papilionaceous, with a small keel, which is hidden by the calyx.* Stamens 10, monadelphous, the 5 alternate ones sterile. Stigma capitate, sessile on the top of the ovary. Legume linear, compressed, 2-valved, many-seeded.—Twining subshrubs, natives of the West Indies, with angular branches, pinnately-trifoliate leaves, stipellate leaflets, axillary racemes, which are longer than the leaves, and small remote reddish flowers.

1 T. UNCINA'TUS (Swartz, l. c.) branches clothed with retrograde silky down; leaves clothed with silky down beneath, and pubescence above; leaflets ovate or oblong. ♄. ⌒. S. Native of Jamaica, in arid bushy places. Dólichos uncinàtus, Lin. spec. 1019.—Plum. ed. Burm. t. 221.

Hooked Teramnus. Clt. 1822. Shrub tw.

2 T. VOLU'BILIS (Swartz, l. c.) branches clothed with fine retrograde hairs; leaves pubescent beneath; leaflets lanceolate. ♄. ⌒. S. Native of Jamaica, in humid bushy places on the mountains, and of New Granada, near Mompox, on the banks of the river Magdalena. All the synonymes cited under this plant by Willdenow are referrible to the first species.

Twining Teramnus. Clt. 1824. Shrub tw.

Cult. See *Abrus*, p. 342. for culture and propagation.

CLXXXI. AMPHICARPÆ'A (from *αμφι*, *amphi*, on both sides, and *καρπος*, *karpos*, a fruit; the plants bear pods both on the roots and the stems). D. C. legum. mem. ix. prod. 2. p. 383.—Amphicárpa, Ell. journ. act. sci. philad. 1818. vol. 1. p. 372. Nutt. gen. amer. 2. p. 113.—Sàvia, Rafin. Falcàta, Gmel. syst. 2. p. 1131.

Lin. syst. *Diadélphia, Decándria.* Calyx campanulate, 4-toothed, bractless at the base, the teeth equal, and rather bluntish. Corolla papilionaceous. Petals oblong. Vexillum broad, incumbent, and nearly sessile. Stamens diadelphous. Style filiform. Stigma capitate. Stipe of ovary covered by a cylindrical sheath. Legume compressed, stipitate, 2-4-seeded.—Plants, with herbaceous twining stems, pinnately-trifoliate leaves, ovate glabrous leaflets, and axillary racemes, having 2 flowers to each bractea. Flowers usually apetalous, those on the stems sterile, or bearing legumes dissimilar to those on the root; those on the roots usually fertile.

1 A. MONOI'CA (Ell. et Nutt. l. c.) racemes pendulous; flowers with petals. ⊙. ⌒. H. Native of North America, from New York to Carolina, on the sides of rivulets, and in shady humid places. Glycine monoíca, Lin. spec. 1023. Wendl. in Rœm. arch. 1. p. 3. t. 103. f. 2. Glýcine bractèata, Lin. spec. ed. 1. p. 754. Glýcine comòsa, Lin. spec. 1024. ex Nutt. Stem covered with retrograde villi. Radical flowers apetalous. Flowers with a pale violet vexillum, and white keel and wings.

Monoecious Amphicarpæa. Fl. June, Sept. Clt. 1781. Pl. tw.

2 A. SARMENTÒSA (Ell. et Nutt. l. c.) racemes filiform, 3-flowered; flowers apetalous. ⊙. ⌒. H. Native of Carolina and Virginia, in low places among bushes. Glýcine sarmentòsa, Roth, cat. p. 87. Willd. spec. 3. p. 1055. Glýcine monoica, Schkuhr, ann. bot. 12. p. 20. t. 2. Glýcine heterocárpa, Hegetsw. comm. p. 5. t. 5. Gl. ellíptica, Smith in Abbot, hist. nat. geogr. t. 21. ex Rœm. arch. 2. p. 402. Perhaps Glýcine filòsa, Horn. cat. hort. hafn. is sufficiently distinct from this plant.

Sarmentose Amphicarpæa. Fl. July, Sept. Clt. 1820. Pl. tw.

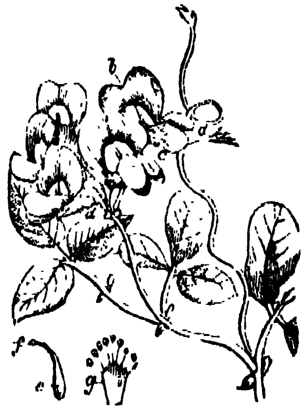
Cult. The seeds of these plants only require to be sown in the open border in spring, in a warm sheltered situation.

CLXXXII. KENNE'DYA (a name given by Ventenat in honour of Mr. Kennedy, formerly of the firm of Lee and Kennedy, Nurserymen, Hammersmith). Vent. malm. t. 104. R. Brown, in hort. kew. ed. 2. vol. 4. p. 299. D. C. prod. 2. p. 383. Caulínia, Mœnch. suppl. 47. but not of D. C. nor Willd.

Lin. syst. *Diadélphia, Decándria.* Calyx bilabiate, upper lip bidentate, lower one trifid, equal (f. 47. *a.*). Corolla papilionaceous (f. 47. *c.*), with the vexillum emarginate, recurved (f. 47. *b.*), but not bent back from the carina. Stamens diadelphous (f. 47. *g.*). Stigma obtuse (f. 47. *f.*). Legume linear (f. 47. *c.*), compressed, transversely many-celled from cellular membranous dissepiments. Seeds strophiolate.—Twining shrubs, native of New Holland, with axillary peduncles, and scarlet or violaceous flowers, having the vexillum bimaculate at the base.

§ 1. *Leaves trifoliate. Keel straight, rather longer than the vexillum.*

FIG. 47.



1 K. RUBICU'NDA (Vent. malm. t. 104.) leaflets 3, ovate; stipulas ovate-lanceolate, spreadingly reflexed; peduncles usually 3-flowered; legumes hairy. ♄. ⌒. G. Native of the eastern and southern coasts of New Holland. Glýcine rubicúnda, Curt. bot. mag. 268. Caulínia rubicúnda, Mœnch. Keel about equal in length to the wings, 15 lines long, acute. Flowers dark red.

Rubicund-flowered Kennedya. Fl. March, May. Clt. 1788. Shrub tw.

2 K. PROSTRA'TA (R. Br. in Ait. hort. kew. 4. p. 299.) leaflets 3, obovate, villous, undulated, and rather repand; stipulas and bracteas cordate, apiculated, spreading; peduncles 1-2-flowered; legumes pubescent. ♄. ⌒. G. Native of New Holland, on the eastern coast. Glýcine coccínea, Curt. bot. mag. 270. Willd. spec. 2. p. 1065. Carina 8-9 lines long, longer than the wings. Leaflets hardly 6 lines long. Flowers scarlet.

Var. β, màjor (D. C. prod. 2. p. 383.) leaflets obovate, emarginate, when young they are hairy, as well as the branches. ♄. ⌒. S. Native of New Holland, on the eastern coast. Carina 10-12 lines long. Leaflets an inch long. Flowers scarlet.

Prostrate Kennedya. Fl. March, June. Clt. 1790. Shrub prostrate.

§ 2. *Leaves trifoliate. Keel shorter than the vexillum and wings.*

3 K. BRACTEA'TA (Gaud. in Freycenet, voy. part. bot. p. 486. t. 113.) leaflets elliptic, obtuse, somewhat emarginate, with undulately curled margins, clothed with silky pubescence beneath; stipulas broad, ovate, acute; peduncles few-flowered, bracteate; bracteas connate, funnel-shaped. ♄. G. Native of the western coast of New Holland. Shrub apparently erect.

Bracteate Kennedya. Shrub cl.?

4 K. SERÍCEA; leaflets obovate, emarginate, mucronate, clothed with silky hairs, particularly when young; peduncles elon-

gated, many-flowered; calyx very villous. ♄. ⌒. G. Native of New Holland. Flowers scarlet. Keel shorter than the vexillum.

Silky Kennedya. Fl. March, June. Clt. 1823. Shrub tw.

5 K. cocci'nea (Vent. malm. t. 105. exclusive of the synonymes,) leaflets 3, obovate; stipulas lanceolate, spreading; peduncles bearing 3-9 flowers, in an umbellate head; legumes smoothish. ♄. ⌒. S. Native of New Holland, on the western coast. Flowers scarlet.

Scarlet-flowered Kennedya. Fl. May, Aug. Clt. 1803. Sh. twining.

6 K. Comptonia'na (Link. enum. 2. p. 235.) leaflets 3, oblong-ovate, obtuse, with a mucrone; stipulas ovate, ending in an awn-like acumen; racemes many-flowered, longer than the leaves. ♄. ⌒. G. Native of New Holland. Glýcine Comptoniàna, Ker. bot. reg. 298. Flowers bluish purple.

Compton's Kennedya. Fl. March, June. Clt. 1803. Sh. tw.

7 K. tabaci'na (Labill. cal. p. 70. t. 70.) leaflets 3, ovate-oblong, acuminated, rather pilose; flowers racemose; stems, petioles, and peduncles beset with retrograde hairs; legume hairy. ♃. ⌒. G. Native of New Caledonia.

Tabacco-like Kennedya. Shrub tw.

8 K. inophy'lla (Cunningh. mss. Lindl. bot. reg. t. 1421.) leaflets 3, cuneate, mucronate, attenuated at the base, rather pilose above, and silky beneath; stipulas ovate, acute; peduncles longer than the leaves; flowers 15-20, disposed in dense umbellate heads at the apexes of the peduncles; calyx clothed with black hairs. ♄. ⌒. G. Native of New Holland. K. dilatàta, Cunningh. mss. Flowers beautiful scarlet; the vexillum with a greenish yellow mark at the base.

Nerved-leaved Kennedya. Fl. May, Jul. Clt. 1824. Sh. tw.

§ 3. *Leaves simple. Keel of flowers shorter than the wings and vexillum.*

9 K. monophy'lla (Vent. malm. t. 106.) leaves ovate, glabrous, rather cordate at the base; stipulas lanceolate, erect; racemes many-flowered, much longer than the petioles. ♄. ⌒. G. Native of New Holland, on the eastern coast. Glýcine bimaculàta, Curt. bot. mag. 263. Flowers bluish-purple or violaceous. There are varieties of this species with narrow oblong leaves, and cordate lanceolate leaflets.

Var. β, longiracemòsa (Lindl. bot. reg. 1336.) racemes slender, longer than the leaves; flowers smaller.

One-leaved Kennedya. Fl. Mar. June. Clt. 1790. Sh. tw.

10 K. ova'ta (Sims, bot. mag. 2169.) leaves broad-ovate, cordate, acute; upper stipulas ovate, erect; racemes many-flowered, longer than the petioles. ♄. ⌒. G. Native of New Holland. K. cordàta, Lindl. bot. reg. t. 944. Flowers bluish violet. Habit of *K. monophýlla*.

Ovate-leaved Kennedya. Fl. May, Aug. Clt. 1818. Sh. tw.

Cult. *Kennèdya* is an elegant genus of shrubs, well fitted for the climbers of a conservatory or greenhouse. A mixture of sandy loam and peat is the best soil for them, and young cuttings root freely if planted in a pot of sand, in a little bottom heat, with a bell-glass placed over them.

CLXXXIII. RHYNCHO'SIA (from ῥυγχος, *rhynchos*, a beak; in reference to the keel, which ends in a beak). Lour. coch. p. 460. D. C. legum. mem. ix. prod. 2. p. 384.—Arcyphýllum, Ell. in journ. act. sc. philad. 1818. vol. 1. no. 13. p. 371.—Glýcine, Nutt. gen. amer. 2. p. 114. H. B. et Kunth, nov. gen. amer. 6. p. 419.—Glýcine spec. of Lin. and others.

Lin. syst. *Diadélphia, Decándria.* Calyx 5-cleft, somewhat bilabiate. Corolla papilionaceous, usually shorter than the calyx. Stamens diadelphous, having the free filament jointed at the base. Style filiform, usually variously bent. Legume sessile, compressed, 2-valved, 1-celled, rather falcate, 2-seeded.—Climbing subshrubs or herbs, with simple, but usually trifoliate leaves, having the terminal leaflet petiolulate. Flowers yellow, axillary, racemose or solitary.

§ 1. *Leaves all, or for the most part, simple, roundish, standing on long petioles.*

1 R. menispérmoìdes (D. C. in ann. sc. nat. 4. p. 102. legum. mem. ix. t. 55.) stems trailing, covered with spreading pubescence; stipulas ovate; leaves reniform, very obtuse; racemes few-flowered, almost sessile; calycine segments lanceolate, acutish, 3-nerved. ♃. ◡. S. Native of Mexico, near Acapulco and Vera Cruz, on sandy hills. Legume oval-lanceolate, compressed, acute, 1-2-seeded, hardly pubescent.

Moon-seed-like Rhynchosia. Pl. cl.

2 R. renifórmis (D. C. prod. 2. p. 384.) stem erect, humble, hairy; stipulas oblong-lanceolate; leaves roundish; racemes sessile, many-flowered, conglomerate; calycine segments lanceolate, acuminated. ♃. H. Native of North America, from Carolina to Florida, in the pine forests. Trifòlium simplicifòlium, Walt. car. 184. Glýcine tomentòsa monophýlla, Michx. fl. bor. amer. 2. p. 63. Glýcine renifórmis, Pursh. fl. sept. amer. 2. p. 86. Glýcine monophýlla, Nutt. gen. amer. 2. p. 115. but not of Lin. Arcyphýllum simplicifòlium, Ell. l. c. Flowers yellow.

Reniform-leaved Rhynchosia. Fl. July, Aug. Clt. 1806. Pl. ½ foot.

3 R. diffórmis (D. C. prod. 2. p. 384.) stem twining, velvety; stipulas oblong-lanceolate, lower leaves simple, upper ones trifoliate; racemes on long peduncles; flowers crowded, spicate; segments of the calyx lanceolate, acuminated. ♃. ⌒. H. Native of Carolina, in dry and cultivated places. Glýcine tomentòsa, var. volùbilis, Michx. fl. bor. amer. 2. p. 63. This appears an intermediate species between this and the following division.

Difformed Rhynchosia. Fl. June, Sept. Clt. 1732. Pl.

§ 2. *Leaves all on long petioles, trifoliate. Phascoloìdeæ.*

4 R. ere'cta (D. C. prod. 2. p. 384.) stem erect, angular, velvety; branches twining a little; leaflets ovate, rather obtuse, reticulately veined; racemes axillary, longer than the leaves; calycine segments linear, acute. ♃. H. Native of North America, from Carolina to Florida. Trifòlium eréctum, Walt. car. 184. Glýcine tomentòsa erécta, Michx. fl. bor. amer. 2. p. 63. Glýcine erécta, Nutt. gen. amer. 2. p. 114. Arcyphýllum eréctum, Ell. l. c. Flowers fulvous. Leaves clothed with silky villi.

Erect Rhynchosia. Fl. June, Sept. Clt. 1820. Pl. 2½ feet.

5 R. Caribæ'a (D. C. prod. 2. p. 384.) twining, pubescent; leaflets ovate-rhomboid, acute, covered with resinous dots beneath; racemes longer than the leaves; legumes acinaciform, hispid. ♃. ⌒. S. Native of the West Indies and on the banks of the river Orinoco, according to Kunth, nov. gen. amer. 6. p. 125. as well as of Western Florida. Glýcine Caribæ'a, Jacq. icon. rar. t. 146. coll. 1. p. 66. Glýcine refléxa, Nutt. gen. amer. 2. p. 115. ex Nutt. in Sill. journ. Flowers yellow, with the vexillum striated. Legume 12-16 lines long, tapering at the base.

Caribbean Rhynchosia. Fl. Sept. Oct. Clt. 1742. Pl. tw.

6 R. puncta'ta (D. C. mem. leg. ix. t. 56.) stem twining, angular, beset with retrograde pubescence; leaflets ovate-rhomboid, acute, dotted beneath; racemes filiform, longer than the leaves; flowers deflexed; legumes pubescent. ♃. ⌒. S. Native of Cayenne. Glýcine littoràlis, Vahl. ined. in herb. Puer. Legumes 6 lines long. Style filiform, inflexed. Flowers 3 lines long; vexillum not striated. This species comes very near *R. minima*, but the down on the stems is turned backwards, and the flowers are larger.

Dotted-leaved Rhynchosia. Pl. cl.

7 R. MÍNIMA (D. C. prod. 2. p. 385.) stem twining, slender, angular, and rather pubescent; leaflets rhomboid, acute, smoothish, dotted beneath; racemes longer than the leaves; flowers reflexed; legumes oblong, tapering at the base, clothed with fine velvety down. ♃. ⌒. S. Native of the West Indies. Dólichos mínimus, Lin. spec. 1020. Jacq. obs. 1. t. 22.—Glýcine Lamárckii, H. B. et Kunth, nov. gen. amer. 6. p. 424.—Sloan. hist. jam. t. 115. f. 1. Flowers yellow.

Smallest-flowered Rhynchosia. Fl. July, Aug. Clt. 1776. Pl. tw.

8 R. NU'DA (D. C. legum. mem. ix.) stems twining, angular, having the angles beset with retrograde pubescence; leaflets roundish, mucronulate, glabrous, dotted beneath; racemes filiform, longer than the leaves; flowers deflexed; legumes pubescent. ♃. ⌒. S. Native of the East Indies, at Nandaradah. Hedýsarum nùdum, Rottl. in herb. Puer. Legumes 9 lines long.

Naked Rhynchosia. Pl. tw.

9 R. VOLU'BILIS (Lour. coch. p. 460.) stems herbaceous, twining, terete; leaflets roundish-obovate, reticulated, clothed with velvety down; racemes longer than the leaves; legumes ovate, rather velvety. ♃. ⌒. G. Native of China, in the suburbs of Canton. Peduncles twin (Lour.). Flowers yellow. Legume black. Seeds 2, black, shining.

Twining Rhynchosia. Pl. tw.

10 R. PHASEOLOÌDES (D. C. prod. 2. p. 385.) stems twining, terete, pubescent; leaflets broad-ovate, acuminated, glabrous above, but villous and dotless beneath; racemes axillary and somewhat terminal; legumes tightened in the middle. ♄. ⌒. S. Native of Cayenne, Jamaica, and St. Domingo. Glýcine phaseoloìdes, Swartz. fl. ind. occ. 3. p. 1248. Sims, bot. mag. 2284. Abrus, Lam. ill. t. 608. f. 2. Dólichos pyramidàlis, Lam. dict. 2. p. 296. Austèrium, Poit. in herb. Deless. Seeds compressed, partly red and partly black. Legumes clothed with rusty velvety down, but at length becoming glabrous. Racemes longer than the leaves, rarely shorter. Flowers brown.

Kidney-bean-like Rhynchosia. Fl. Ju. Jul. Clt. 1818. Pl. tw.

11 R. PRECATÒRIA (D. C. prod. 2. p. 385.) stems twining, villous; leaflets rhomboid-ovate, acuminated, obtuse at the base, and 3-nerved, clothed with soft pubescence; racemes axillary, many-flowered, about equal in length to the leaves; legumes oblong. ♄. ⌒. S. Native of Mexico, near Acapulco. Glýcine precatòria, Humb. in Willd. enum. 755. H. B. et Kunth, nov. gen. amer. 6. p. 425. Indigófera volùbilis, Wendl. obs. 55. ex Willd. The hairs on the plant are tipped with glands, but the legumes are articulated, according to Wendland; according to Kunth the seeds are scarlet, and are strung for rosaries, whence the specific name.

Prayer or Rosary Rhynchosia. Fl. June, Aug. Clt. 1825. Shrub. tw.

12 R. MACROPHY'LLA (D. C. prod. 2. p. 385.) branches twining, triangular, clothed with soft villi; leaflets rhomboid-ovate, acuminated, somewhat cordate, 3-nerved, clothed with soft pubescence on both surfaces, canescent and beset with glandular dots beneath; racemes many-flowered, on short peduncles; calyxes silky. ♄. ⌒. S. Native of Cuba, near Havannah. Glýcine macrophýlla, H. B. et Kunth, nov. gen. amer. 6. p. 426. Allied to *R. reticulàta*, but the terminal leaflet is 4 inches long and about 2 inches broad.

Large-leafletted Rhynchosia. Shrub tw.

13 R. ERYTHRINOÌDES (Schlecht. et Cham. in Linnæa. vol. 5. p. 587.) shrubby, climbing, smoothish; leaflets ovate-rhomboid, acuminated, acute, 3-nerved, beset with resinous dots on both surfaces; racemes axillary, when in fruit about equal in length to the leaves; calyx 5-cleft; legume sessile, 2-seeded, torulose; seeds nearly globose, a little compressed, girded at the hylum by a scarlet arillus. ♄. ⌒. S. Native of Mexico, between Masantla and Nantla, in woods. Plant pubescent in its parts when young.

Coral-tree-like Rhynchosia. Shrub tw.

14 R. RETICULA'TA (D. C. prod. 2. p. 385.) stems twining, angular; leaflets ovate-rhomboid, acuminated, velvety, reticulately veined beneath; racemes axillary, shorter than the leaves; legumes rather pubescent. ♄. ⌒. S. Native of Jamaica, Santa Cruz, and Guadaloupe, on the mountains among bushes, and of Mexico, near Jalapa. Glýcine reticulàta, Vahl. symb. 3. p. 88. Swartz, prod. 105. Corolla brownish yellow, shorter than the calyx.

Reticulated-leaved Rhynchosia. Fl. July, Sept. Clt. 1779. Shrub tw.

15 R. PARVIFÒLIA (D. C. legum. mem. ix. prod. 2. p. 385.) stem twining; branches angular, and are as well as the leaves clothed with soft, short, velvety down; leaflets elliptic, very blunt, reticulately veined beneath; peduncles 2-flowered; legumes clothed with short down, intermixed with a few stiff hairs. ♄. ⌒. S. Native of St. Domingo. Leaflets hardly 4-5 lines long. Legumes 2-seeded, hardly half an inch long.

Small-flowered Rhynchosia. Shrub tw.

16 R. PUBE'SCENS (D. C. legum. mem. ix. prod. 2. p. 386.) stems twining, villous, terete; leaflets broad-ovate, acuminated, pubescent on both surfaces, and reticulated beneath; racemes few-flowered, axillary, about equal in length to the leaves; legumes oblong, rather pubescent, 2-seeded. ♄. ⌒. S. Native of Abyssinia. Glýcine pubéscens, Balb. ined. Glýcine Abyssínica, Juss. ex Lher. herb.? Corolla longer than the calyx. Vexillum velvety on the outside. Legume about an inch long. Seeds brown.

Pubescent Rhynchosia. Shrub tw.

17 R. MEMNO'NIA (D. C. prod. 2. p. 386.) stems twining, terete, and are as well as the leaves clothed with soft, hoary, velvety down; leaflets obovate, obtuse, reticulately veined beneath; racemes axillary, longer than the leaves; flowers nodding; legumes compressed, constricted in the middle, villously tomentose. ♃. ⌒. G. Native of Egypt, about Thebes. Glýcine Memnònia, Delil. fl. ægypt. 100. t. 38. f. 3. Vexillum rather pubescent, yellow, lined with black veins.

Memnon's Rhynchosia. Pl. tw

18 R. DENSIFLÒRA (D. C. prod. 2. p. 386.) stem twining, clothed with short hoary down; leaflets ovate-roundish, acuminated, pubescent on both surfaces, and full of resinous dots; racemes axillary, ovate, dense-flowered, on short peduncles; corolla smaller than the calyx. ♄. ⌒. S. Native of the East Indies. Glýcine densiflòra, Roth. nov. spec. 348. Corolla glabrous. Legume unknown.

Dense-flowered Rhynchosia. Pl. tw.

19 R. CAPITA'TA (D. C. prod. 2. p. 386.) stems twining, angular, hairy; leaflets roundish, puberulous on the nerves and margins; peduncles axillary, length of leaves, bearing branches under the capitate raceme; corolla *length of calyx*; legumes sessile within the calyx, almost orbicular, compressed, 2-seeded, pilose. ♄. ? ⌒. S. Native of the East Indies. Glycine capitàta, Roth. nov. spec. 346.

Capitate-flowered Rhynchosia. Pl. tw.

20 R. ELONGA'TA (D. C. prod. 2. p. 386.) stems twining; leaflets roundish, somewhat acuminated; racemes axillary, somewhat capitate, shorter than the petioles; lower tooth of calyx elongated, longer than the corolla; legumes pedicellate within the calyx, nearly orbicular, compressed, 2-seeded, pilose. ♃. ⌒. S. Native of the East Indies. Glýcine elongàta, Roth. nov. spec. 347. Allied to *R. nummulària*.

Elongated Rhynchosia. Shrub tw.

21 R. NUMMULA'RIA (D. C. prod. 2. p. 386.) stems twining,

angular, pubescent; leaflets cuneate-orbicular, very obtuse, rather pubescent; racemes filiform; flowers twin; legumes sessile within the calyx, orbicular, compressed, 1-seeded. ♃. ⌒. S. Native of the East Indies. Glýcine nummulària, Lin. mant. 571. The racemes are said to be longer than the leaves, but according to the specimens they are shorter.

Money-wort Rhynchosia. Pl. tw.

22 R. ERVOÌDEA (D. C. legum. mem. ix. prod. 2. p. 386.) stems twining, rather angular, and a little pubescent; leaflets cuneate-roundish, very blunt, smoothish, dotted beneath; racemes few-flowered, sessile, or on short peduncles, and branching; legumes oblong, glabrous, 2-seeded, rather falcate, compressed. ♃. ⌒. S. Native of the East Indies, where it is called *Kataare*, according to Leschenault.

Ervum-like Rhynchosia. Pl. tw.

23 R. AU'REA (D. C. prod. 2. p. 386.) leaflets roundish-rhomboid; racemes shorter than the petioles; legumes villous, 1-seeded. ♃. ⌒. S. Native of the East Indies. Glýcine aùrea, Willd. nov. act. nat. cur. berol. 4. 1803. p. 18. Hedýsarum aùreum, Kœn. Rottl. Flowers golden yellow.

Golden-flowered Rhynchosia. Pl. tw.

24 R. RHOMBIFÒLIA (D. C. prod. 2. p. 386.) stems twining, terete, and are as well as the leaves glabrous; leaflets roundish-rhomboid, dotted beneath; racemes filiform, longer than the leaves; legumes oblong, 2-seeded, glabrous. ♃. ⌒. S. Native of the East Indies. Glycine rhombifòlia, Willd. spec. 3. p. 1065.

Var. β, Timoriénsis (D. C. prod. 2. p. 386.) leaflets acuminated, lateral ones an inch long. ♃. ⌒. S. Native of the Island of Timor.

Rhomb-leafletted Rhynchosia. Fl. May, Aug. Clt. 1815. Pl. tw.

25 R. CA'NA (D. C. prod. 2. p. 386.) stem erect, pubescent; leaflets ovate-roundish, clothed with hoary tomentum beneath; peduncles axillary, 2-flowered, shorter than the petioles; legumes oblong, smoothish, 2-seeded. ♄. S. Native of the East Indies. Glýcine càna, Willd. spec. 3. p. 1063.

Hoary Rhynchosia. Shrub 1 to 2 feet.

26 R. MEDICAGI'NEA (D. C. prod. 2. p. 386.) stems twining, filiform; leaflets obovate, obtuse, glabrous; racemes longer than the leaves; legumes oblong, mucronate, glabrous, constricted between the seeds. ⊙.? ⌒. S. Native of Ceylon. Burm. zeyl. 188. t. 88. Dólichos medicagíneus, Lam. dict. 2. p. 297. Allied to *R. minima*. Legume 2-seeded.

Medick-like Rhynchosia. Pl. tw.

27 R. SUAVE'OLENS (D. C. prod. 2. p. 378.) stem erect, clammy; leaflets ovate, acute, clothed with clammy pili; peduncles 1-2-flowered, filiform, articulated in the middle; legumes oblong, 2-seeded, hoary. ♄. S. Native of the East Indies, on rocks near Madras. Glýcine suavèolens, Lin. fil. suppl. 326. Hedýsarum venòsum, Rottl. Calyx 4-parted, with the upper segment bifid, and it is therefore probably a species of *Cylista*. The whole shrub is sweet-scented. The vexillum is streaked with red.

Sweet-scented Rhynchosia. Fl. July, Sept. Clt. 1816. Sh. 1 to 3 feet.

28 R. VI'SCIDA (D. C. prod. 2. p. 387.) stems? leaflets ovate-roundish, clothed beneath with silky hoary down; racemes axillary, very long; legumes pubescent. ♃.? ⌒.? S. Native of the East Indies. Glýcine víscida, Willd. in nov. act. nat. cur. 4. 1803. p. 208. Pers. ench. 2. p. 300. Hedýsarum víscidum, Lin. Rottl.

Viscid Rhynchosia. Pl. tw.?

29 R. VISCÒSA (D. C. l. c.) stems twining, clothed with clammy pili; leaflets ovate-roundish, acuminated, scabrous on both surfaces, lateral ones broadest on the outside; racemes axillary, shorter than the leaves; corolla with a pilose vexillum; legumes oblong, setose, compressed, 2-seeded. ♄. ⌒. S. Native of the East Indies. Glýcine viscòsa, Roth. nov. spec. 349. Hedýsarum glutinòsum, Rottl. *in* herb. Puer. Dólichos glutinòsus, Leschen. herb. Legume an inch long, apiculated by the style.

Clammy Rhynchosia. Fl. July, Sept. Clt. 1820. Sh. tw.

30 R. FRIDERICIA'NA (D. C. prod. 2. p. 387.) stems twining, decumbent, angular; leaflets ovate-rhomboid, obtuse, clothed with soft pubescence on both surfaces; racemes longer than the leaves; legumes pubescent, 2-seeded. ♄. ⌒. S. Native of the Island of Manilla. Glýcine Fridericiàna, Weinm. in flora. 1821. p. 29. Flowers small, yellow.

Frideric's Rhynchosia. Fl. July, Aug. Clt. 1820. Sh. tw.

31 R. RÒSEA (D. C. prod. 2. p. 387.) stems twining; leaflets ovate, cordate, acute, quite entire; peduncles 3-flowered; legumes compressed, keeled, 1-seeded. ♃. ⌒. G. Native of the Society Islands. Glýcine ròsea, Forst. prod. no. 271.

Rose-coloured-flowered Rhynchosia. Pl. tw.

32 R. LU'CIDA (D. C. l. c.) stems twining; leaflets ovate, acuminated, quite entire; racemes terminal, glandular; pedicels tern; legumes inflated, 2-seeded. ♃. ⌒. G. Native of the Society Islands. Glýcine lùcida, Forst. prod. no. 272. Perhaps this plant belongs to a different genus.

Lucid Rhynchosia. Pl. tw.

33 R. CROTALARIOÌDES (D. C. l. c.) branches terete; leaflets oblong-ovate, 3-nerved, pubescent beneath; racemes axillary, aggregate, shorter than the petioles; legumes oblong, acute, usually 1-seeded. ♄. ⌒.? S. Native of the East Indies. Crotalària macrophýlla, Willd. spec. 3. p. 982.

Crotalaria-like Rhynchosia. Shrub tw.

34 R. RUFE'SCENS (D. C. l. c.) leaflets roundish-ovate, clothed with hoary pubescence; racemes axillary; legumes ovate, 1-seeded, longer than the calyx. ♃. ⌒. S. Native of the East Indies. Glýcine rufèscens, Willd. nov. act. nat. cur. b[illegible] p. 1803. p. 222. Hedýsarum rufèscens, Rottl. ex Willd.

Rufescent Rhynchosia. Pl. tw.

35 R. GLA'BRA (D. C. prod. 2. p. 387.) stems twining, filiform, angular; leaflets lanceolate, ciliated, beset with resinous dots beneath, and hairy on the nerves; racemes axillary, usually 4-flowered; legumes oblong, mucronate, 2-5-seeded. ♃. ⌒. G. Native of the Cape of Good Hope. Glýcine glàbra, Spreng. neue. entd. 3. p. 54. Flowers yellow.

Glabrous Rhynchosia. Pl. tw.

36 R.? GALACTIOÌDES (D. C. prod. 2. p. 387.) stems twining; branches beset with retrograde pili; leaflets oval-oblong, obtuse at the base and mucronate at the apex, glabrous and shining above, but pubescent beneath; racemes shorter than the leaves, 5-8-flowered; legumes villous, 3-seeded, somewhat constricted between the seeds. ♄.? ⌒. S. Native of South America, near Hacienda de Blandin, in Caraccas. Glýcine galactioìdes, H. B. et Kunth, nov. gen. amer. 6. p. 427. t. 575. Lobes of calyx nearly equal, much acuminated.

Galactia-like Rhynchosia. Shrub tw.

37 R.? SCARABÆOÌDES (D. C. l. c.) stems twining, scabrous; leaflets ovate, obtuse at both ends, clothed with soft silky down on both surfaces; veiny beneath; peduncles 1-flowered; legumes oblong, constricted between the seeds; seeds furnished with a thick bifid arillus. ⊙. ⌒. S. Native of the East Indies, Madagascar, and the Mauritius. Dólichos scarabæoìdes, Lin. suppl. 1020. Burm. ind. 159. exclusive of the synonyme of Garcin. Càjan scarabæoìdes, Pet. Th. dict. sc. nat. 6. p. 167.—Pluk. alm. t. 52. f. 3. Lin. fl. zeyl. no. 182. According to the figure in Plukenet alm. the legume is 4-seeded, and the seeds separated by cellular substance, but according to M. Petit Thouars, it is 9 lines long and 2 lines broad.

Beetle-like-seeded Rhynchosia. Fl. Ju. Jul. Clt. 1773. Pl. tw.

38 R. DE'BILIS; plant twining, villous; leaflets roundish, almost glabrous; petioles long; racemes axillary, sessile, crowded with small flowers; legumes short, villous. ♃. ⌒. S. Native of Guinea and of the Island of St. Thomas. Flowers small, yellow.

Weak Rhynchosia. Pl. tw.

39 R. STRIA'TA; plant twining; leaflets ovate, acuminated, entire, glabrous, 3-nerved at the base; racemes lateral, sessile; calyx 4-cleft, and is as well as the pedicels hairy; corolla about equal in length to the calyx. ♃. ⌒. S. Native of Sierra Leone. Flowers yellow and striped with red.

Striated-flowered Rhynchosia. Pl. tw.

40 R. BIFLÒRA (D. C. l. c.) stems twining, clothed with velvety villi; leaflets oval, acutish at both ends, reticulated above, but clothed with soft velvety villi beneath; racemes 2-flowered, shorter than the petioles; legumes ovate, mucronate, villous, constricted between the seeds; seed furnished with a thick bifid arillus. ⊙. ⌒. S. Native of the East Indies. Dólichos scarabæoìdes, Roxb. hort. beng. 57. Legume 5-6 lines long and 3 lines broad, 2-seeded. Seeds ovate, blackish brown, separated by cellular transverse membranes.

Two-flowered Rhynchosia. Fl. Jul. Aug. Clt. 1816. Pl. tw.

41 R. GARCI'NI (D. C. prod. 2. p. 388.) stems twining, clothed with velvety villi: leaflets roundish-obovate, very blunt, clothed with soft villi on both surfaces; racemes shorter than the leaves; legumes oblong, covered with fine velvety down, mucronate, 2-seeded, not constricted between the seeds. ⊙. ? ⌒. G. Native of Persia. Phasèolus Pérsicus móllis, Garcin, in herb. Burm. Flowers yellow, striated.

Garcin's Rhynchosia. Pl. tw.

42 R. ANGUSTIFÒLIA (D. C. l. c.) stems twining, terete, villous; stipulas ovate, acute; leaflets linear-lanceolate, silky; pedicels axillary, very short, 1-flowered; segments of the calyx [illegible]late; legumes pubescent, 2-seeded. ♄. ⌒. G. Native of the Cape of Good Hope. Glýcine angustifòlia, Jacq. hort. schœnbr. 2. t. 231. Flowers yellow. Anthers pilose.

Narrow-leafletted Rhynchosia. Fl. June, Aug. Clt. 1795. Shrub tw.

43 R. GLANDULÒSA (D. C. prod. 2. p. 388.) stems twining, rather angular, smoothish; leaflets oblong, glabrous, but full of resinous dots beneath as well as the calyx; peduncles axillary, 1-3-flowered, longer than the leaves. ♄. ⌒. G. Native of the Cape of Good Hope. Phasèolus Capénsis, Burm. cap. p. 81. but not of Thunb. Glýcine glandulòsa, Thunb. cap. prod. 131. fl. cap. 591. Pedicels nearly an inch long, according to Thunb.

Glandular Rhynchosia. Shrub tw.

44 R. TÓTTA (D. C. l. c.) stems twining, terete, glabrous; branches clothed with adpressed silky down; leaflets ovate or oblong, mucronate, rather puberulous, fringed a little at the base, dotless beneath; pedicels axillary, jointed in the middle, 1-flowered, length of petioles: segments of the calyx and stipulas subulate. ♄. ⌒. S. Native of the Cape of Good Hope. Burch, cat. pl. afr. aust. no. 2040. Glýcine Tótta, Thunb. fl. cap. 591. Flowers yellow.

Hottentot Rhynchosia. Shrub tw.

45 R. MOLLÍSSIMA; plant twining, very soft and hoary from down; leaflets ovate-roundish, mucronate, 3-nerved at the base; racemes axillary, spike-formed. ♃. ⌒. S. Native of Guinea, very common among grass. Flowers small, brown.

Very-soft Rhynchosia. Pl. tw.

46 R. HOOKE'RI; plant pubescent; stems twining; leaflets ovate, acute, somewhat rhomboidal, dotted; racemes shorter than the leaves; legumes scymitar-shaped, swollen, 2-seeded. ♃. ⌒. S. Native of the West Indies. Glýcine móllis, Hook. exot. fl. t. 201. Flowers yellow.

Hooker's Rhynchosia. Fl. July, Aug. Clt. 1824. Pl. tw.

47 R. MÓLLIS (D. C. prod. 2. p. 388.) stems twining; leaflets elliptic, obtuse at both ends, pubescent above but tomentose and reticulately veined beneath; pedicels 1-flowered, one-half shorter than the petioles; legumes 3-seeded, clothed with rufous villi. ♃. ⌒. S. Native of Guinea. Glýcine móllis, Willd. spec. 3. p. 1063. Lateral leaflets about an inch long, and the middle one about an inch and a half long. Flowers yellow.

Soft Rhynchosia. Fl. Jul. Aug. Clt. 1823. Pl. tw.

48 R. RIGÍDULA (D. C. l. c.) stems erect, clothed with retrograde, hoary pubescence; leaflets linear, mucronate, pubescent, and beset with resinous dots beneath; pedicels axillary, 1-flowered, bent in the middle, length of petioles; legumes rather villous, oblong, 1-seeded. ♄. G. Native of the Cape of Good Hope. Burch. cat. afr. aust. no. 2587.

Stiffish Rhynchosia. Shrub 1 to 2 feet.

Cult. This genus is composed of plants of no beauty. For the culture and propagation of the species see *Eriosèma*, p. 348.

CLXXXIV. ERIOSE'MA (from *εριον*, *erion*, wool, and *σημα*, *sema*, a standard; in reference to the vexillum, which is clothed with silky hairs). Desv. in Schlecht. Linnæa. vol. 2. p. 512.

LIN. SYST. *Diadélphia, Decándria.* Calyx 5-cleft, somewhat bilabiate, usually inclosing the corolla. Stamens diadelphous. Style filiform. Vexillum clothed with silky villi. Legume straight, 1-celled, 1 or few-seeded.--Erect subshrubs, with digitately trifoliate leaves, with the 3 leaflets rising from the same dot or centre from the tip of the petiole, rarely solitary. Racemes or fascicles of flowers axillary. Flowers yellow.

1 E. GRANDIFLÒRA (Schlecht. et Cham. in Linnæa. 5. p. 588.) shrubby, erect; branches angular, somewhat trigonal; petioles very short, and are as well as the nerves and veins on the under surface of the leaves clothed with silky rufous down, but the calyxes and legumes are clothed with silky rufous villi; leaves and corollas covered with soft pubescence on both surfaces; leaflets oblong-elliptic, mucronate; bracteas roundish-ovate, acute, rather silky, ciliated and bearded; racemes terminal and axillary, panicled; legumes ovate, compressed, obliquely beaked. ♄. S. Native of Mexico, near La Hacienda de la Laguna. Very like *E. rùfa*.

Great-flowered Eriosema. Fl. Oct. Shrub 1 to 2 feet.

2 E. RU'FA; plant suffruticose, erect; branches somewhat tetragonal, clothed with rufous velvety down as well as the petioles, which are very short; leaflets 3, elliptic-oblong, clothed with soft velvety down on both surfaces, but with rufous down on the nerves on the under surface, which are rather prominent, the odd leaflet remote from the lateral ones; racemes many-flowered, shorter than the leaves; legumes oval, compressed, mucronate, clothed with rufous villi. ♄. S. Native of New Andalusia, in humid places near Caripe, and on Cerro del Cocollar. Glýcine rùfa, H. B. et Kunth, nov. gen. amer. 6. p. 423. t. 574. Rhynchòsia rùfa, D. C. prod. 2. p. 388.

Var. β, macrostàchya (D. C. prod. 2. p. 388.) racemes longer than the leaves.

Rufous Eriosema. Shrub 2 to 3 feet.

3 E. VIOLA'CEA; plant suffruticose, erect; branches and leaves clothed with very short ferruginous villi; leaflets 3, oblong-linear, acute, greenish above and velvety, but clothed with rusty villi beneath, the odd leaflet rather remote from the lateral ones; racemes axillary and terminal, many-flowered; legumes ovate, villous, 2-seeded. ♄. S. Native of Guiana, in meadows. Cýtisus violàceus, Aubl. guian. 2. p. 766. t. 306. Crotalària lineàta, Lam. dict. 2. p. 200. Glýcine pícta, Vahl. symb. 2. p. 814. Rhynchòsia violàcea, D. C. prod. 2. p. 388. Flowers violaceous.

Violaceous Eriosema. Fl. July, Aug. Clt. 1820. Sh. 4 ft.

4 E. DIFFU'SA; branches diffusely procumbent, tetragonal,

when young clothed with hoary adpressed villi; leaflets 3, lanceolate, somewhat mucronate, pubescent above and glabrous beneath, and a little dotted, but having the nerves clothed with hoary villi; the terminal leaflet hardly remote from the lateral ones; racemes very short, crowded, axillary; legumes ovate, mucronate, beset with rufous villi. ♄. S. Native of South America, on the mountains of Popayan, near the river Putes, and of Mexico. Glýcine diffùsa, H. B. et Kunth, nov. gen. amer. 6. p. 420. t. 572. Rhynchòsia diffùsa, D. C. prod. 2. p. 388. Flowers yellow.

Var. β, oblongifòlia (D. C. prod. 2. p. 389.) leaflets oblong and a little broader.

Diffuse Eriosema. Shrub 3 to 4 feet.

5 E. CRINÌTA; plant suffruticose, erect, pilose; hairs long, spreading, and soft; stems angular; leaflets 3, linear-lanceolate, acute, mucronate; racemes short. ♄. S. Native of New Andalusia, on Cerro del Cocollar, in open places. Glýcine crinìta, H. B. et Kunth, nov. gen. amer. 6. p. 421. t. 573. Rhynchòsia crinìta, D. C. prod. 2. p. 389. Flowers yellow.

Hairy Eriosema. Shrub 2 to 3 feet.

6 E. PULCHE'LLA; plant suffruticose, erect? branches angular, clothed with silky pili; leaflets 3, oblong-lanceolate, acute, rounded at the base, and clothed with soft pubescence on both surfaces; peduncles short, usually 6-flowered; calyx beset with soft pili. ♄. S. Native of New Granada, near Honda, and on the banks of the Orinoco. Glýcine pulchélla, H. B. et Kunth, nov. gen. amer. 6. p. 422. Rhynchòsia pulchélla, D. C. prod. 2. p. 389. Flowers yellow.

Neat Eriosema. Shrub 2 feet.

7 E. PSORALEOÌDES; stem flexuous, angular, velvety at the apex; leaflets 3, oblong, obtuse, clothed with silky tomentum beneath; stipulas lanceolate, length of the petiole, which is very short; spikes axillary, slender, longer than the leaves; legumes ovate-rhomboid, villous. ♄. S. Native of Madagascar. Crotalària psoraleoìdes, Lam. dict. 2. p. 201. H. B. et Kunth, nov. gen. amer. 6. p. 418. in a note. Rhynchòsia psoraleoìdes, D. C. prod. 2. p. 389. Flowers yellow.

Psoralea-like Eriosema. Shrub 2 to 3 feet.

8 E. SESSILIFLÒRA; plant suffruticose, erect; branches terete, clothed with silky villi as well as the under side of the leaflets; petioles almost wanting; leaflets 3, oblong-linear, obtuse, quite smooth above; flowers 2-3, axillary, almost sessile. ♄. S. Native of Porto Rico. Cýtisus sessiliflòrus, Poir. suppl. 2. p. 439. Rhynchòsia sessiliflòra, D. C. l. c. Flowers yellow.

Sessile-flowered Eriosema. Shrub 1 to 2 feet.

9 E. SIMPLICIFÒLIA; stems diffuse, angular, clothed with adpressed pili; petioles very short; leaves linear-lanceolate, rather mucronate, cordate, glabrous; peduncles short, 3-4-flowered; calyx clothed with adpressed pili. ♄. S. Native near Atures, at the cataracts of the Orinoco. Glýcine simplicifòlia, H. B. et Kunth, nov. gen. amer. 6. p. 419. Rhynchòsia simplicifòlia, D. C. l. c. Flowers yellow.

Simple-leaved Eriosema. Shrub diffuse.

Cult. None of the species of this genus are worth cultivating except in botanical gardens; they grow well in any light rich soil, and are easily increased by cuttings or seeds.

CLXXXV. FAGE'LIA (evidently the name of some botanist or naturalist). Neck. elem. no. 1257. D. C. legum. mem. ix. prod. 2. p. 389. but not of Schwenk.

LIN. SYST. *Diadélphia, Decándria.* Calyx cleft into 5 parts beyond the middle, with the segments linear, acute, and straight, the two superior ones joined together a little higher up than the others. Corolla with a reflexed vexillum, and a very blunt keel, which is longer than the wings. Stamens diadelphous. Legume ovate-cylindrical, turgid, 6-seeded, 1-celled, 2-valved. Seeds ovate, with a lateral hylum.—A decumbent twining subshrub, clothed with glandular clammy hairs, and rather hairy on the stems, leaves, calyxes, and legumes. Stipulas ovate, acuminated. Leaves petiolate, pinnately-trifoliate; leaflets rhomboid, the terminal one remote from the lateral ones. Racemes axillary, longer than the leaves. Flowers yellow, but with the carina tipped with violet, on long distant pedicels, which are at length deflexed.

1 F. BITUMINÒSA (D. C. prod. 2. p. 389.) ♄. ⌒. G. Native of the Cape of Good Hope. Herm. lugd. 493. with a figure. Glýcine bituminòsa, Lin. spec. 1024. Lam. ill. t. 609. f. 2. Burm. fl. cap. prod. 21. Thunb. fl. cap. 591. Ker. bot. reg. 261. Glýcine viscòsa, Mœnch. Dólichos hírtus, Hortul. Crotalària glycínea, Lam. dict. 2. p. 200. ex herb. Juss. and mus. par.

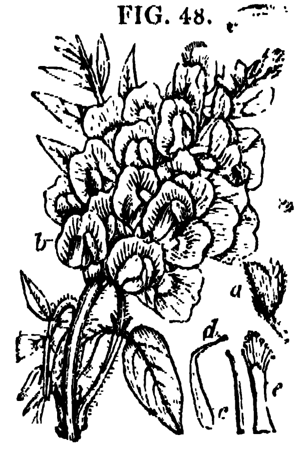
Clammy Fagelia. Fl. April, Sept. Clt. 1774. Shrub tw.

Cult. See *Kennèdya*, p. 344. for culture and propagation.

CLXXXVI. WISTA'RIA (in honour of Caspar Wistar, late professor of anatomy in the university of Pennsylvania). Nutt. gen. amer. 2. p. 115. D. C. legum. mem. ix. prod. 2. p. 389.—Thyrsánthus, Ell. journ. acad. sci. philad. 1818. 1. no. 13. p. 371. but not of Schranck.—Kraúnhia, Rafin.

LIN. SYST. *Diadélphia, Decándria.* Calyx campanulate, somewhat bilabiate (f. 48. *a.*), upper lip with 2 short teeth, lower one with 3 subulate teeth (f. 48. *a.*). Corolla papilionaceous (f. 48. *b.*). Vexillum bicallose. Wings conforming to the keel, which is 2-edged. Stamens diadelphous (f. 48. *c.*). Nectariferous tube girding the stipe of the ovary. Legume standing on a short stipe, coriaceous, 2-valved, 1-celled, rather torulose at the seeds.--Shewy climbing shrubs, with impari-pinnate exstipulate leaves, and terminal and axillary racemes of bluish lilac flowers, which when in a young state appear like aments from bracteas, which fall off before the flowers expand.

FIG. 48.



1 W. FRUTE'SCENS (D. C. prod. 2. p. 390.) wings of flower biauriculate; ovary glabrous. ♄. ◡. H. Native of Virginia, Carolina, and Illinois, in boggy places. Sweet, fl. gard. 2d series, t. 104. Glýcine frutéscens, Lin. spec. 1067. Sims, bot. mag. 2103. A'pios frutéscens, Pursh. fl. amer. sept. 2. p. 474. Wistària speciòsa, Nutt. l. c. Thyrsánthus frutéscens, Ell. l. c. Phaseoloìdes, hort. ang. 55. t. 15. Flowers sweet-scented, bluish purple; the vexillum with a greenish yellow spot at the base. An elegant climber when in flower. (f. 48.)

Shrubby Wistaria. Fl. Ju. Sept. Clt. 1724. Shrub cl.

2 W. CHINE'NSIS (D. C. l. c.) wings of flower with one auricle each; ovary villous. ♄. ◡. H. Native of China. Sweet, fl. gard. 211. Glýcine Chinénsis, Sims, bot. mag. 2083. G. Sinénsis, Ker. bot. reg. t. 650. Lodd. bot. cab. 773. Wistària Consequàna, Loudon, hort. brit. p. 315. Flowers larger than those of the preceding species, of a bluish purple-colour. This is a most elegant climber when in flower.

China Wistaria. Fl. May, June. Clt. 1818. Shrub cl.

3 W. FLORIBU'NDA (D. C. prod. 2. p. 390.) stems and leaves glabrous. ♄. ◡. H. Native of Japan. Too vulgo Fudsi, Kœmpf. amœn. 5. p. 856. Dólichos polystàchyos, Thunb. jap. 281. Houtt. pfl. syst. 8. p. 563. t. 64. f. 2. but not of Lin. Glýcine floribúnda, Willd. spec. 3. p. 1066. Dólichos Japónicus, Spreng. syst. 3. p. 252. Racemes of flowers long, very elegant. Corolla purple and white mixed.

Bundle-flowered Wistaria. Shrub cl.

Cult. All the species of *Wistària* are very elegant when in flower, and being all hardy climbers, deserve to be cultivated in every collection of plants. They grow best in light rich earth, and they should be nailed against a south wall, where they will flower in great profusion. The China species being an early flowerer, has a beautiful appearance when planted in a border in the green-house, and the shoots trained to the rafters. They are all easily increased by cuttings planted either in sand or mould, but they are generally propagated by layers.

CLXXXVII. A'PIOS (from *απιον*, *apion*, a pear; in reference to the form of the tubers of the roots). Boerh. lugd. 2. p. 53. Mœnch. meth. 165. Pursh. fl. amer. sept. 2. p. 459. Nutt. gen. amer. 2. p. 113.—Glýcine, sect. 1. Ell. act. soc. phil. 1818. vol. 1. p. 385.—Bradlèa, Adans. fam. 2. p. 324.

Lin. syst. *Diadélphia, Decándria.* Calyx campanulate, with 4 almost obsolete teeth, and one acute elongated one under the keel. Corolla papilionaceous, with a falcate linear carina, bent back upon the top of the vexillum. Stamens diadelphous. Stipe of ovary sheathed by a little tube. Stigma emarginate. Legume many-seeded, and 2-celled; the seeds intercepted by dissepiments.—Climbing smooth herbs, with tuberous eatable roots, impari-pinnate leaves, and axillary racemes of brownish-purple sweet-scented flowers. Bracteoles closely adpressed to the calyx, but very soon falling off.

1 A. tuberòsa (Mœnch. l. c.) ♃. ⌒. H. Native from Pennsylvania to Carolina, on the mountains, in hedges, and among bushes. Glýcine A'pios, Lin. spec. 1067. Sims, bot. mag. 1198. Schkuhr, handb. 198.—Moris. hist. 2. t. 9. f. 1. Flowers brown, sweet-scented. Tubers of the roots edible, and farinaceous, much like those of *Láthyrus tuberòsus* sold in some of the German markets, and seldom larger, though more numerous, growing, however, sometimes to a large size.

Tuberous-rooted Apios. Fl. Aug. Sept. Clt. 1640. Pl. tw.

Cult. *A'pios* is an elegant climbing plant, which grows freely in common garden soil, and is easily increased by the tubers from the roots. Its branches require to be supported by stakes like peas.

CLXXXVIII. PHASE'OLUS (from *phaselus*, a little boat; supposed resemblance in pods). Lin. gen. 866. Lam. ill. 610. Savi. diss. in 8vo. 1824. D. C. prod. 2. p. 390.

Lin. syst. *Diadélphia, Decándria.* Calyx campanulate, bilabiate; upper lip bidentate, lower one 3-parted. Corolla papilionaceous. Keel, style, and stamens spirally twisted together, rarely incurved. Stamens diadelphous. Style of ovary sheathed by the tubular torus. Legume compressed or cylindrical, 2-valved, many-seeded; the seeds separated by a kind of cellular substance, and furnished with an oval-oblong hylum.—Herbs or subshrubs, with usually twining stems. Leaves pinnately-trifoliate, with the leaflets stipellate at the base. Racemes axillary. Pedicels usually twin, always 1-flowered. The most part of the species are not well defined.

Sect. I. Euphase'olus (from *eu*, well, and *phaseolus*; this section contains the genuine species). D. C. prod. 2. p. 390. Legumes compressed.

§ 1. *Caracálla* (from the Celtic words *car*, a head, and *cal*, a covering; was the name of a hooded dress worn by the Gauls). *Stems frutescent. Roots fasciculately-tuberous. Leaflets entire. Vexillum twisted.*

1 P. Caraca'lla (Lin. spec. 1017.) plant twining, hardly pubescent; leaflets ovate-rhomboid, acuminated; racemes longer than the leaves; teeth of calyx nearly equal; vexillum and carina spirally twisted; legumes straight, torulose, pendulous. ♃. ⌒. S. Native of the East Indies. Andr. bot. rep. t. 341. Delaun. herb. amat. t. 31, Savi. mem. p. 11.—Triumph. obs. t. 94.—Trew. pl. rar. p. 14. t. 10. Flowers large, purple and yellowish mixed. This plant is cultivated in many parts of the south of Europe and north of Africa. It is a very curious plant, and will grow and flower freely, if kept free of the red spider. It was named *caracalla* by the Portuguese, who first brought it from South America, in consequence of its hooded flower.

Caracalla Kidney-bean or Snail-flower. Fl. Aug. Sept. Clt. 1690. Pl. tw.

2 P. tuberòsus (Lour. coch. p. 434.) plant twining, shrubby; leaflets unknown; stipulas 2-horned; racemes almost terminal; upper lip of calyx emarginate, lower one 3-parted, nearly equal; vexillum revolute; legume compressed. ♄. ⌒. G. Native of Cochinchina. Roots tuberous; tubers large, in fascicles, eatable. Flowers yellow.

Tuberous-rooted Kidney-bean. Shrub tw.

3 P. rostra'tus (Wall. pl. asiat. rar. 1. p. 50. t. 63.) plant perennial, pilose; leaflets ovate, acute; racemes axillary, few-flowered, on long peduncles; wings variously twisted; keel with a very long spiral beak; legume flat, linear, arched. ♄. ⌒. S. Native of the mountains contiguous to Bengal, and of the Burman empire on mountains near the banks of the Irawaddi, at Paghamew and Frome. Flowers pale violet: wings ornamented with white veins.

Beaked-flowered Kidney-bean. Pl. tw.

§ 2. *Perénnes* (*perennis*, perennial; roots permanent). *Stems herbaceous. Roots perennial. Racemes of flowers somewhat panicled. Leaflets entire.*

4 P. pere'nnis (Walt. fl. car. 182.) plant twining, pubescent; leaflets ovate, acuminated, triple-nerved; racemes 1-3-together, axillary, panicled, longer than the leaves; bracteoles small; legumes broad, pendulous, falcate, mucrònate. ♃. ⌒. H. Native of Carolina and Georgia. Ell. sketch. 2. p. 228. P. paniculàtus, Michx. fl. bor. amer. 2. p. 60. Dólichos polystàchyus, Lin. spec. 1022. Flowers purplish-violet. Vexillum bicallous.

Perennial Kidney-bean. Fl. July, Aug. Clt. 1824. Pl. tw.

5 P. macrosta'chyus (Ell. in journ. sc. nat. phil. 1818. p. 384.) plant twining, pubescent; leaflets ovate, acuminated, villous beneath; racemes very long, simple; pedicels in fascicles. ♃. ⌒. H. Native of North America. Like *P. perénnis*, but more robust, and with the leaflets thick, not membranous. Racemes of flowers 12-14 inches long. Flowers purplish violet.

Long-spiked Kidney-bean. Pl. tw.

§ 3. *Macropòdii* (from *μακρος*, *makros*, long, and *πους ποδος*, *pous podos*, a foot; in reference to the peduncles being longer than the leaves). *Roots annual. Leaflets entire. Peduncles longer than the leaves.*

6 P. bractea'tus (Spreng. syst. 3. p. 250.) branches angular, pubescent; leaflets obovate-oblong, glabrous, rather coriaceous, reticulately-veined; peduncles axillary, few-flowered; bracteas lanceolate, few-nerved; legumes linear. ⊙. ⌒. S. Native of Brazil. Flowers purple.

Bracteate-flowered Kidney-bean. Pl. tw.

7 P. ala'tus (Lin. spec. 1017.) plant twining, rather pilose; leaflets ovate, acuminated; peduncles very long, spicate; flowers twin, sessile; upper lip of calyx broad, entire; wings of corolla equal to the vexillum in length; legume linear, compressed, deflexed. ⊙. ⌒. H. Native country unknown.—Dill. hort. elth. p. 314. t. 235. f. 303. Flowers at first purple, but at length becoming violaceous. Seeds compressed, of a brownish red-colour, with a white eye.

Winged Kidney-bean. Fl. July. Clt. 1732. Pl. tw.

8 P. bracteola'tus (Nees et Mart. in nov. act. bonn. 12. p.

27.) plant twining, hairy; leaflets ovate-trapezoid, mucronate; peduncles spicate, longer than the leaves, bearing a fascicle of sterile bracteas on both sides at the base; legumes linear, hairy, many-seeded. ⊙. ⌒. S. Native of Brazil. Flowers dark purple.

Bracteolate Kidney-bean. Pl. tw.

9 P. LEPTOSPE'RMUS (Lag. nov. gen. 22.) plant twining, hairy, much branched; leaflets deltoid, obtuse; spikes axillary, and terminal; peduncles many-flowered. ⊙. ? ⌒. S. Native of New Spain.

Slender-seeded Kidney-bean. Pl. tw.

10 P. LINEA'RIS (H. B. et Kunth, nov. gen. amer. 6. p. 445.) plant twining a little; branches and petioles beset with retrograde stiff hairs; leaflets linear, obtuse, mucronate, somewhat cordate at the base; the odd leaflet 3-toothed and acuminated; peduncles very long, few-flowered; bracteoles oblong, 5-nerved. ⊙. ⌒. S. Native of South America, on the banks of the Orinoco. Pedicels alternate. Flowers purplish, about the size of those of *Láthyrus odoràtus*. Peduncles 6-8 inches long.

Linear-leafletted Kidney-bean. Pl. tw.

11 P. LEPTOPHY'LLUS; plant twining; stems smooth; leaflets linear, obtuse, mucronate, with revolute margins; peduncles long, hispid, few-flowered; stipulas small, ovate; bracteas small, sagittate from 2 descending auricles at the base; pedicels opposite; legume linear, pubescent. ♃. ⌒. S. Native of Mexico. P. linearis, Sesse et Moc. in herb. Lamb. Flowers about the size of those of *Vicia sativa*, apparently purplish.

Slender-leafletted Kidney-bean. Pl. tw.

12 P. TRUXILLE'NSIS (H. B. et Kunth, nov. gen. amer. 6. p. 451.) plant twining; branches and petioles beset with retrograde pili; leaflets ovate, ending in a narrow acumen, obsoletely cordate at the base, and clothed with adpressed pubescence; racemes on long peduncles, upper lip of calyx broad, emarginate, lower lip 3-lobed, acute, lateral lobes falcate. ⊙. ⌒. S. Native of Peru, near Truxillo. Flowers about the size of those of *Láthyrus odoràtus*, of a pale rose-colour or yellowish violet.

Truxillo Kidney-bean. Pl. tw.

13 P. PILÒSUS (H. B. et Kunth, nov. gen. amer. 6. p. 453.) plant twining; branchlets and petioles beset with retrograde pili; leaflets rhomboid-ovate, obtuse, cuneated at the base, and clothed with adpressed pili on both surfaces; racemes pedunculate, many-flowered, longer than the leaves; bracteoles linea[illegible] calyxes, hairy; upper lip of calyx broad, emarginate, lower one 3-lobed, acute; legumes villous. ⊙. ⌒. S. Native of South America, on the banks of the river Magdalena near Morales. Corolla yellow.

Pilose Kidney-bean. Pl. tw.

1[illegible]. PORTORICE'NSIS (Spreng. syst. 3. p. 352.) plant climbing, smooth; racemes rather compound, elongated: pedicels somewhat verticillate, villous; calyxes bractless, truncate; wings about equal in length to the vexillum. ⊙. ? ⌒. S. Native of Porto-Rico.

Porto-Rico Kidney-bean. Pl. cl.

15 P. SPECIÒSUS (H. B. et Kunth, nov. gen. amer. 6. p. 452.) plant twining; branches and petioles pubescent; leaflets ovate, somewhat acuminately-mucronate, puberulous above, and tomentosely pubescent beneath; peduncles long, few-flowered; lobes of calyx ciliated, superior one broad, emarginate, lower ones acute, lateral ones falcate. ⊙. ⌒. S. Native on the banks of the Orinoco, and of Mexico near Misantla. P. grandiflòrus, Sesse et Moc. Flowers large, shewy. Legumes unknown.

Shewy Kidney-bean. Fl. July, Aug. Clt. 1830. Pl. tw.

16 P. PEDUNCULA'RIS (H. B. et Kunth, nov. gen. amer. 6. p. 447.) plant twining; branches scabrous from retrograde stiff hairs; leaflets ovate, acuminated; racemes on very long, ascending peduncles; upper lip of calyx short, emarginate, lower one 3-lobed, acute; legume elongated, erect, linear, pubescent, mucronate. ⊙. ⌒. S. Native of New Granada. Allied to *P. semi-erécta.*

Long-*peduncled* Kidney-bean. Pl. tw.

17 P. CIRRHÒSUS (H. B. et Kunth, nov. gen. amer. 6. p. 448.) plant twining, cirrhiferous, glabrous; leaflets ovate, obtuse, roughish, rounded at the base; racemes on long peduncles; two upper lobes of calyx rounded and short, lateral ones falcate, and the one under the keel straight. ⊙. ⌒. H. Native of Mexico, near Vera-Cruz. Legume unknown.

Tendrilled Kidney-bean. Pl. tw.

18 P. SYLVE'STRIS (H. B. et Kunth, nov. gen. amer. 6. p. 450.) plant twining; branches beset with retrograde pili; leaflets deltoid-ovate, acuminately-mucronate; racemes twin, on long peduncles; bracteoles large, elliptic; upper lip of calyx broad, entire, lower one 3-parted, obtuse. ⊙. ⌒. H. Native of Mexico, in woods between Valladolid and Ario. Flowers scarlet. Legumes unknown. Very like *P. multiflòrus.*

Wood Kidney-bean. Fl. July, Aug. Clt. 1825. Pl. tw.

19 P. COCCI'NEUS (Sesse et Moc. in herb. Lamb.) plant twining; leaves and peduncles pubescent; leaflets broad-ovate, oblique, acuminated, strongly 3-nerved; stipulas lanceolate; peduncles length of leaves; flowers umbellate; bracteas forming an involucrum to the umbel of flowers; upper segment of the calyx very broad, and much nerved. ♃. ⌒. S. Native of Mexico. Flowers about the same size and colour as those of the scarlet-runner.

Scarlet-flowered Kidney-bean. Pl. tw.

20 P. FORMÒSUS (H. B. et Kunth, nov. gen. amer. 6. p. 449.) plant twining; branches beset with retrograde hairs; leaflets deltoid-ovate, acutish, mucronate; racemes on long peduncles; bracteoles ovate-orbicular; upper lip of calyx broad, entire, lower one 3-parted, acute; young legumes hairy. ⊙. ⌒. H. Native of New Spain, in frigid places near Tolluca. Fl[illegible] scarlet. Very nearly allied to *P. multiflòrus.*

Beautiful Kidney-bean. Pl. tw.

21 P. MULTIFLÒRUS (Willd. spec. 3. p. 1030.) *plant twining,* smoothish; leaflets ovate, acuminated; racemes pedunculate, longer than the leaves; pedicels twin; bracteoles rather shorter than the calyx, and adpressed to it; legumes pendulous, rather falcate, torulose, scabrous. ⊙. ⌒. H. Native of South America. Savi, diss. 2. p. 11. The *scarlet-bean* was only regarded as a variety of the kidney or French-bean by Linnæus, but now found to be specifically distinct. The seeds are large, purple, marked with black, and sometimes pure white. The culture and use of the *scarlet-bean* are the same as that of *P. vulgàris* or French-bean, which see, no. 22.

Var. α, coccineus; corolla deep scarlet. P. vulgàris coccíneus, Lin. P. coccíneus, Kniph. cent. 12. no. 71. Lam. dict. 3. p. 70.—Moris. hist. 52. t. 5. f. 4.—Corn. can. t. 185. Ger. emac. 1215. This variety is called the *scarlet-runner.*

Var. β, albiflòrus; flowers white. To this variety belong the *white-runner, white-Dutch-runner,* and perhaps the *variable-runner.*

Many-flowered Kidney-bean or Scarlet-runner. Fl. Jul. Sep. Clt. 1633. Pl. tw.

§ 4. *Brachypòdii* (from βραχυς, *brachys*, short, and πους ποδος, *pous podos*, a foot; in reference to the peduncles being shorter than the leaves). *Roots annual. Leaflets entire. Peduncles shorter than the leaves. Most of the species of this division are cultivated in the gardens under the name of French-beans or kidney-beans.*

22 P. VULGA'RIS (Savi, mem. 3. p. 14.) plant twining, smoothish: leaflets ovate, acuminated; racemes pedunculate, shorter than the leaves; pedicels twin; legumes pendulous, straight,

rather torulose, ending in a long mucrone; seeds ovate, a little compressed: ⊙. ^. H. Native of the East Indies, but has been cultivated in the gardens from time immemorial. It is a very variable plant, either twining or dwarf, with white or lilac flowers, and the seeds are very variable both in colour and shape. P. vulgàris and P. nàna, Lin.—Lob. icon. t. 59. Moris. oxon. sect. 2. t. 5. f. 1. Riv. tetra. irr. t. 30 and 29. f. 1, 2, and 3.—Park. par. t. 523. f. 2.—Savi, mem. 3. p. 14. where he distributes the varieties into the three following series, marked *A. B. C.*

A. unicolor; seeds of one colour only, black, blue, white, cream-coloured, lilac, yellow, pale red, greenish yellow, or reddish, but never with the colours mixed. P. Nigérrimus and P. lilácinus of Zucc. obs. no. 81. To this series belong the *early-yellow, dwarf, early-black* or *negro, early-white, Battersea-white, Canterbury-white, dun-coloured, tawny, large white-dwarf, Canterbury and Battersea small-white runners,* &c.

B. fasciàtus; seed lined with different colours, the lines broad and curved. The ground-colour of the seeds is either bluish, cream-coloured, bay colour, grey or liver-coloured, &c. To this series belong the *Zebra, streaked or striped,* and the *variable runner,* &c.

C. variegàtus; seeds variegated, white spotted with rust colour, lead colour, or violet, blue spotted with olive colour, or yellow spotted with brown. To this series belong *early-red-speckled, black-speckled,* and *brown-speckled,* &c.

The common *dwarf kidney-bean* or *French-bean, Haricot* of the French, *Schminkbohne* of the Germans, and *Fagiuolo* of the Italians, is a rather tender annual plant, flowering from June to September. The *scarlet* and *white runners, P. multiflòrus,* are rather tenderer than the varieties of *P. vulgàris* or *kidney-bean;* they produce flowers from July to September. The stems of both species twine more or less, though little of this propensity is shown by the dwarfer kinds. The flowers are white, red, or purple. The pods swelling slightly over the seeds, which are generally kidney-shaped, smooth, and shining; when ripe varying much in colour and shape, according to the variety, and either white, black, blue, or spotted; some of the most distinct of these have been considered by Savi as distinct species, which we have described as such. The pods of both the *kidney-beans* and *runners* may be had in perfection from June to October. Speechly suggests (Practical Hints on Domestic Economy, p. 15.), that the culture of the *kidney-bean* might become an object of national or field culture in this country, and be particularly useful in times of scarcity, more especially as on good land it will flourish and grow luxuriantly even in a dry parching season; in which respect it differs from most other culinary vegetables. It is an article of field culture in most warm countries, especially France and America.

Use. The unripe pods are chiefly used in Britain as a legume, for which they are in great estimation throughout the year, being produced by forcing when they cannot be grown in the natural ground. They are also used as a pickle. On the continent the ripe seeds are much used in cookery, forming what are called *Haricots,* of different kinds, and entering into some sorts of soups. In the end of the season, when frost is expected, the haulm of the *kidney-bean* crop is gathered and dried like that of the pea in this country, and the ripe beans afterwards threshed out, and preserved for use through the winter.

Constitution and habit. The varieties of both species, *P. vulgàris* and *P. multiflòrus,* and all those belonging to the present division of the genus, are tender in their nature, unable to grow freely in the open garden before April or May, the seeds being liable to rot in the ground from the effects of wet and cold, if planted before the beginning of the former month, even in a dry soil. The plants make but little progress till settled warm weather. However, when sown in the proper season from April or May through the course of summer till the beginning of August, they succeed well, making liberal returns of fruit from June or July to October. The dwarf kinds require no support; but the runners, rising with twining stems 8 or 10 or more feet, require tall sticks or poles to climb upon, or lines suspended from a contiguous building or fence, or from poles. They produce pods their whole length. It deserves notice, that the tendrils of the twining stems turn to the right, or in a direction contrary to the apparent diurnal course of the sun, a circumstance, however, not uncommon among papilionaceous twiners.

Estimate of sorts. The dwarf kinds, or the varieties of *P. vulgàris,* bear sowing a little sooner than the runners, or varieties of *P. multiflòrus,* and make quicker returns. They are besides more convenient to cultivate on a large scale, and the smaller pods which they produce are esteemed by many to have more delicacy of flavour. On this account it is usual to raise the larger supply from the varieties of *P. vulgàris,* or dwarf kinds. The *early-yellow, early-black,* and *early-red-speckled* are among the most hardy and most forward: the *early-white* comes in a few days later, but it is of superior flavour. The *Canterbury, Battersea, black-speckled, brown-speckled, dun-coloured, striped,* and *tawny* are plentiful lasting bearers. Growers for sale in general depend on the *Canterbury* and *Battersea* for main crops; but the others just named are also profitable sorts, and acceptable to the consumer. The dwarf *kidney-bean* continues to produce young pods in abundance and in perfection only about 3 weeks or a month. The runners, or varieties of *P. multiflòrus,* yield a succession of fruit from the same sowing a much longer time than the dwarfs. The *scarlet-runner* ranks first for its prolific property and long continuance in fruit; the pods are thick, fleshy, tender, and good, if gathered while moderately young. The *white* variety is equally eligible for the principal crop. The *Dutch-runner* is also a great bearer, in fine long pods, but not so lasting as the former. As to the smaller runner kinds, they are rather degenerate varieties of the *Canterbury* and *Battersea white-dwarfs,* casually shooting into runners; they bear in tolerable abundance slender neat pods, which are very good and tender eating, though not so eligible for the principal crop of runners as the scarlets.

Quantity of seed. Half a pint will sow a row 80 feet in length, the beans being placed from 2½ to 3 inches apart.

Soil. The soil for all the kinds should be light and mellow, inclining to a dry sand for the early sowings, and to a moist loam for the sowing in summer.

Culture of dwarf kidney-beans, or varieties of P. vulgàris. About the beginning of April, if the weather be temperate, fair, and settled, make the first sowing, in a dry south border, or other sheltered compartment with a good aspect, or sow in a single row close under a south fence, beginning with a small proportion of the most hardy early sorts. It is a good method to follow in a week with a second sowing, in case the former should fail. You may sow for a larger crop about the middle or 20th of April. For the early crops make the drills 2 feet asunder. The common depth is an inch or inch and a half for the smaller sized beans. Drop in the beans in each row at this season pretty close together, as many may fail, from 1 to 2 inches apart. Cover them in evenly the full depth of the drill. For the main crops you may sow more fully towards the end of April; and in full crops in May and June, a portion once every fortnight or three weeks of the *Canterbury* or other sorts approved, for a main supply. Draw drills 2 or 2½ feet asunder, an inch and a half or 2 inches deep. Drop the beans 3 inches apart, and cover them with earth the full depth of the drills. For supplies in succession, sow in July once or twice, and make a moderate sowing at the beginning of August for a late and last crop. In the drought of summer it is advisable to accelerate the germination of the seed, by laying it in damp mould till it begins to sprout, or by soaking it in soft water for 6 or 8 hours previous to sowing, and by watering the drills to receive them. Crops sown after the middle of July should be favoured in situation, or the time of their bearing will be much shortened by the decline of summer. From this course of sowings, a regular succession of young green pods will be produced from June and July till October. As the plants of the different crops advance in growth, occasionally hoe and stir the ground between the rows. Cut down all weeds as they spring. Draw some earth to the stems of the plants as they rise in height, which will strengthen and forward them considerably. When advanced to full bearing, it is advisable to gather the pods in moderate, young, or medium growth.

Culture of runners, or varieties of P. multiflorus. The *runners* may be sown in a small portion towards the end of April, if the weather is tolerably warm and dry; but as the seeds of the *runners* are rather more tender than those of the dwarf *kidney-beans*, they are more liable to rot in the ground by wet or cold, especially those of the *scarlet* and *white runners*, therefore the beginning or middle of May will be time enough to sow a considerable crop, and you may sow a full crop about the beginning of June. Allot principally the *scarlet* and large *white runners*. Some *Dutch-runners* are very eligible as a secondary crop. The first crops should have the assistance of a south wall. Intermediate crops may be sown in any open compartment, or against any fence, not looking north. The latest-sown will continue bearing the longer under a good aspect and shelter. In sowing, draw drills about 1½ or 2 inches deep. Let parallel rows be at least 4 feet asunder, to admit in the intervals tall sticks or poles for the plants to climb upon. Place the beans in the drills 4 inches apart, and earth them in evenly, the depth of the drills. A row contiguous to a fence or building may ascend upon lines. Some may be sown in a single row along a border, or on each side of a walk; and have the support of a slight trellis of laths and lines, or poles may be placed at certain distances, having a rope drawn along their tops, having lines suspended from it, or they might be arched over with similar materials, so as to form a shady walk or bower. In cold wet seasons, or when requisite to have a few plants more forward than the general crop, some *scarlet-runners* may be sown in April, either in a slight hot-bed, or in pots under frames or hand-glasses, to raise and forward the plants till 2 or 3 inches high, then, at the end of May, transplant them into a garden. As the plants in the open ground advance from 3 to 6 inches in growth, hoe up some earth to the stems, cutting down all weeds at the same time, and when they begin to send forth runners, place suitable supports to each, such as are mentioned above, and conduct the tendrils to the sticks or lines, turning the stems in a contrary direction to the sun. The ascending stems will soon come into flower, podding at the joints in long succession. They are so prolific that the returns, from 3 sowings made in May, June, and July, will last from July till October.

Taking the crop. Gather the pods, both from the dwarfs and runners, while they are young, fleshy, brittle, and tender, for then are they in highest perfection for the table; and the plants will bear more fully, and last longer in fruit, under a course of clean gathering, not leaving any superabundant pods to grow old.

To save seed. Either sow a portion for that object, or leave rows wholly ungathered of the main crops, or preserve a sufficiency of good pods promiscuously. The beans saved should be the first fruits of a crop sown at a period which throws the entire course of growth into the finest part of summer. Let them hang upon the stalks till they are fully ripe, till August or September; then let the haulm be pulled up and placed in the sun to dry and harden the seed, which should be afterward cleared out of the husks, bagged up, and housed.

Forcing the kidney-bean. It is often partially forced in hot-houses or frames, with a view to its fruiting in the open garden; and supplies of green pods are also kept up throughout the winter and spring months, by forcing in hot-houses and pits. The *kidney-bean* may be successfully forced in pits, hot-houses, or forcing-houses, and hot-beds. The more general mode is to force in pine-stoves; the same heat which suits the pine-apple suits the *kidney-bean*, which is a native of India. Nicol prefers a flued pit, such as that used for nursing pine-apple plants; and Abercrombie says, "Where there are not hot-houses, or where *kidney-beans* are to be raised in quantities for the market, the most economical and successful mode will be found a flued pit, with rather a strong bottom heat, and covering the bed with light vegetable mould."

Sorts. Abercrombie recommends the *Early-speckled*, *Early-negro*, and *Dun-coloured dwarfs*. Nicol says the *Speckled-dwarf* is the best sort.

Sowing. Sow in flat boxes or pans filled with fine light earth, and cover the seed the depth of an inch. Let them be placed in a stove or hot-bed, and have moderate supplies of water, and they will be fit to transplant when about 3 inches in height. Plant them in rows across the bed of the pit, 15 inches apart and 3 inches distant in the line.

Culture. Water after planting, and afterwards as required; give abundance of air every fine day, and earth up the plants as they advance in growth, in order to give them strength.

Time of beginning to force. M'Phail says, "if you wish to endeavour to have *kidney-beans* green all the year, you should plant the seeds and begin to force in August." Abercrombie observes, "some forcers, quite in opposition to the season, raise *kidney-beans* in August, and thence to the 21st of December, which day may be regarded as the boundary between late and early forcing."

Temperature. The heat by fire at night need not exceed 50°, according to Nicol, but Abercrombie recommends 60° for the minimum, and 75° for the maximum.

Successional supplies, are to be obtained by sowing every month or 6 weeks, for which purpose the pits may be divided, in a temporary way, by fitting a board neatly under the middle rafter. By this means the one half of the pit may be kept cooler by matting or not matting, or by the admission of more or less air; this will protract the growth of the *beans* more in one part than the other.

Forcing kidney-beans in a hot-house. "The most early fruit in perfection is obtained by culture in a stove, sowing from mid-winter till the end of March. Sow in pots or oblong boxes, containing a mixture of light fresh earth and vegetable mould, depositing the seeds either in a triangular or quincunx order, and full an inch deep. If the plants are to fruit where sown, the cradles should be 10 inches deep; but if they are to be transplanted, which admits a greater number in the same space, the seed-pots or boxes may be shallow. Do not fill the cradles with mould at first, to allow of gradually earthing up. When the *beans* have germinated, sprinkle the earth with water; after the plants have risen, give moderate waterings every other day; the last crops may want water every day. Sprinkle also the leaves with water, warmed by standing some time in the house. Those plants raised in shallow pans should be transplanted for fruiting when 2 or 3 inches high. It is sometimes proper to stop luxuriant runners. These incidental crops may stand in rows on the flues, or on shelves; but take care that they do not shade the pines and other principal plants. For succession sow every fortnight or 3 weeks."—*Abercrombie.*

Insects. Nicol observes "that the thrips often attack *French* *beans* in the hot-house, and therefore the plants should be fumigated with tobacco, which destroys that insect."

Forcing kidney-beans in a peach or cherry-house. *French-beans*, Nicol observes, "may be successfully planted out in the borders of an early cherry-house or peach-house, so as that they may not be overmuch shaded by the trees; but they seldom do much good in a vinery, where they are shaded by the foliage of the vines."

Forcing kidney-beans in a common hot-bed. "Under the deficiency of a house, you may have recourse to a hot-bed and frame, but the culture will be attended with more trouble, the course will be longer, and the fruit rarely so fine or so plentiful; nor without fire-heat can the difficulties of late or very early forcing be so well contended with. From the middle of February to the beginning of April, is the most successful period for forcing the *kidney-bean* in a hot-bed. The *Early-white-dwarf*, from its low growth, is to be sown in preference to the kinds recommended for the stove, unless it be intended to fruit the plants in a deeper frame than ordinary. The *Early-yellow* and *Early-black* are next, as not growing very high. The temperature for the *kidney-bean* is 60° for the minimum and 75° for the maximum of the fruiting-bed. In forcing soon in the spring, raise the plants on a smaller bed, earthed over with light rich compost, 6 inches deep. Sow the *beans* thickly, covering them to the depth of an inch. The second hot-bed should be earthed over to the depth of 8 or 9 inches. Into this transplant the seedlings, as soon as they are 2 or 3 inches high, setting them in cross rows 12 or 15 inches asunder, and 2 or 3 inches in the line, or when the season is so far advanced that one bed, with the help of linings, will bring the plants well into fruit, you may sow at once, at the full distance, in a similar hot-bed, to continue for podding. Cover the glasses every night with garden-mats, also particularly in severe weather. Admit fresh air moderately every mild day, and give occasional gentle waterings. The plants raised in February will come into bearing in April and May, making moderate returns; a new crop every three weeks will keep up the succession; those sown at the beginning of April will last till the middle or end of June, when they will be succeeded by the early half-sheltered crops in the open garden." *Abercrombie.*

Crop raised under glass, to fruit in the open garden. At the end of March you may sow a small portion under glasses, for transplanting into the open ground in the first or second week of May. It is not so well to sow in patches on the surface of the ground, as in small pots, because the plants can be turned from the latter with less check to their growth, when transplanted. Sow 3 beans in each pot, and when the seedlings are 2 or 3 inches high, harden them by degrees to the full air, and plant them on a good open border as soon in May as the season will suit. They will yield about a fortnight sooner than the earliest raised under exposure to the weather.

Crop raised on slight heat. A crop to fruit early in the open garden may be accelerated with more certainty by plunging the pots containing the seed *beans* in a gentle hot-bed, or some sown in shallow pans or boxes may be set on the shelves of a stove. Just at the opening of April will be early enough to begin, as the plants will otherwise get too forward for the weather to proceed well without a continuance of artificial heat. Having nursed them to the proper stage, plant out under a south fence, either 3 inches apart, if in a single line, or 18 inches by 3 if in 2 lines; or it may be better to set the plants in patches of 7 or 9, to receive the temporary shelter of a hand-glass, lest the transition from a hot-bed all at once to the fluctuating air of spring be too violent. *Abercrombie.*

Field culture of the kidney-bean. In this country the culture of the *kidney-bean* has been confined to gardens, but it might be grown equally well in dry, warm, rich, and sheltered soils, being grown in the fields of Germany, Switzerland, and similar climates. The sort generally used for this purpose is the small *Dwarf-white.* The ground is prepared by several turnings, and the seed is dibbled in rows 18 inches or 2 feet asunder, in the beginning of May. The ground is hoed and weeded during the summer, and the crop is ripe in August. It is usually harvested by pulling up the plants, which being dried are stacked or threshed. The haulm is of little bulk or use, but the grain is used in making the esteemed French dish called haricot, which it were desirable the cottagers of this country were made acquainted with. There is perhaps no dish so easily cooked, and at the same time so agreeable and nourishing. The beans are boiled and then mixed with a little salt and butter, or other fat, and a little milk or water and flour. From 3840 parts of *kidney-beans*, Einhoff obtained 1805 parts of matter analogous to starch, 851 of vegeto-animal matter, and 799 parts of mucilage. Haricots and lentils are much used in all Catholic countries during Lent and maigre days, as they, from their peculiar constituents, form so excellent a substitute for animal food. During the prevalence of the Roman religion in this country they were probably much more generally used than at present.

Common Kidney-bean or French-bean. Fl. June, Sept. Clt. 1597. Pl. 1 foot or tw.

23 P. COMPRE'SSUS (D. C. prod. 2. p. 392.) plant twining a little; smoothish; leaflets ovate, acuminated; racemes pedunculate, shorter than the leaves; pedicels twin; legumes compressed, somewhat torulose, mucronate; seeds compressed. ⊙. ◡. H. Native country unknown. Legume 5-6 inches long. Flowers white. Seeds white, ovate, obtuse, straight, or concave on the side of the hylum. P. Romànus, Savi, mem. 3. p. 17. t. 10. f. 20. This plant is called *Haricot de Soissons*, and *Haricot d'Hollande*, in French.

Var. α, hùmilis (D. C. l. c.) stem humble, erect; seeds smaller. Called in French *Le Soissons nain.*

Var. β, màjor (D. C. l. c.) stems taller; legumes twisted a little.

Compressed-seeded Kidney-bean. Fl. Ju. Sept. Clt. ? Pl. 1 ft.

24 P. OBLÓNGUS (Savi, mem. 3. p. 17. t. 10. f. 14.) plant twining a little, smoothish; leaflets ovate, acuminated; racemes shorter than the leaves; legumes straight, rather cylindrical, ending in a long acumen; seeds rather cylindrical, obtuse, or truncate. ⊙. H. Native country unknown. Flowers usually of a pale violet colour. Seeds of one colour or variegated, twice the length of the breadth, purple, whitish, or chestnut-coloured.

Oblong-seeded Kidney-bean. Fl. June, Sept. Pl. 1 to 2 ft.

25 P. SAPONA'CEUS (Savi, mem. 3. p. 19. t. 10. f. 15.) plant humble, glabrous; leaflets ovate, acuminated; racemes shorter than the leaves; legumes straightish, mucronate, more or less torulose; seeds oblong, obtuse, compressed, spotted on the side next the hylum. ⊙. H. Native country unknown. Seeds convex on the back, and rather concave in front, marbled, or clouded with black, red, and bay-coloured marks. Flowers white. Legume 5-6 inches long.

Soapy Kidney-bean. Fl. June, Sept. Clt. ? Pl. 1 foot.

26 P. TU'MIDUS (Savi, mem. 3. p. 19. f. 16.) plant dwarf, climbing a little, and smoothish; leaflets ovate, acuminated; racemes shorter than the leaves; legumes straightish, more or less torulose; seeds spherical, or ovate, turgid, white, spotless, with a convex front. ⊙. H. Native country unknown. Flowers white. Legumes 3 inches long. To this species belong the garden *French-beans* called *Princess, Nain flageolet, Nain d'Amérique.*

Tumid-seeded Kidney-bean. Fl. Ju. Sept. Clt. ? Pl. [illegible] 2 ft.

27 P. HÆMATOCA'RPUS (Savi, mem. 3. p. 20. f. 17.) plant twining, tall, smoothish; leaflets ovate, acuminated; racemes

shorter than the leaves; legume straight, torose, mucronate, when in an immature state it is spotted with blood colour; seeds ovate, turgid, variegated. ☉. ⌒. H. Native country unknown. Flowers pale violet. Legume 4-5 inches long. Called the *Cape kidney-bean* by gardeners.

Bloody-fruited Kidney-bean. Fl. July, Sept. Clt.? Pl. tw.

28 P. sphæ'ricus (Savi, mem. 3. p. 20. f. 17.) plant tall, twining, smoothish; leaflets ovate, acuminated; racemes shorter than the leaves; legumes straightish, torose, mucronate; seeds roundish. ☉. ⌒. S. Native country unknown. Flowers pale violet. Legume 4-5 inches long. Seeds red, brown, flesh-coloured, or violaceous, zonate, with an areola round the margin. To this species belong the garden *kidney-beans* called *Haricot d'Orleans, Haricot de Prague*, &c.

Spherical-seeded Kidney-bean. Fl. Jul. Aug. Clt.? Pl. tw.

29 P. gonospe'rmis (Savi, mem. 3. p. 21. f. 19.) plant tall, twining, smoothish; leaflets ovate, acuminated; racemes shorter than the leaves; legumes torulose, nearly straight, mucronate; seeds compressed, irregularly angled. ☉. ⌒. H. Native country unknown. Flowers white or very pale violet. Legume 3-4 inches long, sometimes spotted with red. Seeds small, white, flesh-coloured, or chestnut-coloured.

Angular-seeded Kidney-bean. Fl. July, Aug. Clt.? Pl. tw.

30 P. dera'sus (Schranck, hort. mon. 1. t. 89.) plant twining, smoothish; leaflets ovate, acuminated; peduncles 2-4-flowered, shorter than the leaves; bracteoles small; vexillum concave, roundish, shorter than the wings; legumes linear-oblong. ☉. ⌒. H. Native of Brazil. Corolla greenish white. Seeds black, with a white hylum.

Scraped-off or Black-seeded Kidney-bean. Fl. June, Aug. Clt. 1819. Pl. tw.

31 P. luna'tus (Lin. spec. 1016.) plant twining, smoothish; leaflets ovate, acuminated; racemes pedunculate, shorter than the petioles; pedicels twin; bracteas small, adpressed; vexillum concave, roundish; legume acinaciform, rather lunate, smooth, 2-4-seeded. ☉. ⌒. S. Native of Bengal. Houtt. pfl. syst. 8. t. 63. P. rùfus, Jacq. hort. vind. 1. t. 34. P. lunàtus, of Lour. probably distinct from the plant of Linnæus. Flowers small, white. Seeds dark purple, streaked with white, large. The seeds are cooked and eaten in Cochin-china as well as in the East Indies, but the plant is grown more for the beauty of the seeds than for their flavour.

Lunate-podded Kidney-bean. Fl. Jun. Jul. Clt. 1779. Pl. tw.

32 P. inamœ'nus (Lin. hort. cliff. 359.) plant twining, glabrous; leaflets ovate-lanceolate, much taper-pointed; racemes pedunculate, shorter than the leaves; pedicels twin or tern; vexillum concave, shorter than the wings; legume acinaciform, acuminated. ☉. ⌒. H. Native of Africa. Jacq. hort. vind. t. 66. P. macrocárpus, Mœnch. meth. 141. but not of Poir. Flowers with a greenish vexillum and whitish wings. Seeds compressed, variegated with white and blood-red or scarlet.

Unpleasing Kidney-bean. Fl. July, Aug. Clt. 1794. Pl. tw.

33 P. Xuare'sii (Zucc. cent. no. 81. A.) plant twining, pubescent; leaflets ovate-lanceolate, ending each in a long taper point, lateral ones dependent; racemes pedunculate, shorter than the leaves; wings of corolla elongated; legume acinaciform; seeds compressed. ☉. ⌒. H. Native country unknown. Nearly allied to *P. inamœ'nus*.

Xuares's Kidney-bean. Fl. June, Aug. Clt. 1818. Pl. tw.

34 P. puberulus (H. B. et Kunth, nov. gen. amer. 6. p. 451.) plant twining; branches and leaves pubescent; leaflets ovate, acuminately-mucronate; peduncles many-flowered, shorter than the leaves; legumes lanceolately-cultriform, glabrous. ☉. ⌒. S. Native of South America, at Rio Guayre, near Caraccas. Flowers bluish white. Seeds chestnut-coloured.

Puberulous Kidney-bean. Pl. tw.

35 P. adena'nthus (Meyer, prim. esseq. 239.) plant twining, glabrous; leaflets ovate, acuminately cuspidate, middle one lanceolate-oblong; racemes rather longer than the leaves; pedicels twin, rising from the base of glands; bracteoles ovate-roundish; legumes incurved, with scabrous margins. ☉. ⌒. S. Native of Guiana, in shady humid places. Flowers large, white painted with blue.

Gland-flowered Kidney-bean. Pl. tw.

36 P. Tunkine'nsis (Lour. coch. 435.) plant twining, branched, glabrous; leaflets small, thick; racemes axillary; legume somewhat lunate, compressed, smooth, pendulous, 3-seeded. ☉. ⌒. H. Native of Cochin-china. Flowers white, but the vexillum is revolute and greenish. Seeds ovate, pale, variegated with red. The plant is cultivated in Cochin-china for the sake of the seeds, which are dressed and eaten by the inhabitants.

Tunquin Kidney-bean. Fl. June, July. Pl. tw.

37 P. macroca'rpus (Poir. suppl. 3. p. 6.) plant twining, smoothish; leaflets ovate-roundish, or acuminated; peduncles axillary, short, few-flowered; legume very long, glabrous, ending in a hooked mucrone. ☉. ⌒. H. Native country unknown. Flowers and seeds white.

Long-fruited Kidney-bean. Pl. tw.

38 P. fu'scus (Wall. pl. asiat. rar. 1. p. 6. t. 6.) plant annual, clothed with hoary pubescence and pili, twining, much branched; root fibrous; branches filiform, furrowed; leaflets ovate, acute, entire; racemes pedunculate, shorter than the leaves; flowers lurid on the outside; calyx beset with resinous dots, 4-toothed, lower tooth elongated; keel a little beaked, incurved; legume hairy, flat, linear. ☉. ⌒. S. Native of the Burman Empire, at Prome. Flowers crowded; the vexillum dark brown beneath and shining, but opaque above and yellowish, with brown lines. Keel and wings yellow.

Brown-flowered Kidney-bean. Pl. tw.

§ 5. *Heterophýlli* (from ἕτερος, *heteros*, and φυλλον, *phyllon*, a leaf; in reference to the variable shape of the leaflets, some being lobed and others entire). *Leaflets all or some of them lobed.*

39 P. microspe'rmus (Ort. dec. 130.) stem erect, angular, and is as well as the leaves glabrous; leaflets rhomboid-ovate, 3-lobed; peduncles axillary, very long, racemose; bracteoles subulate; wings of corolla orbicular, legumes linear, compressed, pendulous. ☉. S. Native of Cuba. Flowers of a dirty purple colour. Seeds grey, lined with black.

Small-seeded Kidney-bean. Fl. Jul. Aug. Clt. 1825. Pl. 1 ft.

40 P. gibbosifòlius (Ort. dec. 25.) plant twining, hairy; leaflets rhomboid-ovate, lateral ones gibbously 2-lobed on the outer side; peduncles 3 times the length of the leaves; flowers twin, disposed in something like a spike; bracteoles coloured; legume linear, dependent, incurved. ☉. ⌒. S. Native of Cuba. Corolla vermilion-coloured. Seeds small, olive-coloured, and variegated.

Gibbous-leafletted Kidney-bean. Pl. tw.

41 P. heterophy'llus (Willd. enum. 753. H. B. et Kunth, nov. gen. amer. 6. p. 446.) plant twining; branches beset with retrograde pili; leaflets hispid beneath and on the margins, middle one oblong and repand, lateral ones ovate-oblong, having one lobe each above the base; peduncles longer than the petioles; flowers somewhat spicate; bracteoles small; lobes of calyx 5, acute, nearly equal; legumes linear-falcate. ☉. ⌒. H. Native of Mexico, near Valladolid. Flowers small, red.

Various-leaved Kidney-bean. Fl. Jul. Aug. Clt. 1820. Pl. tw.

42 P. vestìtus (Hook. bot. misc. 2. p. 216.) plant twining, and clothed with dense pubescence; leaflets rhomboid, retuse, lateral ones somewhat lobed; racemes twice the length of the leaves; teeth of calyx broad-subulate, nearly equal; legumes

linear, acuminated, very villous. ⊙. ⌒. S. Native of Peru, near Lima.

Clothed Kidney-bean. Pl. tw.

43 P. ACONITIFÒLIUS (Jacq. obs. 3. p. 2. t. 52.) plant twining a little, hairy; leaflets palmatifid beyond the middle, lateral ones 3-4-lobed, terminal one 5-lobed; peduncles usually 3-flowered, shorter than the leaves. ⊙. ⌒. S. Native of Tranquebar. Dólichos disséctus, Lam. dict. 3. p. 300. Dólichos palmàtus, Forsk. ex Steud. nom.—Pluk. alm. t. 120. f. 7. Legume unknown. Perhaps belonging to the following section.

Aconite-leaved Kidney-bean. Fl. Jul. Aug. Clt. 1731. Pl. tw.

SECT. III. STROPHÓSTYLES (from *στροφος*, *strophos*, a twist, and *στυλος*, *stylos*, a style; in reference to the style, which is twisted). Ell. sketch. 2. p. 229.—Phasìolus and Phaséllus, Mœnch. meth. 240. Legume terete.

§ 1. *Lobatifòlii* (from *lobatus*, lobed, and *folium*, a leaf; leaflets lobed). *Leaflets all or some of them lobed.*

44 P. DIVERSIFÒLIUS (Pers. ench. 2. p. 296.) stems prostrate, scabrous; leaflets angular, 2 or 3-lobed; peduncles many-flowered, longer than the leaves; flowers capitate; legumes terete, pubescent. ⊙. H. Native of Carolina, by the sea-side. Glýcine angulàta, Muhl. in Willd. spec. 3. p. 1056. P. trílobus, Michx. fl. bor. amer 2. p. 60. but not of Roth. Strophóstyles angulòsa, Ell. sketch. 2. p. 229. Flowers purplish. Seeds reniform, cylindrical.

Diverse-leaved Kidney-bean. Fl. Ju. Jul. Clt. 1806. Pl. pr.

45 P. TRÍLOBUS (Roth. nov. spec. 344.) stem almost erect; branches prostrate, glabrous; lateral leaflets 2-lobed, terminal one 3-lobed; peduncles usually 3-flowered, longer than the leaves: legume declinate, cylindrical; stipulas ovate. ⊙. S. Native of the East Indies. Dólichos trílobus, Lin. spec. 1021. Burm. ind. t. 50. f. 1. Dólichos stipulàris, Lam. dict. 2. p. 300. Glýcine tríloba, Lin. mant. 516.—Pluk. alm. t. 214. f. 3. Flowers green? The leaves are considered by the native practitioners of India to be cooling, sedative, antibilious, and tonic, and useful as an application to weak eyes.

Three-lobed-leaved Kidney-bean. Fl. July, Aug. Clt. 1777. Pl. prostrate.

46 P. ANGULÒSUS (Ort. dec. p. 24.) plant twining, hairy; leaflets ovate, lateral ones gibbous or 2-lobed on the outside, middle one 3-lobed; peduncles angular, rather longer than the leaves; flowers capitate; bracteoles ovate; wings shorter than the carina; legumes linear, terete, drooping a little, glabrous; seeds tetraquetrous. ⊙. ⌒. H. Native of North America. Flowers pale flesh-coloured and white. Savi, diss. 2. p. 1.

Angular-seeded Kidney-bean. Fl. Ju. Aug. Clt. 1820. Pl. tw.

47 P. FARINÒSUS (Lin. spec. 1017.) stems twining; leaflets rhomboid-ovate, acute, somewhat 3-lobed; peduncles axillary, rather longer than the petioles; flowers subcapitate; legumes terete, smooth; seeds cylindrical, truncate at both ends, covered with farinose tomentum. ⊙. ⌒. S. Native of the East Indies. Niss. act. acad. par. 1730. p. 557. t. 42. Savi, diss. p. 3. P. lunàtus, Mœnch. meth. 140. Flowers rose-coloured, but the vexillum is deep red.

Mealy-seeded Kidney-bean. Fl. Jul. Aug. Clt. 1759. Pl. tw.

48 P. STIPULA'RIS (Lam. dict. 3. p. 74.) stem erect, glabrous; leaflets oval, obtuse, lateral ones sinuated, terminal one 3-lobed; peduncles spicate, longer than the leaves; stipulas ovate; legumes terete, horizontal, smoothish. ⊙. H. Native of Peru. Flowers with a brown vexillum, yellow wings, and a white keel. Like *P. trílobum.*

Stipular Kidney-bean. Fl. July, Aug. Clt. 1805. Pl. 1 ft.

49 P. ATROPURPU'REUS (Moc. et Sesse, fl. mex. icon. ined. D. C. prod. 2. p. 395.) stem twining, clothed with adpressed pubescence; leaflets ovate-lanceolate, acuminated, mucronate, lateral ones 2-lobed; peduncles bearing something like spikes of flowers, longer than the leaves; wings of corolla stipitate, orbicular, longer than the vexillum; legumes terete, pendulous. ⊙? ⌒. H. Native of New Spain, on the mountains of Chilapa. Flowers rose-coloured, but the wings are dark purple.

Dark-purple-flowered Kidney-bean. Pl. tw.

§ 2. *Integrifòlii* (from *integer*, entire, and *folium*, a leaf; in allusion to the leaflets being entire). *Leaflets entire.*

50 P. HE'LVOLUS (Lin. spec. 1017.) stems twining; leaflets deltoid-oblong, a little sinuated; peduncles longer than the leaves, bearing 3 flowers at the apex; vexillum short, but the wings are expanded, and large; legumes terete, erect. ⊙. ⌒. H. Native of North America, from Carolina to New York. Strophóstyles hélvola, Ell. sketch. 2. p. 230. Glýcine hélvola, Ell. journ. act. sc. phil. 1818. 1. p. 385. Glýcine umbellàta, Willd. spec. 3. p. 1058.—Dill. hort: elth. 312. f. 300. Flowers of a pale rose-colour. Seed small, turgid, of a blackish bay colour.

Pale-red-flowered Kidney-bean. Fl. July, Aug. Clt. 1732. Pl. tw.

51 P. VEXILLA'TUS (Lin. spec. 1017. Jacq. hort. vind. t. 102.) stems prostrate or twining, rather pilose; leaflets oblong-ovate; peduncles very long; flowers 5-7 in a head; vexillum large, emarginate; wings small; legumes terete, rather pilose; seeds woolly. ⊙.? ⌒. H. Native of Carolina and about Havannah, on the sea coast. P. hélvolus, Michx. fl. bor. amer. 2. p. 60. P. vexillàtus, Pursh, fl. amer. sept. 2. p. 470. Strophóstyles pedunculàris, Ell. sketch. 2. p. 230. Glýcine pedunculàris, Muhl. cat. 64.—Dill. hort. elth. 313. f. 302. Perhaps the Carolina plant is the same as that from Havannah. Flowers green before expansion, afterwards very pale purple; as they fade the purple changes to pale violet, and finally to a dusky lurid-colour or yellowish brown.

Large-bannered Kidney-bean. Fl. July, Aug. Clt. 1732. Pl. tw.

52 P. TUBERÒSUS (Sesse et Moc. in herb. Lamb.) plant canescent; stems beset with retrograde villi; petioles, and under side of leaves strigose; leaflets small, elliptic, entire, sometimes the lateral ones are slightly 2-lobed; peduncles longer than the leaves; stipulas ovate-lanceolate; stipels and bracteas subulate; teeth of calyx setaceous; root tuberous. ♃. ⌒. S. Native of Mexico.

Tuberous-rooted Kidney-bean. Pl. tw.

53 P. MU'NGO (Lin. mant. 101.) stem flexuous, terete, hispid; leaflets ovate, acute, rather repand; peduncles a little longer than the leaves; flowers 6-7 in a head; carina putting forth a little horn from the left side; legume terete, hairy, rather torulose; seeds cylindrical, truncate. ⊙. H. Native of the East Indies. Savi, diss. 1. p. 9. P. hírtus, Retz, obs. 3. p. 38.—Múngo, garc. arom. l. 2. c. 21. Flowers yellow. Seeds eatable, Lour. *Muong-an* is the vernacular name of the plant.

Mungo Kidney-bean. Fl. June, July. Clt. 1790. Pl. 1½ ft.

54 P. GLYCINEFÓRMIS (Weinm. in flora, 1821. p. 29.) stem decumbent, twining, pilose, rather scabrous; leaflets oblong, obtuse; peduncles axillary, 1-2-flowered, longer than the leaves; legumes terete, pilose. ⊙. ⌒. S. Native of Chili and Peru. Flowers with a bluish violet vexillum, marked with yellow at the base. Said to be allied to *P. Múngo.*

Glycine-formed Kidney-bean. Pl. tw.

55 P. HERNANDE'SII (Savi, diss. 1. p. 11.) stem flexuous, hispid; leaflets ovate-rhomboid, somewhat repand; peduncles shorter than the petioles, 4-6-flowered; legumes rather torulose, pilose, beaked, straightish; seeds oblong, cylindrical. ⊙. H. Native of Mexico. Hern. mex. 887. with a figure. Vex-

illum yellow on the inside, and the wings are yellow. Seeds chestnut-coloured.

Hernandez's Kidney-bean. Pl. 1½ foot.

56 P. PAUCIFLÒRUS (Sesse, et Moc. in herb. Lamb.) plant twining; stems villous; leaflets ovate, mucronate, pubescent, entire; stipulas broad-cordate, ciliated, as well as the bracteas; peduncles more than twice the length of the leaves, 2-flowered; segments of the calyx lanceolate, ciliated, upper one emarginate; vexillum obovate, emarginate; stigma broad, spiral. ♃. ⌒. S. Native of Mexico. Flowers large, with the wings and keel blue, and the vexillum pale.

Few-flowered Kidney-bean. Pl. tw.

57 P. CHRYSA'NTHOS (Savi, diss. 1. p. 15.) stem flexuous, glabrous; leaflets rhomboid-ovate; peduncles a little longer than the leaves, many-flowered; legumes terete, glabrous, rather torulose, horizontal, acuminated by a beak; seeds almost cylindrical. ⊙. H. Native country unknown. Flowers yellow. Seeds rust-coloured.

Golden-flowered Kidney-bean. Fl. July, Aug. Pl. 1 to 2 ft.

58 P. RADIA'TUS (Lin. spec. 1017.) stem erect, terete, beset with retrograde pili; leaflets ovate, acute; peduncles hardly longer than the leaves; flowers 7-8 in a head; legumes terete, hairy, horizontal. ♂. S. Native of China and Ceylon.—Dill. hort. elth. 315. f. 304. Flowers pale purple, but changing to ochraceous as they fade.—Reich, act. stockh. 1742. p. 202. t. 7. f. 2. Seeds greenish yellow, ovate, small.

Rayed Kidney-bean. Fl. June, July. Clt. 1732. Pl. 1 to 2 ft.

59 P. SCA'BER (Steud. nom. 610.) stem erect, hispid; leaflets broad-ovate; peduncles very short, hispid; flowers somewhat capitate; legumes erect, terete, scabrous; seeds cylindrical. ⊙. H. Native country unknown.—Moris. oxon. sect. 2. t. 5. f. 8. Phasèllus scàber, Mœnch. meth. 140. Flowers greenish yellow. Seeds rusty.

Scabrous Kidney-bean. Pl. 1 to 2 feet.

60 P. LATHYROÌDES (Lin. spec. 1018.) stem erect, glabrous; leaflets oblong, acuminated; peduncles longer than the leaves; flowers somewhat spicate; vexillum concave, much shorter than the wings; legumes terete, subulate. ⊙. H. Native of Jamaica, in humid sandy places.—Sloan. hist. 1. t. 116. f. 1. Phasèllus lathyroides, Mœnch. meth. 140. Flowers red; the keel whitish.

Lathyrus-like Kidney-bean. Fl. July, Aug. Clt. 1786. Pl. 2 ft.

61 P. SEMIERE'CTUS (Lin. spec. 1016.) stems twining at the apex, terete, pubescent; leaflets ovate-lanceolate, acute, glabrous; peduncles elongated; flowers twin, disposed in a kind of spike; keel of flower awnless, hooked, turned to the right; legumes rather spreading, straight, subulate, compressed, acuminated by a beak; seeds oblong. ⊙. ⌒. H. Native of South America. Savi, diss. 2. p. 6. Jacq. icon. rar. t. 558.—Dill. hort. elth. t. 233. f. 301. Ker, bot. reg. 743. Phaseolus semi-eréctus, Mœnch. meth. 141. Flowers with a greenish vexillum, tinged with purple, and with the keel purple in the middle, but white on the sides, but the wings are deep purple. Seeds brown, spotted with black.

Half-erect Kidney-bean. Fl. July. Clt. 1781. Pl. tw.

62 P. VIOLA'CEUS (Steud. nom. 610.) stem erect, flexuous, glabrous; leaflets ovate-lanceolate, acute; peduncles 2-3-flowered, length of the petioles; legumes erect, linear, terete. ⊙. H. Native of Africa. Phasèllus violàceus, Mœnch. meth. 141. P. Abyssínicus, Hortul. Flowers sessile, white, but with the vexillum and wings violaceous on the outside.

Violaceous-flowered Kidney-bean. Fl. July, Aug. Clt. 1808. Pl. 2 feet.

† *Species not sufficiently known.*

63 P. MAX (Lin. spec. 1017. exclusive of the synonyme of Hern.) stem erect, angular, hispid; leaflets ovate, acute; legumes torulose, pendulous, hairy, 3-4-seeded, beaked. ⊙. H. Native of Moluccas.—Rumph. amb. 5. p. 388. t. 140? Flowers greenish yellow. Seeds black, about the size of coriander-seeds. *Max* is the Spanish name of the plant.

Max Kidney-bean. Fl. June, July. Clt. 1758. Pl. 1½ ft.

64 P. CAPE'NSIS (Thunb. fl. cap. 589. but not of Burm.) plant filiform, decumbent, flexuous, villous; leaflets ovate or lanceolate; peduncles 1-flowered, flexuous, axillary, longer than the petioles.—Native of the Cape of Good Hope. Corolla large, flesh-coloured. Legume unknown.

Cape Kidney-bean. Pl. decumbent.

65 P. PA'LLAR (Mol. chili. ed. gall. p. 335.) stem twining, very pilose; leaflets obliquely-oblong, villous; peduncles racemose, very long; flowers small, remote; legumes pendulous, cylindrical, torulose, villous.—Native of Chili.

Pallar Kidney-bean. Pl. tw.

65 P. ASE'LLUS (Mol. l. c.) stem twining; leaflets sagittate; seeds globose.—Native of Chili.

Ass's Kidney-bean. Pl. tw.

Cult. The species of this genus are not worth cultivating for ornament. They all grow well in light rich soil, and the perennial, herbaceous, and shrubby kinds are easily increased by cuttings.

CLXXXIX. CYRTO'TROPIS (from κυρτος, *kyrtos*, curved, and τροπις, *tropis*, a carina; in allusion to the carina of the flower, which is much curved). Wall. pl. asiat. rar. 1. p. 49. t. 62.

LIN. SYST. *Diadélphia, Decándria.* Calyx bilabiate; upper lip unidentate, lower one tridentate. Corolla papilionaceous. Vexillum reflexed, bicallous at the base; keel linear, falciform, very long, ascending, 2-petalled; wings cuneiform, short, divaricate. Stamens diadelphous. Legume sessile, linear, compressed, covered on the inside by a spongy membrane, which aftery separates from it, the seeds intercepted by cellular spongy dissepiments.—A tall climbing herb, with perennial roots, impari-pinnate leaves, loose axillary racemes of flesh-coloured flowers, and long, pendulous, many-seeded legumes.

1 C. CA'RNEA (Wall. pl. asiat. rar. 1. p. 50. t. 62.) ♃. ⌒. G. Native of Nipaul, on the high mountains of Sheopore and Chundaghiry. Shrub quite smooth. Leaflets 5. Flowers large, pale red, shewy; the vexillum ornamented with dark feathered lines.

Flesh-coloured-flowered Cyrtotropis. Shrub tw.

Cult. An elegant twining plant, very proper for a greenhouse conservatory. It will grow in rich light soil, and cuttings will strike root in sand under a hand-glass.

CXC. SO'JA (*sooja* is the name of a sauce prepared from the seeds by the Japanese). Mœnch. meth. 153. Savi, diss. 1824. p. 16. D. C. legum. mem. ix. prod. 2. p. 396.

LIN. SYST. *Diadélphia, Decándria.* Calyx bibracteolate at the base, 5-cleft, the 3 lower segments straight and acute, but the 2 upper ones are joined together beyond the middle. Corolla with an ovate vexillum, which stands on a short stipe, and with an oblong straight keel. Stamens diadelphous, the tenth one approximate, but certainly distinct. Stipe of ovary not surrounded by a sheath at the base. Style short. Legume oblong, 2-5-seeded, membranous; the seeds intercepted by cellular dissepiments. Seeds ovate, compressed.—A hispid erect herb, with pinnately-trifoliate leaves, and with the flowers either aggregate in the axils of the leaves on short pedicels, or disposed in short pedunculate racemes.

1 S. HI'SPIDA (Mœnch. l. c.) ⊙. H. Native of Japan, East Indies, and the Moluccas. Dólichos Sòja, Lin. spec. 1621. Jacq. icon. rar. t. 145. Sòja Japonica, Savi, diss. l. c. Kœmpf. amœn. 837 and 838, with a figure. Corolla violaceous, hardly longer than the calyx. The seeds, which are usually called

Miso in Japan, are put into soups, and are the most common dish there, insomuch that the Japanese frequently eat them three times a day. The *Soja* of the Japanese, which is preferred to the *Kitjap* of the Chinese, is prepared from the seeds, and is used in almost all their dishes instead of common salt. The Chinese also have a favourite dish made of these seeds, called *ten-hu* or *tau-hu*, which looks like curd, and though insipid in itself, yet with proper seasoning is agreeable and wholesome.

Var. β, pállida (D. C. prod. 2. p. 396.) flowers yellow; seeds white. Roxb. hort. beng. p. 55.

Hispid Soja. Fl. July, Aug. Clt. 1790. Pl. 1½ foot.

Cult. The seeds of this plant only require to be sown in a warm sheltered situation in the month of May.

CXCI. DO'LICHOS (from δολιχος, *dolichos*, long; in reference to the length of the twining stems, which in some species extend to the tops of the loftiest trees). Lin. gen. no. 867. exclusive of many of the species. Adans. fam. 2. p. 325. Savi, diss. 1824. p. 15. D. C. legum. mem. ix. prod. 2. p. 396.

Lin. syst. *Diadélphia, Decándria.* Calyx bibracteolate at the base, campanulate, 5-toothed, with 2 of the teeth approximate or joined at the base. Corolla papilionaceous, with a roundish vexillum, which is furrowed at the base, and furnished with 2 or 4 diverging callosities. Wings oblong, obtuse. Carina obtuse, incurved, forming almost a straight angle, never spirally twisted. Stamens diadelphous. Anthers roundish. Style compressed, bearded from the middle to the apex. Legume compressed, linear, 2-valved, having the valves neither winged nor nerved; the seeds intercepted by a kind of cellular substance. Seeds ovate, more or less compressed, with a small oval hylum.—Herbs or subshrubs, usually with twining stems, acute stipulas, pinnately-trifoliate leaves, stipellate leaflets, and axillary racemes of flowers. The species of this genus are not well defined, and are therefore worthy of a monograph, the only mode by which genera containing a great number of species can be well distinguished.

Sect. I. Eudólichos (from *eu*, well, and *dólichos*; this section contains the genuine species). D. C. prod. 2. p. 397. Legume compressed, apiculated by the short permanent style.

1 D. lignòsus (Lin. spec. 1022.) stems woody; branches twining, rather villous; leaflets ovate, acute, smooth, glaucous beneath; peduncles longer than the leaves; flowers umbellate; legumes linear, straight, smoothish. ♄. ⌒. G. Native of the East Indies. Lin. hort. cliff. t. 20. Smith, spic. t. 21.—Rumph. amb. 5. t. 136. Flowers rose-coloured, with a purplish keel. Legume white inside. Seeds black, with a white hylum.

Woody Dolichos. Fl. July, Aug. Clt. 1776. Shrub tw.

2 D. Curti'sii; stem woody; branches twining, rather villous; leaflets rhomboid, acute, glaucous beneath, smooth; peduncles long; flowers umbellate; legume linear, falcate. ♄. ⌒. G. Native of the East Indies. Dólichos lignòsus, Curt. bot. mag. 382. Flowers rose-coloured, with a purplish keel. Perhaps this is the edible variety of D. lignòsus mentioned in Roxb. cat. hort. beng. p. 7.

Curtis's Dolichos. Fl. July, Aug. Clt. 1776. Shrub tw.

3 D. Jacqui'ni (D. C. prod. 2. p. 397.) stem woody; branches twining, hispid; leaflets ovate, acute; peduncles shorter than the leaves; flowers umbellate; legumes linear, straight, very pilose. ♄. ⌒. S. Native of the West Indies, in woods. D. lignòsus, Jacq. amer. 205. pict. 100. exclusive of the synonymes. Flowers white. Seeds 18, black, with a white hylum.

Jacquin's Dolichos. Fl. July, Aug. Clt. 1800. Shrub tw.

4 D. galea'tus (Gaud. in Freycenet, et voy. part. bot. p. 486. t. 15.) plant procumbent or twining; branchlets and petioles puberulous; leaflets ovate-elliptic, acuminated, rounded at the base, reticulately-veined, membranous, smooth; peduncles axillary, 3-flowered; the 2 superior lobes of the calyx large and roundish, lower ones lanceolate, acute; legumes 3-keeled. ♃. ⌒. G. Native of the Sandwich Islands. Perhaps a species of *Canavàlia.*

Helmetted Dolichos. Pl. tw.

5 D.? spu'rius (Mey. prim. esseq. 242.) stem shrubby, climbing; branches tomentose; leaflets ovate, obtuse at both ends, tomentose beneath; peduncles 2-flowered, length of the petioles; legumes linear, ending in a long acumen, tomentose. ♄. ⌒. S. Native of Guiana, in the island of Arowabish. Flowers large, purplish-violet. Vexillum without any callosity, having the unguis thickened with the calyx. Seeds imbedded in dry pulp.

Spurious Dolichos. Shrub tw.

6 D.? subracemòsus (Jacq. amer. 205.) stems permanent, twining, and are, as well as the leaves, glabrous; leaflets ovate-lanceolate; peduncles racemose, 3-4-flowered; legumes linear, acuminated, rather torose, glabrous. ♄. ⌒. S. Native of the West Indies, among bushes. Flowers bluish-purple. Style spatulate at the apex. Stigma ciliately bearded.

Somewhat-racemose-flowered Dolichos. Shrub tw.

7 D. undula'tus (Sesse et Moc. in herb. Lamb.) plant pubescent; leaflets elliptic, acuminated, mucronate; calyx and vexillum clothed with rusty down; vexillum a little shorter than the keel; lateral leaflets oblique; peduncles shorter than the leaves; flowers large, racemose. ♃. ⌒. S. Native of Mexico.

Waved-leaved Dolichos. Pl. tw.

8 D. tuberòsus (Lam. dict. 2. p. 296.) stem shrubby, twining; root tuberous; leaflets roundish, acuminated; racemes pedunculate, elongated; legumes straight, pendulous, compressed, torulose, clothed with rufous villi. ♄. ⌒. S. Native of Martinique.—Plum. ed. Burm. t. 220. Both the root and the seeds are eaten when dressed by the inhabitants of Martinico.

Tuberous-rooted Dolichos. Shrub tw.

9 D. hirsu'tus (Thunb. in Lin. trans. 2. p. 339.) stems twining, tomentose; leaflets broad, ovate, acute, villous on both surfaces, lateral ones somewhat 2-lobed; racemes very long; legume hairy, ending in a hooked mucrone. ♃. ⌒. G. Native of Japan. Banks, icon. Kœmpf. t. 41. Root thick, creeping. Flowers purple.

Hairy Dolichos. Fl. June, July. Clt. 1802. Pl. tw.

10 D. pube'scens (Lin. spec. 1021.) stems twining, and are, as well as the leaves, clothed with soft hairs; flowers axillary, 1-3-together, almost sessile; legumes compressed, linear-lanceolate, pubescent, erect, but at length drooping. ⊙. ⌒. S. Native of South America. Glýcine tomentòsa β, Willd. spec. 3. p. 1061. ex enum. 2. p. 754. Flowers cream-coloured.

Pubescent Dolichos. Pl. tw.

11 D. Sesse'i; plant clothed with soft, woolly, canescent pubescence; leaflets ovate, acuminated, entire; calycine segments lanceolate; vexillum villous, shorter than the keel; flowers disposed in elongated racemes, which are 5 or 6 times longer than the leaves. ♃. ⌒. S. Native of Mexico. Flowers red, secund. (v. s. in herb. Lamb.)

Sesse's Dolichos. Pl. tw.

12 D. pilòsus (Klein, in Willd. spec. 3. p. 1043.) stem twining, with a few adpressed hairs; leaflets ovate-lanceolate, scabrous above, and pubescent beneath; racemes 3-6-flowered; legumes linear, clothed with rusty pili, hooked at the apex. ♃.? ⌒. S. Native of the East Indies. Racemes an inch or 1½ inch long. Flowers purple.

Pilose Dolichos. Fl. July. Clt. 1790. Pl. tw.

13 D. tetraspe'rmus (Willd. spec. 3. p. 1044.) stem twining: leaflets rhomboid, mucronate, glabrous; racemes longer than the

leaves; legumes acinaciform, oblong, cuspidate, 4-seeded. ♃. ⌒. S. Native of the East Indies. Flowers usually twin, almost sessile, small, pale yellow ?

Four-seeded Dolichos. Fl. May, June. Clt. 1816. Pl. tw.

14 D. PAVÒNII; plant smooth, herbaceous; leaflets ovate, acuminated, obtuse, mucronate; peduncles long, few-flowered at the top; legumes flat, puberulous, villous; calyx smooth, green, with ovate ciliated segments, uppermost one broad; vexillum very broad, covering the rest of the petals. ♃. ⌒. S. Native of Peru. D. pubéscens, Ruiz et Pav. in herb. Lamb.

Pavon's Dolichos. Pl. tw.

15 D. GLYCINOÌDES (H. B. et Kunth, nov. gen. amer. 6. p. 410.) stems twining; branches and petioles beset with retrograde pili; leaflets ovate-oblong, obtuse, mucronate, rounded at the base, 3-nerved, strigose; peduncles very long, few-flowered; lobes of calyx acutish, with the upper lip very broad, and somewhat emarginate. ♃. ⌒. S. Native of Peru, in sandy places near Truxillo. Legume compressed.

Glycine-like Dolichos. Pl. tw.

16 D. CAPE'NSIS (Lin. amœn. 6. afr. 22.) stems twining, herbaceous, and are, as well as the leaves, glabrous; leaflets ovate, lateral ones a little lobed; peduncles usually 2-flowered. ♃. ⌒. G. Native of the Cape of Good Hope. Flowers yellow, ex. Herm. afr. 17. solitary, ex Thunb. fl. cap. 590. Legume elliptic, compressed, ex Lin. short, depressed, ex Herm. acinaciform, attenuated at both ends, an inch long, and glabrous, ex Thunb. Perhaps many species are confused under the name of *D. Capénsis*, and they are probably all species of *Rhynchòsia*.

Cape Dolichos. Fl. July, Aug. Clt. 1823. Pl. tw.

17 D. ARBORE'SCENS; pubescent; leaflets ovate, acuminated, entire, many-nerved; racemes many-flowered, longer than the leaves, spicate; calycine segments lanceolate, lower one inflexed, and longer. ♄. S. Native of Mexico. A strong shrub, with yellow flowers. (v. s. in herb. Lamb.)

Arborescent Dolichos. Shrub 10 to 12 feet.

18 D. FALCA'TUS (Klein, in Willd. spec. 3. p. 1047.) stems twining, pilose; leaflets roundish-ovate, acuminated, glabrous, terminal one 3-lobed, lateral ones with a lobe on the outer side; peduncles 2-flowered, shorter than the leaves; legumes falcate. —Native of the East Indies. Rottl. et Willd. nov. act. cur. ber. 4. 1803. p. 211. Flowers probably purple.

Falcate-podded Dolichos. Pl. tw.

19 D. ARISTA'TUS (Lin. spec. 1021.) stems twining, herbaceous; leaflets ovate-oblong, acuminated, smooth; peduncles 2-flowered; legumes linear, straight, ending in a long awn. ⊙. ⌒. S. Native of South America. Awn of pod nearly an inch long.

Awned-podded Dolichos. Pl. tw.

20 D. GEMINIFLÒRUS; plant herbaceous, quite smooth, middle leaflet sagittate, lateral ones oblique, and only bulged out on one side, all mucronate; stipulas spatulate; bracteas ovate, acuminated, membranous, drawn out at the base; peduncles very long, usually 2-flowered; legumes very long, narrow, compressed, on short pedicels. ♃. ⌒. S. Native of Mexico. (v. s. in herb. Lamb.)

Twin-flowered Dolichos. Pl. tw.

21 D. FILIFÓRMIS (Lin. amœn. 5. p. 402.) stems twining, herbaceous; leaflets linear, obtuse, mucronate, glabrous, pubescent beneath; stigma almost naked. ♃. ⌒. S. Native of Jamaica, among bushes about Old Harbour. P. Browne, jam. 206. where it is called *cat's-claws*. It is used as a purgative ingredient in diet drinks, and is said to answer in cases of dropsy.

Filiform Dolichos. Pl. tw.

22 D. CILIA'RIS (Klein, in Willd. spec. 3. p. 1049.) stems twining, filiform; leaflets oblong, obtuse, mucronate, glabrous, but ciliated on the margins; peduncles shorter than the petioles, usually 4-flowered; legumes acinaciform, glabrous.—Native of the East Indies.

Ciliated-leaved Dolichos. Pl. tw.

23 D. HETEROPHY'LLUS (Horn. hort. hafn. suppl. p. 80.) stems twining; lateral leaflets broad, cordate, terminal one lanceolate and elongated; legumes racemose, acinaciform, with the back entire. ⊙. ⌒. H. Cultivated in the Canary Islands. Perhaps a species of *Láblab*.

Variable-leaved Dolichos. Fl. July, Aug. Clt. 1810. Pl. cl.

24 D. LU'TEUS (Swartz, fl. ind. occ. 3. p. 1246.) stems twining, herbaceous, glabrous; leaflets roundish or ovate-rhomboid, glabrous; racemes spicate, longer than the leaves; legumes somewhat cylindrical, glabrous. ♃. ⌒. S. Native of the south of Jamaica, among grass in wet places by the sea-side. Flowers yellow.

Yellow-flowered Dolichos. Fl. July, Aug. Clt. 1812. Pl. tw.

25 D. OBTUSIFÒLIUS; plant pubescent; leaflets broad, roundish, obtuse, middle one bulged out on both sides, and attenuated at both ends; racemes long; flowers in fascicles; teeth of calyx narrow, lower ones subulate. ♃. ⌒. S. Native of Mexico. Flowers apparently purple. (v. s. in herb. Lamb.)

Blunt-leafletted Dolichos. Pl. tw.

26 D. HASTA'TUS (Lour. coch. 442.) stems procumbent, herbaceous; leaflets glabrous, somewhat hastate; peduncles erect, many-flowered; legumes linear, rather terete, straight. ♃. ⌒. S. Native of the east coast of Africa, where it is also cultivated for the sake of the seeds, which are eaten by the natives. Flowers yellow. Perhaps this and the preceding species are referrible to section II. *Catiáng*.

Hastate-leafletted Dolichos. Pl. tw.

27 D. ANGULA'RIS (Willd. spec. 3. p. 1051.) stem erect, hairy; leaflets rhomboid-ovate, acuminated, lateral ones rather angular; peduncles 2-flowered, shorter than the leaves; legumes linear, nearly terete, torose, acute, pendulous.—Native o Banks, icon. Kœmpf. t. 40.

Angular-leaved Dolichos. Pl. 1 to 2 feet.

28 D. BIFLÒRUS (Lin. spec. 1023.) stem erect, perennia smooth; leaflets oval-lanceolate, acute, glabrous; peduncles very short, 2-flowered; legumes erectish, hairy. ♃. S. Native of the East Indies.—Pluk. alm. t. 213. f. 4. Flowers yellow. D. biflòrus, Burm. ind. 161. which was collected in Persia by Garcin, is a distinct plant, but the specimen of it which is preserved in the herbarium of Delessert is so incomplete as to preclude giving a description of it.

Two-flowered Dolichos. Fl. July, Aug. Clt. 1776. Pl. 1½ ft.

29 D. UNIFLÒRUS (Lam. dict. 2. p. 299.) stem erect, woody at the base; branches villous, twining; leaflets oval, acute, clothed with soft villi; flowers solitary, almost sessile in the axils of the leaves; legumes nearly erect, falcate, 5-seeded, pubescent. ♄. ⌒. S. Native of the East Indies. Flowers yellow.

One-flowered Dolichos. Shrub tw.

SECT. II. CATIA'NG (*Cat-jang* is the name of some species in Malabar). D. C. prod. 2. p. 398. Legumes cylindrical.

* *Leaflets entire.*

30 D. CATIA'NG (Lin. mant. 259.) stem erect, herbaceous; leaflets broad-lanceolate, glabrous; peduncles very long, 2-3-flowered; legumes linear, terete, glabrous, straight. ⊙. S. Native of the East Indies, where it is called *cat-jang*.—Rumph. amb. 5. t. 139. f. 1.—Rheed. mal. 3. t. 41.—Lour. coch. 442. Seeds small, brown, black, or pale. There are several varieties of this plant differing in the colour of the flowers and seed, all of which are much cultivated in the places of their natural growth for food.

Cat-jang Dolichos. Fl. July, Aug. Clt. 1793. Pl. 1½ foot.

31 D. MONACHA'LIS (Brot. fl. lus. 2. p. 125.) stem herbaceous, erect, twining a little; leaflets ovate, acute, glabrous; peduncles 4-6-flowered, longer than the leaves after flowering; legumes almost terete, a little arched, glabrous, at length pendulous. ⊙. ⌒. H. Native of Portugal, and cultivated in moist valleys for the sake of its seeds, which are dressed and eaten by the inhabitants. Flowers pale yellow striped with purple. Stigma ending in a callous spur. Seeds white, girded by a black ring around the hylum. Said to be a hybrid between *D. Catiáng* and *D. Sinénsis.*

Monk's Dolichos. Fl. July, Aug. Clt. 1816. Pl. ¾ foot.

32 D. SINE′NSIS (Lin. amœn. 4. p. 326. but not of Forsk.) stems twining, herbaceous, glabrous; leaflets ovate, acuminated; peduncles 2-flowered, shorter than the leaves; legumes terete, torulose, pendulous. ⊙. ⌒. H. Native of the East Indies and China. Jacq. hort. vind. t. 71. Lour. coch. 436. Sims, bot. mag. 2232. Rumph. amb. 5. p. 134. Dólichos cylíndricus, Mœnch. Flowers pale violet or flesh-coloured. Seeds white or red. Legume 1-2 feet long, eatable when young.

China Dolichos. Fl. July, Aug. Clt. 1776. Pl. tw.

33 D. NILÓTICUS (Delil. fl. ægypt. 109. t. 38. f. 1.) stems twining, herbaceous, pubescent; hairs adpressed, reflexed; leaflets ovate, acuminated; peduncles naked at the base; flowers spicate; legumes almost cylindrical, villous, pendulous. ⊙. ⌒. H. Native of Egypt. D. Sinénsis, Forsk. descr. 132. but not of Lin. Flowers yellow, with the vexillum painted with lines.

Nile Dolichos. Pl. tw.

34 D. LU'BIA (Forsk. descr. 133.) stems diffuse, glabrous; leaflets ovate; peduncles very long; flowers disposed in spicate racemes; legumes straight, terete, compressed, scabrous, 10-seeded. ⊙. H. Native of Egypt, and where it is cultivated for the sake of the legumes, which are dressed and eaten by the inhabitants. Flowers yellow. *Lubia* is the Arabic name of the plant.

Lubia Dolichos. Fl. July, Aug. Clt. 1818. Pl. diffuse.

35 D. VEXILLA'TUS (H. B. et Kunth, nov. gen. amer. 6. p. 440.) stems twining, and are, as well as the petioles, clothed with retrograde hairs; leaflets oblong-lanceolate, mucronate, strigose, somewhat 3-nerved; peduncles longer than the leaves; lobes of calyx subulately-acuminated; legumes terete, hairy. ⊙. ⌒. S. Native of South America. Flowers greenish.

Var. α; leaflets acuminated; peduncles 3-4-flowered. ⊙. ⌒. S. Native of Cuba, about the Havannah. Phasèolus vexillàtus, Lin. spec. 1017.—Dill. hort. elth. 2. f. 302.

Var. β; leaflets obtuse; peduncles 2-flowered. H. B. et Kunth, l. c. Native of Caraccas.

Large-bannered Dolichos. Fl. July, Aug. Clt. 1732. Pl. tw.

36 D. CYLI′NDRICUS (Hamilt. prod. fl. ind. occid. p. 61.) stems woody, twining, hairy; leaflets oblong, acute, beset with a few rusty pili beneath; pedicels elongated; flowers sub-umbellate; legume cylindrical, elongated, hairy; seed dark, numerous, 15-20, minute. ♄. ⌒. S. Native of Guiana.

Cylindrical-podded Dolichos. Shrub tw.

37 D. RE'PENS (Lin. amœn. 5. p. 402.) stems creeping; leaflets pubescent, ovate; flowers twin, disposed in racemes; legumes linear, terete. ♃. S. Native of Jamaica, by the sea-side. The root is a strong purgative.

Creeping-stemmed Dolichos. Pl. cr.

* * *Leaflets lobed.*

38 D. LOBA'TUS (Willd. spec. 3. p. 1047.) stem twining; lateral leaflets 2-lobed, terminal one 3-lobed, with the middle lobe mucronate; flowers racemose.—Native of the Cape of Good Hope. D. trílobus, Houtt. pfl. syst. 8. p. 860. t. 64. f. 1. Thunb. prod. 130? Flowers yellow or purple.

Lobed-leafletted Dolichos. Fl. July, Aug. Clt. 1800. Pl. tw.

39 D. ARGE′NTEUS (Willd. spec. 3. p. 1047.) stems twining, clothed with rusty villi; leaflets rather angular, clothed with silky villi beneath, terminal one 3-lobed; peduncles 2-flowered, shorter than the petioles. ♃. ⌒. S. Native of Guinea. Flowers yellow?

Silvery Dolichos. Pl. tw.

40 D.? TRILOBA'TUS (Lin. mant. 1. p. 101.) stems prostrate; leaflets lobed; peduncles 3-flowered, longer than the leaves. ⊙. S. Native of the East Indies. Glýcine tríloba, Lin. mant. 510.—Pluk. alm. t. 120. Flowers small, yellow. Perhaps a species of *Glýcine.*

Three-lobed-leafletted Dolichos. Pl. pros.

41 D.? ANGULÓSUS (D. C. prod. 2. p. 399.) stems decumbent; lateral leaflets 2-lobed, terminal one parabolical; peduncles longer than the leaves; flowers capitate.—Native of Pennsylvania. Phasèolus vexillàtus, Walt. fl. car. but not of Lin. ex Pursh. Glýcine angulòsa, Muhl. in Willd. spec. 3. p. 1056. Flowers rose-coloured.

Angular-leafletted Dolichos. Fl. Ju. Aug. Clt. 1820. Pl. dec.

42 D. PALMATI′FIDUS (Moc. et Sesse, fl. mex. icon. ined. D. C. prod. 2. p. 399.) stem twining, glabrous; leaflets 3-nerved, 3-lobed, rarely 5-lobed; lobes ovate, mucronate; peduncles longer than the leaves; flowers racemose. ♄. ⌒. S. Native of Mexico. Coen or Cocntic, Hern. mex. 252. f. 2. Flowers bluish. Legume teretely-compressed, straight.

Palmatifid-leaved Dolichos. Shrub tw.

SECT. III. UNGUICULA'RIA (from *unguicularis*, of a claw or unguis; in reference to the legumes being terminated by an unguiculate callous beak). Legumes almost cylindrical, obtuse at the apex, and ending in a depressed, callous, somewhat unguiculate beak, which is rather concave beneath. Leaflets entire.

43 D. UNGUICULA'TUS (Jacq. hort. vind. 1. t. 23.) stem twining, and is, as well as the leaves, glabrous; peduncles length of the leaves, bearing at the apex 2-3 flowers in a kind of umbel; legume ending in a recurved beak. ⊙. ⌒. S. Native of Barbados. Flowers whitish. Seeds ovate, white, or pale brown, with a snow white hylum.

Unguiculated-podded Dolichos. Fl. Ju. Jul. Clt. 1780. Pl. tw.

44 D. TRANQUEBA′RICUS (Jacq. hort. vind. 3. t. 70.) stem twining, and is, as well as the leaves, glabrous; peduncles length of the leaves, bearing 3-4 flowers at the apex in a kind of umbel; legumes ending in a straight beak. ⊙. ⌒. S. Native of Tranquebar. Flowers bluish violet, with a white keel. Legumes more slender than those of the preceding species. Seeds pale brown, but rather blackish around the white hylum.

Tranquebar Dolichos. Fl. June, July. Clt. 1801. Pl. tw.

45 D. MELANOPHTHA′LMUS (D. C. prod. 2. p. 400.) stem twining, and is, as well as the leaves, glabrous; peduncles length of the leaves, bearing 2-3 flowers at the apex in a kind of umbel; legumes ending in a straight or somewhat recurved beak. ⊙. ⌒. H. Cultivated in Vascony, where it is called *Habine*, and in Italy, where it is called *Faseola à l'occhio nero.* D. unguiculàtus, Thor. chl. land. 306. Seeds white, but marked with a black circle around the snow white hylum.

Black-eyed-seeded Dolichos. Fl. Jul. Aug. Clt. 1800. Pl. tw.

46 D. SESQUIPEDA'LIS (Lin. spec. 1019.) stem twining, glabrous; leaflets broad, ovate; legumes almost cylindrical, smooth, very long, torulose, and ending in a hooked mucrone. ⊙. ⌒. S. Native of South America. Jacq. hort. vind. 1. t. 67. Flowers of a purplish blue colour. Legumes a foot and a half in length.

Foot-and-a-half-long-podded Dolichos. Fl. Aug. Clt. 1781. Pl. tw.

47 D. UMBELLA'TUS (Thunb. in Lin. trans. 2. p. 339.) stems twining, and are villous, as well as the leaves; peduncles flexuous, longer than the leaves; flowers disposed in a kind of um-

bellate raceme; legumes straight, glabrous. ♃. ⌒. G. Native of Japan. D. unguiculàtus, Thunb. fl. jap. 279. Lour. coch. p. 436. Flowers variegated with white, yellow, and violet.

Umbellate-flowered Dolichos. Pl. tw.

48 D. sphærospe'rmus (D. C. prod. 2. p. 400.) stem erect, branched, glabrous; leaflets ovate, acutish; peduncles elongated, bearing few flowers at the apex; legumes straight; seeds spherical. ⊙. S. Native of Jamaica, where it is called *Calavana* or *Black-eyed-pea*. Sloane, hist. jam. 184. t. 117. Phasèolus sphærospérmus, Lin. spec. 1018. Flowers white. Legumes terete according to P. Browne, but compressed according to Sloane. Seeds white, with a black hylum, and are sweet, and as good for food as any of the kidney-beans.

Round-seeded Dolichos or Black-eyed-pea. Fl. July, Aug. Clt. 1816. Pl. 1 foot.

49 D. Brune'lli (Zucc. obs. 1. no. 82.) stems erect, much branched, and are, as well as the leaves, glabrous; lateral leaflets lobed on the outside; peduncles 4-6-flowered, longer than the leaves; legumes erect, ending in a spoon-shaped beak. ⊙. ? S. Native country unknown. Flowers blue, but with the keel white. Seeds dark blue, with a white hylum.

Brunelli's Dolichos. Pl. 1 to 2 feet.

† *Species not sufficiently known.*

50 D. reticula'tus (Ait. hort. kew. 3. p. 33.) stems twining; leaflets ovate, rugose, reticulated, villous; racemes few-flowered. ♄. ⌒. G. Native of New Holland. Flowers purple?

Reticulated-leaved Dolichos. Fl. Ju. Jul. Clt. 1781. Sh. tw.

51 D. sca'ber (Rich. in act. soc. h. n. paris. p. 111.) twigs rough and woody; leaflets ovate, coriaceous, quite smooth; spike many-flowered; receptacle of flower hooked. ♄. ⌒. S. Native of Cayenne.

Scabrous-stemmed Dolichos. Shrub tw.

52 D. virga'tus (Rich. l. c.) woody; leaves and spikes of flowers hairy; leaflets obovate, abruptly acuminated; spikes of flowers very long and slender. ♄. ⌒. S. Native of Cayenne. Perhaps a species of *Mucùna*.

Twiggy Dolichos. Shrub tw.

53 D. funa'rius (Mol. chil. ed. gall. 335.) stems twining, perennial; legumes pendulous and 5-seeded; leaflets oval, glabrous on both surfaces. ♄. ⌒. G. Native of Chili, where the inhabitants make ropes of the stems.

Rope Dolichos. Shrub tw.

54 D. gibbòsus (Thunb. fl. cap. 590.) stems herbaceous, twining, and are as well as the leaves glabrous; leaflets acuminated, lateral ones very short, terminal one ovate and gibbous at the base; peduncles longer than the leaves; racemes oblong. ⊙. ? ⌒. G. Native of the Cape of Good Hope, on the mountains.

Bulged-leafletted Dolichos. Pl. tw.

55 D. decu'mbens (Thunb. l. c.) stems herbaceous, decumbent, hardly pubescent; leaflets ovate, obtuse, glabrous; peduncles length of leaves, bearing an umbel of flowers at the apex. ⊙. G. Native of the Cape of Good Hope. Legume unknown.

Decumbent Dolichos. Pl. decumbent.

56 D. tomentòsus (Roth, nov. spec. 345.) plant clothed with grey tomentum; stem erect; leaflets ovate-roundish, acuminated; racemes axillary, usually solitary, many-flowered; flowers distich; vexillum pubescent. Native of the East Indies. Legume unknown.

Tomentose Dolichos. Pl. 1 to 2 feet.

57 D. frute'scens (Hamilt. in D. Don, prod. fl. nep. 240.) stem shrubby, erect; leaflets rhomboid-ovate, mucronate, glabrous; racemes axillary, compound, longer than the leaves; calycine teeth roundish, and are as well as the pedicels covered with silky pubescence; carina equal in length to the vexillum. ♄. G. Native of Nipaul. Leaflets large. Flowers cream-coloured.

Shrubby Dolichos. Shrub.

Cult. None of the species are worth cultivating for ornament except the *D. lignòsus*, *D. Jacquìni*, and *D. Curtísii*. A light rich soil answers all the species, and they are either increased by seeds or cuttings; cuttings planted in a pot of sand root freely, those of the stove species require heat.

CXCII. TÆNIOCA'RPUM (*ταινια*, *tænia*, a riband, and *καρπος*, *karpos*, a fruit; shape of pods). Desv. obs. legum. in Schlecht. Linnæa. 2. p. 512.

Lin. syst. *Diadélphia*, *Decándria*. Calyx bractless, bilabiate, 4-cleft; upper lip bidentate, lower one 3-parted. Vexillum ovate. Wings spurred Keel obtuse, concave, compressed. Stamens diadelphous. Style elongated, filiform. Legume hispid, compressed, many-celled, somewhat articulated or torulose. Seeds kidney-shaped, shining.

1 T. articula'tum (Desv. l. c.). ♄. ⌒. S. Native of St. Domingo.—Plum. ed. Burm. t. 222. Dólichos articulàtus, Lam. dict. 2. p. 296. A frutescent twining plant, clothed with rufous villi, with angularly-toothed leaflets; pedunculate racemes of violaceous-purple flowers, and straight legumes. Racemes of flowers a foot and a half long.

Jointed-legumed Tæniocarpum. Shrub tw.

Cult. A light rich soil will suit this plant, and cuttings will root freely if planted in a pot of sand placed under a hand-glass, in heat.

CXCIII. VI'GNA (in memory of Dominic Vigna, a commentator on Theophrastus). Savi, diss. phas. 1824. p. 16. D. C. prod. 2. p. 401.

Lin. syst. *Diadélphia*, *Decándria*. Calyx 4-cleft, upper lip entire, or of two divisions, which are joined to the apex. Corolla with a broad reflexed vexillum, furnished with converging callosities above the base. Wings rhomboid. Stamens diadelphous. Stipe of ovary sheathed. Legume terete, incurved. Seeds nearly globose, without any caruncle, but having the umbilicus on the side.—Twining herbs, like *Dólichos*. Perhaps sufficiently distinct from that genus in the terete legumes.

1 V. gla'bra (Savi, mem. phas. 3. p. 8.) plant twining, smooth; upper lip of calyx obtuse. ⊙. ⌒. S. Native of South America (ex Jacq.) and of North America, in the rice-fields of Georgia (ex Pursh). Dólichos lutèolus, Jacq. hort. vind. 1. p. 39. t. 90. Leaves pinnately trifoliate; leaflets ovate, acute. Peduncles longer than the leaves. Flowers yellow, disposed in heads at the top of the peduncles. Seeds black, with a white hylum. Stigma much bearded.

Glabrous Vigna. Fl. July, Aug. Clt. 1805. Pl. tw.

2 V. villòsa (Savi, l. c.) plant twining, villous; upper lip of calyx acuminated. ⊙. ⌒. H. Native of Chili. Flowers golden yellow. Legume 2 inches long. Seeds black.

Villous Vigna. Pl. tw.

Cult. The seeds of the species of this genus should be sown in May, in a warm sheltered situation in the open ground.

CXCIV. LA'BLAB (*Lablab* is the Arabic name of Convólvulus, with which the present genus has no other affinity, unless in the twining habit). Adans. fam. 2. p. 325. Mœnch. meth. 153. Savi, diss. 1821. p. 15 and 19. D. C. prod. 2. p. 401.—Dólichos, Gært. fruct. 2. p. 322. t. 150.

Lin. syst. *Diadélphia*, *Decándria*. Calyx campanulately-tubular, 4-cleft; the segments erect, 3 lower ones acute, superior one broader, entire, composed of 2 joined segments. Corolla with a spreading vexillum, which is channelled, and furnished with 4 parallel callosities at the base. Keel so much curved as to form a right angle. Stamens diadelphous, the tenth one free, and received between the callosities of the vexillum. Stipe of ovary sheathed at the base. Style compressed, bearded beneath. Stigma terminal. Legume flat, acinaciform, muricated from tubercles at the sutures; the seeds separated by transverse cellular dissepiments. Seeds 4 or fewer from abortion, ovate, a little compressed, with a linear callosity rising from the umbilicus, as well as being marginate at both extremities.—Twining herbs, with spreading stipulas, pinnately-trifoliate leaves, stipellate entire leaflets, pedunculate racemes of flowers, each peduncle bearing a single leaf. Pedicels somewhat verticillate. Seeds black or brown, with the hylum and callosity white.

1 L. VULGA'RIS (Savi, l. c. p. 19. f. 8. *a. b. c.*) legumes oblong, ventricose, acinaciform; pericarp easily separated? seeds ovate, somewhat compressed; gland basilar, hemispherical, furrowed. ♃. ⌒. S. Native of the East Indies, and Egypt; and now cultivated in several of the West India islands. Dólichos Láblab, Lin. spec. 1019. Sims, bot. mag. 896. Lam. dict. 2. p. 293. L. niger, Mœnch.—Riv. tetr. irr. t. 29. f. 4.—Alp. ægypt. t. 71. Leaflets roundish-ovate, ending in a point furnished with a bristle. Stipulas lanceolate. This plant is cultivated for the sake of the legumes, which are cooked and eaten.

Var. α, *nìger* (D. C. prod. 2. p. 401.) flowers violaceous; seeds black. P. Alp. ægypt. 74. t. 75.

Var. β, *purpùreus* (D. C. l. c.) flowers purple; seeds blackish purple. Lin. spec. 1021. Smith, exot. bot. t. 74. Lindl. bot. reg. 830. Dólichos purpùreus, Jacq. fragm. 45. t. 55. Stems purplish. Bracteoles equal in length to the tube of the calyx. Wings spreading. The legumes when fresh and young are sapid and salubrious, and are cooked and eaten in the manner of kidney-beans.

Var. γ, *albiflòrus* (D. C. l. c.) flowers white; seeds of a pale rust colour. Dólichos Bengalénsis, Jacq. hort. vind. 2. t. 124. Willd. spec. 3. p. 1038. Stems pale. Bracteoles shorter than the tube of the calyx. Wings of flower rather adpressed. The legumes are dressed and eaten like those of the last variety.

Common Lablab. Fl. July, Aug. Clt. 1790. Pl. tw.

2 L. NANKI'NICUS (Savi, l. c. p. 22. f. 8. *d. g.*) legumes oblong, ventricose, acinaciform; pericarp easily separated; seeds ovate, turgid; gland basilar, hemispherical, furrowed, acuminated downwards. ⊙. ⌒. G. Native of China, and cultivated in the West Indies for the sake of its legumes, which are dressed and eaten when young in the manner of kidney-beans. Flowers white. Legume 2½ inches long, and 10 lines broad. Seeds milk-coloured. This and the former species are called *Tul-Trangi* or European-bean by the Egyptians. The inhabitants make pleasant arbours of them. Alpinus says they grow wild in Egypt. Hasselquist is, however, certain that they do not grow wild in Lower Egypt, but are only cultivated there in gardens.

Nankin Lablab. Fl. July, Aug. Clt. 1714. Pl. tw.

3 L. LEUCOCA'RPOS (Savi, l. c. f. 9. *a. d.*) legumes somewhat lanceolate, compressed, torose; pericarp undulately curled, and separated with difficulty; seeds nearly globose; gland basilar, hemispherical, blunt. ⊙. ⌒. S. Native of the East Indies. Dólichos Láblab, Gærtn. fruct. 150. Flowers white, very like those of the preceding species. Legume white, 2½ inches long, and 8 lines broad. Seeds black or blackish red.

White-fruited Lablab. Fl. July, Aug. Clt. 1816. Pl. tw.

† *Species not sufficiently known.*

4 L. CULTRA'TUS (D. C. prod. 2. p. 402.) legumes hooked at the apex. ⊙. ⌒. G. Native of Japan. Dólichos cultràtus, Thunb. in Lin. trans. 2. p. 340. Willd. spec. 3. p. 1029. Dólichos ensifórmis, Thunb. jap. 279.—Banks, icon. Kœmpf. t. 25. Lateral leaflets 2-lobed. Flowers purple.

Cultrate-podded Lablab. Fl. July, Aug. Clt. 1816. Pl. tw.

5 L. MICROCA'RPUS (D. C. l. c.) legumes short, hardly twice the length of the breadth. ⊙. ⌒. S. Native of the Moluccas, on the sea-shore. Dólichos spicàtus, Kœn. mss. in Roxb. hort. beng. p. 55.—Rumph. amb. 5. t. 141. f. 1. Flowers purple, disposed in spikes. Seeds black. Perhaps only a variety of *L. vulgàris.*

Small-podded Lablab. Fl. July, Aug. Clt. 1818. Pl. tw.

6 L. PERE'NNANS (D. C. l. c.) leaves pubescent; seeds nearly spherical. ♃. ⌒. G. Native of Cochin-china and the Moluccas. Dólichos álbus, Lour. coch. p. 439.—Rumph. amb. 5. t. 137. Flowers as well as seeds white. This is only a variety of *L. vulgàris* according to Roxburgh.

Lasting Lablab. Fl. June, July. Clt. 1820. Pl. tw.

Cult. The seeds of all the species may be sown in pots, and placed in a hot-bed; and in the course of May, when the plants will be several inches high, they may be planted out into the open ground in a warm sheltered situation, in the manner of scarlet-runners, and supported in the same way.

CXCV. PACHYRHI'ZUS (from παχυς, *pachys*, thick, and ῥιζα, *rhiza*, a root; in reference to the thick tuberous roots of the plants). Rich. herb. D. C. legum. mem. ix. prod. 2. p. 402. —Cacàra, Pet. Th. dict. sc. nat. 5. p. 35.

LIN. SYST. *Diadélphia, Decándria.* Calyx urceolate, 4-lobed, upper lobe broad, and somewhat emarginate. Petals connected at the base? Vexillum roundish, spreading, without any callosity, biplicate at the base; the plaits involving the stipes of the wings. Stamens diadelphous, with the tube or sheath tumid at the base, and gaping widely. Ovary girded by a little sheath, which rises from the torus. Style beardless, incurved, tumid at the apex. Legume compressed, elongated. Seeds 7-8, reniform.—Twining suffruticose plants, with tuberous eatable roots, pinnately-trifoliate leaves, and axillary racemes of bluish violet flowers.

1 P. ANGULA'TUS (Rich. herb. D. C. prod. 2. p. 402.) leaflets angular, toothed, glabrous; stems suffruticose. ♄. ⌒. S. Native of the Moluccas, and elsewhere in the East Indies, and of the Mauritius, where it is cultivated for the sake of its roots. Dólichos bulbòsus, Lin. spec. 1020.—Rumph. amb. 5. t. 132.—Pluk. alm. t. 52. f. 4. Root a single turnip-formed tuber, usually ending in a single tail, but sometimes divided; when young it is eaten both raw and boiled by the inhabitants of India and the Mauritius.

Angular-leaved Pachyrhizus. Fl. June, July. Clt. 1781. Shrub tw.

2 P. TRI'LOBUS (D. C. prod. 2. p. 402.) leaflets 3-lobed, pubescent; stems suffruticose, hairy. ♄. ⌒. G. Native of China and Cochin-china. Dólichos trílobus, Lour. cochin. 439. exclusive of the synonymes. Flowers bright purple, with a yellow spot in the centre of the vexillum. Tubers of root few, about 2 feet long, nearly terete, for which the plant is cultivated in China and Cochin-china, where they are boiled and eaten by the inhabitants.

Three-lobed-leafletted Pachyrhizus. Shrub tw.

3 P. MONTA'NUS (D. C. l. c.) leaflets rhomboid-ovate, entire, tomentose; stems suffruticose. ♄. ⌒. G. Native of Cochin-china. Dólichos montànus, Lour. coch. 440. Flowers purple, disposed in spikes. Anthers 5 oblong, and 5 roundish. Roots with bundles of hard tubers.

Mountain Pachyrhizus. Shrub tw.

Cult. A light rich soil will suit these plants, and cuttings will root in sand under a hand-glass, or the plants may be increased by the tubers of the roots, or by seeds.

CXCVI. PARO'CHETUS (from παρα, *para*, nigh, and οχετος, *ochetos*, a brook; in reference to the habitat of the plants). Hamilt. in D. Don, prod. fl. nep. 240. D. C. prod. 2. p. 402.

LIN. SYST. *Diadélphia, Decándria.* Calyx 4-cleft, naked. Corolla papilionaceous, with an incumbent 2-lobed vexillum, and an obtuse keel, which is covered by the wings. Stamens diadelphous. Style smooth. Stigma obtuse. Legume gibbous, many-seeded. Seeds roundish.- Perennial creeping herbs, with trifoliate leaves, which stand on long petioles, membranous stipulas, and axillary, shewy, purple, solitary flowers, on long pedicels.

1 P. COMMU'NIS (Hamilt. l. c.) leaflets truncate, dentately-serrated. ♃. G. Native of Nipaul, at Narainhetty.

Common Parochetus. Fl. July. Clt. 1820. Fl. creeping.

2 P. MA'JOR (D. Don, l. c.) leaflets obovate, retuse, crenated. ♃. G. Native of Nipaul, at Narainhetty. Larger than the preceding species, and with the habit of a species of *O'xalis.*

Larger Parochetus. Pl. creeping.

Cult. A light rich soil will answer the species of this genus, and as they are creeping plants, they are easily increased by dividing.

CXCVII. DIO'CLEA (in memory of Diocles Carystinus, an ancient Greek botanist). H. B. et Kunth, nov. gen. amer. 6. p. 437. but not of Spreng.

LIN. SYST. *Diadélphia, Decándria.* Calyx half-4-cleft, bracteolate at the base; the segments acuminated, 2 lateral ones narrowest. Corolla with an obovate-oblong reflexed vexillum, destitute of callosities. Stamens diadelphous, the tenth one sometimes adhering to the others a little. Stigma somewhat clavate. Disk somewhat urceolate. Legume linear, compressed, many-seeded, furnished with a membranous margin on both sides towards the seminiferous suture. Seeds with a linear hylum.—Twining shrubs, with pinnately-trifoliate leaves, stipellate leaflets, axillary elongated pedicels, and red flowers.

1 D. JACQUINIA'NA (D. C. prod. 2. p. 403) leaflets ovate, acute; stems and legumes glabrous. ♄. ⌒. S. Native of Martinique, in woods and among bushes. Dólichos rùber, Jacq. amer. p. 204. t. 123. Flowers red.

Jacquin's Dioclea. Shrub tw.

2 D. SERI'CEA (H. B. et Kunth, l. c. t. 576.) leaflets elliptic, cordate at the base, acute at the apex, pubescent above, but clothed with silky-silvery pubescence beneath; legumes clothed with yellowish silky down. ♄. ⌒. S. Native of New Granada, near Honda. Flowers blue.

Silky Dioclea. Shrub tw.

3 D. APURE'NSIS (H. B. et Kunth, l. c.) leaflets elliptic-oblong, rounded at the base, glabrous, acuminately-mucronate at the apex, strigose on the nerves and veins beneath. ♄. ⌒. S. Native on the banks of the Orinoco, at the confluence of the Apures. Flowers red.

Apures Dioclea. Shrub tw.

4 D.? MÓLLIS (D. C. prod. 2. p. 403.) leaflets rhomboid-ovate, acuminated, and are, as well as the branches, clothed with very soft down; peduncles shorter than the leaves, 3-6-flowered. ♄. ⌒. S. Native country unknown. Dólichos móllis, Jacq. fragm. 6. t. 88. Flowers pale yellow. Legume unknown. This plant differs from *Dólichos* in the calyx being 4-cleft, and from *Vigna* in the vexillum being without callosities.

Soft Dioclea. Fl. July. Clt. 1824. Shrub tw.

Cult. The species of this genus will grow well in light rich soil, and they are easily increased by cuttings planted in sand, with a hand-glass placed over them, in heat.

CXCVIII. PSOPHOCA'RPUS (from ψοφος, *psophos*, a sound, and καρπος, *carpos*, a fruit; in reference to the seeds rattling in the pods when ripe on being shaken). Neck. elem. no. 1362. D. C. prod. 2. p. 403.—Bòtor, Adans. fam. p. 326. exclusive of the synonymes of Plum. Pet. Th. dict. sc. nat. 5. p. 241.

LIN. SYST. *Diadélphia, Decándria.* Calyx urceolate, unequally bilabiate. Corolla with a roundish reflexed vexillum, bearing 2 cylindrical callosities at the base. Wings stipitate, the stipes received within the margins of the vexillum. Keel oblong, 2-edged. Stamens diadelphous. Legume oblong, furnished with 4 longitudinal wings, 7-8-seeded. Seeds roundish.—A climbing herb, with tuberous roots, pinnately-trifoliate leaves, axillary twin racemes, and bluish flowers.

1 P. TETRAGONÓLOBUS (D. C. l. c.) ⊙. ◡. S. Native of the Mauritius, where it is cultivated under the name of *Pois-carré.* Dólichos tetragonólobus, Lin. spec. 1021.—Rumph. amb. 5. t. 133. There is a smaller kind which was gathered along the banks of rivulets in Madagascar by M. Aubert Du Petit Thours. The plant is cultivated in the Mauritius for the sake of its seeds, which are used in the same way as we do peas.

Four-angled-podded Psophocarpus. Fl. Sept. Nov. Clt. 1816. Pl. cl.

Cult. See *Lablab*, p. 361, for culture and propagation.

CXCIX. CANAVA'LIA (*Canavali* is the name of one of the species in Malabar). D. C. legum. mem. ix. prod. 2. p. 403.—Canavàli, Adans. fam. 2. p. 326.—Malòchia, Savi, diss. 1824. p. 15. and 1825. p. 1.—Dólichos species of Lin.

LIN. SYST. *Monadélphia, Decándria.* Calyx tubular, bilabiate (f. 49. *b.*), lower lip with 3 small acute teeth, upper lip with 2 large rounded lobes. Corolla with a large vexillum (f. 49. *d.*), bearing 2 parallel callosities at the base; wings stipitate, oblong, auricled. Keel of 2 petals (f. 49. *c.*). Stamens monadelphous (f. 49. *a.*), or the tenth one adhering but slightly to the others. Legume compressed (f. 49. *c.*), with 3 prominent nerves, especially with a prominent nerve on each side of the seminiferous suture, and terminating in an inflexed mucrone (f. 49. *e.*); the seeds separated by cellular membranes. Seeds oval-oblong (f. 49. *e.*), with the hylum linear.—Herbs or subshrubs, with twining branches, pinnately-trifoliate leaves, axillary many-flowered racemes, tern pedicels, and large purple flowers.

1 C. OBTUSIFÒLIA (D. C. prod. 2. p. 404.) leaflets ovate, obtuse; legumes straight, twice the length of the breadth. ♄. ⌒. S. Native of Malabar. Dólichos obtusifòlius, Lam. dict. 2. p. 295. Dólichos rotundifòlius, Vahl. symb. 2. p. 81.—Rheed. mal. 8. t. 42.—Pluk. alm. t. 51. f. 2. Flowers purple.

Obtuse-leaved Canavalia. Fl. July, Aug. Clt. 1820. Sh. tw.

2 C. EMARGINA'TA; leaflets ovate, obtuse, emarginate; legumes straight, twice the length of the breadth. ♄. ⌒. S. Native of Malabar. Dólichos emarginàtus, Jacq. hort. schœnbr. 2. t. 221.

Emarginate-leafletted Canavalia. Fl. July, Aug. Clt. 1800. Shrub tw.

3 C. MINIA'TA (D. C. prod. 2. p. 404.) leaflets ovately-orbicular, rounded at both ends, reticulately veined, coriaceous, and are smooth, as well as the petioles; peduncles very long, and many-flowered; legumes generally 3-seeded, on short stipes. ♃.? ⌒. S. Native of Cuba. Dólichos miniàtus, H. B. et Kunth, nov. gen. amer. 6. p. 441. Flowers vermilion-coloured.

Vermilion-flowered Canavalia. Pl. tw.

4 C. GLADIA'TA (D. C. prod. 2. p. 404.) leaflets ovate, acute; legumes 8 times longer than broad; racemes longer than the leaves; vexillum oblong. ♄. ⌒. S. Native of the East Indies. Dólichos gladiàtus, Jacq. icon. rar. t. 560. Malòchia gladiàta, Savi, mem. 1825. p. 4. Nattamàme, Banks, icon. Kœmpf. t. 39. Flowers white, pendulous, suffused with red. Legume nearly a foot long. Seeds brown.

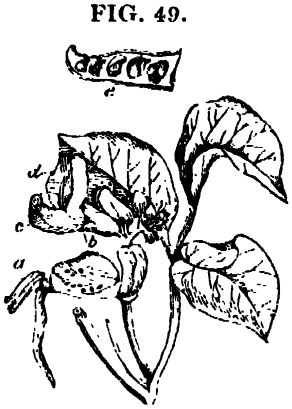
Var. β, machæroides (D. C. prod. 2. p. 404.) racemes length of the leaves; legumes 3 times longer than broad, ascending, and incurved at the apex; flowers erect. ♄. ⌒. S. Native of the East Indies. Lòbus machæroìdes, Rumph. amb. 5. p. 135. f. 1.—Rheed. mal. 8. t. 45. Perhaps a proper species.

Sword-podded Canavalia. Fl. June, July. Clt. 1790. Sh. tw.

5 C. ENSIFÓRMIS (D. C. prod. 2. p. 404.) leaflets ovate, acute; legumes 10 times or more longer than they are broad. ⊙. ? ⌒. S. Native of Malabar and the West Indies. Dólichos ensifórmis, Lin. spec. 1022. Lam. dict. 2. p. 295. Dólichos acinacifórmis, Jacq. coll. 1. p. 114. icon. rar. t. 559.—Rheed. mal. 8. t. 44.—Sloan. hist. jam. 1. t. 114. f. 1, 2, 3. Malòchia ensifórmis, Savi, mem. 1825. p. 1. Flowers pale purple. Seeds white, but having the hylum girded with brick-colour.

Var. β, *álbida* (D. C. l. c.) flowers and seeds white. Mucùna álbida, Moc. et Sesse, fl. mex. icon. ined.

FIG. 49.



Ensiform-podded Canavalia. Fl. July, Aug. Clt. 1778. Pl. tw.

6 C. LOURE'IRII; leaflets ovate, acute, wrinkled, glabrous; legumes large, broad, thickest on the back; stamens diadelphous. ♄. ⌒. S. Native of China and Cochin-china, where it is cultivated for adorning arbours. Dólichos ensifórmis, Lour. coch. 437. Flowers purplish violet.

Loureiro's Canavalia. Shrub tw.

7 C. RU'TILANS (D. C. l. c.) leaflets oval-oblong, obtuse; legumes straight, 4 times longer than broad. ♄. ⌒. S. Native of Mexico. Mucùna rùtilans, Moc. et Sesse, fl. mex. ined. Flowers and seed of a reddish scarlet colour.

Glittering Canavalia. Shrub tw.

8 C. INCU'RVA (D. C. l. c.) leaflets oblong, acute; flowers axillary, solitary; legumes ensiform, incurved, acuminated. ♃. ⌒. G. Native of Japan, about Nagasaki. Dólichos incúrvus, Thunb. fl. jap. 280. Herb glabrous. Legumes a span long. Flowers purple. Perhaps sufficiently distinct from *C. gladiàta.*

Incurved-podded Canavalia. Pl. tw.

9 C. LINEA'TA (D. C. l. c.) leaflets ovate, obtuse, ending in a lined acumen; flowers racemose; legumes oblong, acute, with a straight back, but rounded in front. ♄. ⌒. G. Native of Japan, about Nagasaki. Dólichos lineàtus, Thunb. fl. jap. 280. Flowers purple. Legumes 2 inches long.

Lined-leaved Canavalia. Pl. tw.

10 C. RÒSEA (D. C. l. c.) stems creeping, and ascending; leaflets roundish, shining; racemes longer than the leaves; legumes oblong, ending in a short acumen. ♄. S. Native of Jamaica, in sand by the sea-side. Dólichos ròseus, Swartz, fl. ind. occ. 3. p. 1243. Flowers of a reddish blue-colour, rather coriaceous.

Rose-coloured-flowered Canavalia. Fl. July, Aug. Clt. 1812. Pl. creeping.

11 C. BONARIE'NSIS (Lindl. bot. reg. 1199.) leaflets ovate, obtuse, coriaceous, glabrous, acuminate; racemes drooping, longer than the leaves; lower lip of calyx furnished with one tooth-like process; ovary falcate, pubescent, 6-ovulate, on a long villous stipe. ♄. ⌒. G. Native of Buenos Ayres. Flowers purple, large.

Buenos Ayrean Canavalia. Fl. Ju. Aug. Clt. 1824. Sh. tw.

Cult. Elegant twining or climbing plants, well adapted for training up the rafters in a stove or greenhouse; their culture and propagation are the same as those for *Dióclea*, p. 362.

CC. A'MPHODUS (from αμφι, *amphi*, on both sides, and οδους, *odous*, a tooth; in reference to the vexillum being furnished with a tooth on each side at the base). Lindl. bot. reg. 1101.

LIN. SYST. *Diadélphia, Decándria.* Calyx bractless, thrust in at the base, bilabiate; upper lip bidentate, lower one trifid, with subulate segments. Corolla with a reflexed vexillum, which is furnished with an inflexed tooth on each side at the base; wings and keel linear. Stamens diadelphous. Style filiform, glabrous, crowned by a capitellate stigma. Legume linear-oblong, compressed, wingless, torulose, many-seeded. Seeds oblong, compressed, greenish brown, with a small linear hylum, and girded by a thick white arillus. Cotyledons oblong. Radicle obtuse, inflexed.—A twining shrub, with pinnately-trifoliate leaves, stipellate ovate leaflets, ending in a spine-like mucrone, and short axillary racemes of large purple flowers.

1 A. OVA'TUS (Lindl. l. c.) ♄. ⌒. S. Native of Trinidad. Plant hairy in every part except the upper surface of the leaves.

Ovate-leaved Amphodus. Fl. July, Aug. Clt. 1820. Sh. tw.

Cult. See *Mucùna* for culture and propagation, p. 364.

CCI. MUCU'NA (*Mucuna-guaca* is the Brazil name of *M. ùrens*). Adans. fam. 2. p. 325. Juss. ann. mus. 11. p. 76. D. C. prod. 2. p. 404.—Hornèra, Neck.—Stizolòbium, Pers. ench. 2. p. 299.—Negrètia, Ruiz et Pav. prod. t. 21. Cítta, Lour. Labràdia, Swed. mat. med.—Carpopògon, Roxb. hort. beng.—Macroceratìdes, Raddi.

LIN. SYST. *Diadélphia, Decándria.* Calyx campanulate, bilabiate; lower lip trifid, with acute segments, the middle segment drawn out most, upper lip broad, entire, and obtuse. Corolla with assurgent vexillum, shorter than the wings and keel; wings oblong, length of the keel, which is oblong, straight, and acute. Stamens diadelphous, with 5 of the anthers oblong-linear, and the other 5 ovate and hairy. Legume oblong, torose, 2-valved; the seeds separated by cellular dissepiments. Seeds round, with a linear hylum girded by a circular mark.—Climbing herbs or shrubs, with pinnately-trifoliate leaves, and axillary racemes, which are usually pendulous when bearing the fruit. Legumes hispid from innumerable brittle, stiff, stinging caducous bristles, which easily penetrate the cuticle.

SECT. I. ZOOPHTHA'LMUM (from ζωον, *zoon*, an animal, and οφθαλμος, *opthalmos*, an eye; in reference to the form of the seeds, which resemble the eye of an animal). P. Browne, jam. D. C. prod. 2. p. 405. Legumes with the furrows transversely lamellose.

1 M. U'RENS (D. C. prod. 2. p. 405.) flowers racemose; legumes covered with stinging bristles; leaflets clothed with shining tomentum beneath. ♄. ⌒. S. Native of the West Indies and South America. Mucùna, Marcgr. bras. 19. Plum. amer. t. 107. Pluk. phyt. t. 213. f. 2. Dólichos ùrens, Lin. spec. 1020. Jacq. amer. 202. t. 182. f. 84. Stizolòbium ùrens, Pers. ench. 2. p. 299. Flowers large, white or yellow, with the lower edge of the wings red. The seeds from their resemblance to an eye are called by the French *Yeux-bourrique*, or ass's eye, and for the same reason they have the name *ox-eye-bean* in our colonies in the West Indies.

Burning Cow-itch or Ox-eye-bean. Fl. June, July. Clt. 1691. Shrub cl.

2 M. MÓLLIS (D. C. l. c.) flowers disposed in globose heads on the tops of the peduncles; bracteas ovate, acutish; legumes clothed with dense silky tomentum, oblong, acinaciform, 6-celled; leaflets ovate, acuminated, hairy above, but clothed with silky rufescent tomentum beneath. ♄. ⌒. S. Native of New Granada, on mount Quindiu, in temperate places. Negrètia móllis, H. B. et Kunth, nov. gen. amer. 6. p. 444.

Soft Cow-itch. Shrub cl.

Sect. II. Stizolòbium (from στιζω, *stizo*, to sting, and λοβος, *lobos*, a pod; in allusion to the stinging hairs with which the pods are clothed). P. Browne, jam. D C. prod. 2. p. 405. Legumes destitute of the transverse lamellæ.

3 M. ALTI'SSIMA (D. C. prod. 2. p. 405.) flowers racemose; legumes beset with stinging hairs; leaflets glabrous on both surfaces. ♄. ⌒. S. Native of Martinique, in mountain woods. Dólichos altíssimus, Jacq. amer. 203. t. 182. f. 85. exclusive of the synonyme of Rheed. Flowers with a bluish violet vexillum, and a rather yellowish carina.

Tallest Cow-itch. Fl. summer. Clt. 1779. Shrub cl.

4 M. PRU'RIENS (D. C. prod. 2. p. 405.) flowers racemose; legumes stinging, with the valves somewhat keeled; leaflets hairy beneath, acuminated, middle one rhomboid, lateral ones dilated on the outside. ♄. ⌒. S. Native of Malabar, Rheed. mal. 8. t. 85.; of the Moluccas, Rumph. amb. 5. p. 112.; of the West Indies, P. Browne, jam. 290. t. 31. f. 4.; and of Guinea. Dólichos prùriens, Lin. spec. 1020. Lam. dict. 2. p. 290. Stizolòbium prùriens, Pers. Carpopògon prùriens, Roxb. Flowers violaceous, becoming black when dried. Perhaps the American, Asiatic, and African plants are the same. A decoction of the roots is said to be a powerful diuretic. The pods are about 4 inches long, thickly beset on the outside with stiff brown hairs, which, when applied to the skin, occasion a most intolerable itching. In the choice of *Cow-itch*, all those pods which are brown or shrivelled, rusty, or of a bad colour or diminutive size, ought to be rejected. In medicine, the ripe pods are dipped in syrup, which is again scraped off with a knife. When the syrup is rendered as thick as honey by the hairs, it is fit for use. It acts mechanically as an anthelmintic, occasions no uneasiness, and may be safely taken from a tea-spoonfull to a table-spoonfull in the morning, fasting. The worms are said to appear with the second or third dose. A vinous infusion of the pods (12 to a quart) is said to be a certain remedy for the dropsy. A strong infusion of the roots sweetened with honey is used in India by the native practitioners in cases of cholera morbus.

Common or *Stinging* Cow-itch. Fl. summ. Clt. 1681. Sh. cl.

5 M. GIGA'NTEA (D. C. prod. 2. p. 405.) flowers umbellate; legumes covered with stinging hairs, 3-4-seeded; leaflets glabrous, acuminated, lateral ones dilated on the outside, middle one ovate. ♄. ⌒. S. Native of Malabar and of Chittagong. --Rheed. mal. 8. t. 36. Carpopògon gigánteum, Roxb. hort. beng. p. 54. Dólichos gigánteus, Willd. spec. 3. p. 1041. Flowers of a pale greenish colour.

Var. β, *nigricans* (D. C. prod. 2. p. 405.) corolla black marked with a white spot. ♄. ⌒. G. Native of Cochin-china, in hedges. Cítta nígricans, Lour. coch. 456.—Rumph. amb. 5. t. 6. ex Lour. but Rumphius's plant has greenish white flowers, and is therefore referrible to the species.

Giant Cow-itch. Fl. July, Aug. Clt. 1815. Shrub cl.

6 M. MACROCA'RPA (Wall. pl. asiat. rar. 1. p. 41. t. 47.) leaves sparingly pilose; flowers large, racemose; keel longer than the wings, of a different colour; legumes very long, ensiform, torulose, tomentose, many-seeded. ♄. ◡. G. Native of Nipaul, on the mountains. Flowers party-coloured; vexillum green; wings purple and keel brown.

Long-fruited Mucuna. Shrub tw.

7 M. INFLE'XA (D. C. l. c.) flowers umbellate; pedicels inflexed; legumes covered with stinging hairs; seeds globose; lateral leaflets cordate. ♄. ⌒. S. Native of the Andes. in woods. Negrètia infléxa, Ruiz, et Pav. syst. 176. Peduncles pendulous, 2 or 4 yards long. Flowers dark purple, becoming black when dry.

Inflexed-pedicelled Cow-itch. Shrub cl.

8 M. ELLI'PTICA (D. C. l. c.) flowers umbellate; legumes covered with very stinging hairs, 2-seeded; seeds convex on both ends; lateral leaflets ovate. ♄. ◡. S. Native of Peru, on mountains. Negrètia ellíptica, Ruiz. et Pav. syst. 176. Flowers dark purple, drying black.

Elliptic-leafletted Cow-itch. Shrub cl.

9 M. MÌTIS (D. C. l. c.) racemes very long; legumes unarmed; seeds compressed; leaflets obliquely ovate. ♄. ⌒. S. Native of Peru, in groves. Negrètia mìtis, Ruiz, et Pav. syst. 177. Flowers dark purple, becoming black on drying.

Mild Cow-itch. Fl. summer. Clt. 1820. Shrub cl.

10 M. COMÒSA (D. C. l. c.) racemes erect, dense-flowered; legumes oblong, unarmed; seeds compressed, with the hylum girded; leaflets elliptic, mucronate, glabrous. ♄. ⌒. S. Native of Guiana, near Essequibo, in groves. Dólichos comòsus, Mey. prim. esseq. 241. Corolla white, tipped with purple.

Tufted Cow-itch. Shrub cl.

11 M. PLATYCA'RPA (D. C. l. c.) legumes compressed; seeds flat; leaflets ovate, cordate, intermediate one oblong-linear, acute. ♄. ⌒. S. Native of Peru, in groves. Negrètia platycárpa, Ruiz, et Pav. syst. 177.

Broad-podded Cow-itch. Shrub cl.

12 M. MACROCERATÌDES (D. C. prod. 2. p. 406.) flowers spicate; legumes compressed, torulose, pilose on the back, and furnished with 2 margins; seeds reniform; leaflets ovate, glabrous above, villous beneath. ♄. ⌒. S. Native of Brazil, on the Mandiocca mountains, near Rio Janeiro. Macroceratìdes pseudo-stizolòbium, Radd. mem. add. bras. 13. f. 5. Flowers rather small, of a violaceous colour. Peduncles and calyxes black. Seeds black, except the concave part.

Long-horned Cow-itch. Clt. 1824. Shrub cl.

13 M. MUTISIA'NA (D. C. l. c.) racemes pedunculate, somewhat capitate; bracteas ovate, rounded at the apex, clothed with rusty tomentum; leaflets smoothish, membranous, elliptic-oblong, acuminated, lateral ones with very unequal sides. ♄. ⌒. S. Native of South America, near Santa Fe de Bogota. Negrètia Mutisiàna, H. B. et Kunth, nov. gen. amer. 6. p. 442. Legume unknown.

Mutis's Cow-itch. Shrub cl.

† *Species indicated in Roxburgh's Hortus Bengalensis, but not described.*

14 M. MONOSPE'RMA (D. C. l. c.), ♄. ⌒. S. Native of the East Indies. Carpopògon monospérmum, Roxb. hort. beng. p. 54.

One-seeded Cow-itch. Clt. 1816. Shrub tw.

15 M. ATROPURPU'REA (D. C. l. c.). ♄. ⌒. S. Native of the East Indies, in Travancore. Carpopògon atro-purpùreum, Roxb. l. c. Flowers dark purple, almost black.

Dark-purple-flowered Cow-itch. Clt. 1820. Shrub tw.

16 M. NÍVEA (D. C. l. c.). ♄. ⌒. S. Native of Bengal. Carpopògon níveum, Roxb. l. c. Flowers white.

Snowy-flowered Cow-itch. Clt. 1816. Shrub tw.

17 M. IMBRICA'TA (D. C. l. c.). ♄. ⌒. S. Native of Silhet. Carpopògon imbricàtum, Roxb. l. c.

Imbricated Cow-itch. Clt. 1815. Shrub tw.

18 M. BRACTEA'TA (D. C. l. c.). ♄. ⌒. S. Native of Chittagong. Carpopògon bracteàtum, Roxb. l. c.

Bracteated Cow-itch. Clt. 1826. Shrub tw.

19 M. ANGUÌNEA (Roxb. hort. beng., under *Carpopògon*). ♄. ⌒. S. Native of the East Indies.

Snake Cow-itch. Shrub tw.

Cult. A rich soil suits the species of *Cow-itch*, and they are easily increased from cuttings. None of them are worth growing, unless in botanical gardens.

CCII. CALOPO'GONUM (from καλος, *kalos*, beauty, and πωγων, *pogon*, a beard; in reference to hairs on the calycine segments). Desv. obs. legum. in Schlecht. Linnæa. 2. p. 513.

Lin. syst. *Diadélphia, Decándria.* Calyx bractless, deeply 5-cleft, closed, smooth; segments elongated, awl-shaped, nearly equal, pinnately bearded, longer than the corolla. Legume straight, depressed, or rather hooked, pilose, 8-seeded.—An herbaceous twining plant, with trifoliate leaves.

1 C. MUCUNOÌDES (Desv. l. c.). ♃. ⌒. S. Native of Guinea.

Mucuna-like Calopogonum. Pl. tw.

Cult. See *Mucùna* for culture and propagation, p. 364.

CCIII. CAJA'NUS (*Catjang* is the Amboyna name for *C. flàvus*). D. C. cat. hort. monsp. 85. no. 43. H. B. et Kunth, nov. gen. amer. 6. p. 395. D. C. prod. 2. p. 406. Càjan. Adan. fam. 2. p. 326. Pet. Th. dict. sci. nat. 6. p. 166.

LIN. SYST. *Diadélphia, Decándria.* Calyx campanulate, 5-cleft; segments subulate, incurved at the apex, 2 superior ones joined together higher up than the rest. Corolla with ample vexillum, which is bicallous at the base, and an obtuse straight keel. Stamens diadelphous. Legume oblong, compressed, oblique, torulose, 2-valved. Seeds numerous, nearly spherical, separated by membranous partitions.—Erect shrubs, clothed with velvety pubescence, with pinnately trifoliate leaves, stipellate leaflets, and axillary racemes of yellow flowers, with 2 pedicels rising from each bractea. Cotyledons conferruminate in germination.

1 C. BI'COLOR (D. C. l. c.) vexillum discoloured on the outside; legumes 4-5-seeded, spotted; stipels of the lateral leaflets about equal in length to the petiolules. ♄. S. Native of the East Indies. Cýtisus Càjan, var. *β*. Lam. dict. 2. p. 249. Cýtisus pseudo-càjan, Jacq. hort. vind. 2. t. 119.—Rheed. mal. 6. t. 13. Flowers yellow, except the outside of the vexillum, which is purplish. The seeds are eatable, and very delicate when young.

Two-coloured-flowered Pigeon-pea. Fl. Jul. Aug. Clt. 1800. Shrub 3 to 6 feet.

2 C. FLA'VUS (D. C. l. c.) vexillum the same colour on both sides; legumes 4-5-seeded, and are as well as the calyxes spotless; stipels of lateral leaflets one half shorter than the petiolules. ♄. S. Native of the East Indies, but now cultivated in South America and Africa. Cýtisus Càjan, Lin. spec. 1041. Jacq. obs. 1. t. 1. Plum. ed. Burm. 114. f. 2. Burm. zeyl. p. 86. t. 37. Hughes, barb. 199. t. 19. This shrub is cultivated in both Indies, South America, and Africa. In the West Indies it is chiefly planted in rows, as a fence to the sugar plantations. The seed is much eaten by the poorer inhabitants and negroes, and is esteemed a wholesome pulse; in Martinico even the better sort of people hold the seeds in high estimation, and prefer them to common peas. The chief use they are put to in Jamaica is for feeding pigeons, whence the English name. The branches, with the ripe seeds and leaves, are given to feed hogs, horses and other cattle, which grow very fat on them.

Yellow-flowered or Common Pigeon-pea. Fl. July, Aug. Clt. 1687. Shrub 4 to 10 feet.

Cult. A light rich soil will suit the species of *Cajànus*; and young cuttings will root in sand, with a hand-glass placed over them, in heat, but the plants are annually raised from seeds brought or sent from the West and East Indies.

CCIV. LUPI'NUS (of Pliny and other Latin writers, said to be from *lupus*, a wolf, on account of its being supposed to destroy the fertility of the soil; or rather *απο της λυπης*, *apo tes lupes*, whence Virgil calls lupines *tristes lupini*, the bitterness of this pulse contracting the muscles and giving à sorrowful appearance to the countenance, *Vossius*). Tourn. inst. 392. t. 213. Lin. gen. 1176. Gærtn. fruct. 2. p. 150. D. C. prod. 2. p. 406.

LIN. SYST. *Monadélphia, Decándria.* Calyx profoundly bilabiate. Corolla papilionaceous, the vexillum with reflexed sides, and the keel acuminated. Stamens monadelphous, with the tube or sheath entire, 5 of the anthers are smaller, rounder, and earlier, and the other 5 oblong and later. Style filiform. Stigma terminal, roundish, bearded. Legume coriaceous, oblong, compressed, obliquely torulose. Cotyledons thick, but converted into leaves at the time of germination. -Herbs or subshrubs, with digitate leaves, constantly composed of from 5-15 leaflets, very rarely simple. Leaflets complicated before expansion, and while asleep or through the night. Stipulas adnate to the petioles. Peduncles opposite the leaves or terminal. Flowers alternate or verticillate, sessile, or pedicellate, disposed in racemes, and spikes, with one bractea under each pedicel, and with 2 bracteoles adhering laterally to the calyx, which are caducous, or wanting.

§ 1. *Leaves digitate.*

* *Annual herbs.*

1 L. A'LBUS (Lin spec. 1015.) flowers alternate, pedicellate, destitute of bracteoles; upper lip of calyx entire, lower one tridentate; leaflets obovate-oblong, usually 7 or 8, villous beneath. ⊙. H. Native of the Levant, and now cultivated in the south of Europe. Ludw. ect. t. 191. Blackw. icon. t. 282. L. sativus, Gater. montaub. 126.—Clus. hist. 2. p. 228. f. 1. Flowers white, almost sessile. This plant is cultivated in some parts of Italy and other parts of the south of Europe, as other pulse, for food; also in the south of France, on poor, dry, extensive plains, as an ameliorating crop, to be ploughed in where no manure is to be had, and the ground is too bad for clover or other better plants. In Tuscany, it is not only cultivated for food, but also for improving the land by ploughing it in, a practice continued from the time of the ancient Romans, as may be seen by consulting Pliny and Columella. With us it is used only among other annuals in the flower-border.

Var. β; keel of flower tipped with violet. L. álbus, Ægyptìacus, Mœnch, meth. 152.

White Lupine. Fl. June, Aug. Clt. 1596. Sh. 1 to 2 feet.

2 L. TE'RMIS (Forsk. descrip. 131.) flowers alternate, pedicellate, bracteolate; upper lip of calyx entire, lower one somewhat tridentate; leaflets 5-6, obovate-oblong, villous beneath. ⊙. H. Native of Egypt. L. prólifer, Desrous. in Lam. dict. 3. p. 622. Flowers white but with the vexillum tipped with blue. Like *L. álbus* and *L. vàrius*. *Termis* is the Arabic name of the plant. The peduncles, after being peeled, are eaten raw, and the seeds are boiled as other pulse by the Arabians.

Termis or Egyptian white Lupine. Fl. Ju. Aug. Clt. 1802. Pl. 1 to 2 feet.

3 L. VA'RIUS (Lin. spec. 1015.) flowers somewhat verticillate or alternate, pedicellate, bracteolate; upper lip of calyx bidentate, lower one slightly tridentate; leaflets oblong-lanceolate, villous beneath, usually 5-6 in number. ⊙. H. Native of Spain, South of France, Corsica, Egypt, and in the islands of the Archipelago of Europe, &c. L. semi-verticillàtus, Desrous. in Lam. dict. 3. p. 623. L. sylvéstris *α*, Lam. fl. fr. Flowers large, blue or purplish.

Variable Lupine. Fl. Jul. Aug. Clt. 1596. Pl. 2 to 3 feet.

4 L. HIRSU'TUS (Lin. spec. 1015.) flowers alternate, bracteolate; upper lip of calyx bipartite, lower one trifid; leaflets 5, oblong-spatulate, hairy on both surfaces; legumes very hairy. ⊙. H. Native of Spain, South of France, Egypt, Corsica, and the islands of the Archipelago of Europe. L. digitàtus, Forsk. descript. 131.—J. Bauh. hist. 289. with a figure.—Park. parad. 335. t. 337. f. 1.—Gerard. emac. 1217. f. 4. Flowers smaller than those of *L. vàrius*, blue, lower ones sometimes axillary. Plant clothed with ferruginous hairs.

Hairy Lupine. Fl. June, July. Clt. 1629. Pl. 1 foot.

5 L. PILÒSUS (Lin. spec. 1015.) flowers verticillate, pedicellate, bracteolate; upper lip of calyx bipartite, lower one entire; leaflets 9-11, oblong-lanceolate, villous on both surfaces, as well

as the stems and calyxes. ⊙. H. Native of the south of Europe. Flowers rose-coloured, with the middle of the vexillum red.

Var. β, *cœrùleus*; flowers bluish-purple. The Great Blue Lupine.

Pilose or Rose Lupine. Fl. Jul. Aug. Clt. 1710. Pl. 2 to 4 ft.

6 L. BRACTEOLA'RIS (Desrous. in Lam. dict. 3. p. 622.) flowers alternate, pedicellate, bracteolate; upper lip of calyx bipartite, lower one trifid; stipulas ovate-lanceolate; leaflets 5-6, obovate-oblong, villous on both surfaces. ⊙. H. Native of Monte Video. Said to be allied to *L. hirsùtus*, according to Desrouseaux. Perhaps the same as *L. rupéstris* of Kunth. Flowers probably purplish.

Bracteolate Lupine. Fl. June, July. Clt. 1820. Pl. 1 foot.

7 L. ANGUSTIFÒLIUS (Lin. spec. 1016.) flowers alternate, on short pedicels, without bracteoles; upper lip of calyx bifid, lower one entire; leaflets 7-8, linear, clothed with adpressed pubescence; legumes villous, usually 6-seeded. ⊙. H. Native of Spain, south of France, Italy, Sicily, and Corsica, in corn-fields. Knor. del. 2. t. L. f. 7. Riv. tetr. irr. t. 28.—J. Bauh. hist. 2. p. 291. with a figure, exclusive of the description. L. vàrius, Savi, fl. pis. 2. p. 178. Flowers blue. Seed variegated.

Narrow-leafletted Lupine. Fl. July, Aug. Clt. 1696. Pl. 2 to 3 feet.

8 L. LINIFÒLIUS (Roth. abhand. 14. t. 5.) flowers alternate; upper lip of calyx bifid; lower one rather trifid; leaflets linear, very narrow, channelled. ⊙. H. Native country unknown. Willd. spec. 3. p. 1025. Flowers blue, smaller than those of the preceding species.

Flax-leaved Lupine. Fl. Jul. Aug. Clt. 1791. Pl. 1 to 2 ft.

9 L. LINEA'RIS (Desrous. in Lam. dict. 3. p. 625.) flowers alternate, on short pedicels, bracteolate; upper lip of calyx bifid, lower one tridentate; leaflets 8-11, linear, very narrow. ⊙. H. Native of Monte Video. Flowers small, blue, but with the outside of the vexillum yellowish. The stems are said to be herbaceous, but perhaps the root is perennial.

Linear-leafletted Lupine. Pl. 1 to 2 feet.

10 L. LU'TEUS (Lin. spec. 1015.) flowers verticillate, sessile, bracteolate; upper lip of calyx bipartite, lower one tridentate; leaflets 7-9, oblong, lower ones obovate. ⊙ H. Native of Spain, south of France, and Sicily. Curt. bot. mag. 140.—Riv. tetr. irr. t. 26.—J. Bauh. hist. 2. p. 290. with a figure. L. odoràtus, Hortul. Flowers yellow, sweet-scented. Bracteas ovate, erect.

Yellow Lupine. Fl. June, Aug. Clt. 1596. Pl. 1 to 1½ ft.

11 L. HUMIFU'SUS (Sesse et Moc. in herb. Lamb.) plant clothed with hairs in every part, except the leaves; leaflets 7-9, linear-lanceolate, pubescent, mucronate; flowers alternate; calyx villous, with the upper lip entire and shorter than the lower one, which is tridentate. ⊙. H. Native of Mexico. Flowers purplish blue.

Trailing Lupine. Pl. ½ foot.

12 L. MICROCA'RPUS (Sims, bot. mag. t. 2413.) flowers verticillate, sessile, bracteolate; upper lip of calyx very short, emarginate, superior one tridentate; bracteas reflexed; leaflets oblong-linear; legumes rhomboid, 2-seeded, hairy. ⊙. H. Native of Chili. Flowers blue, with a purplish apex. Keel ciliated on the inside at the base.

Small-podded Lupine. Fl. May, June. Clt. 1821. Pl. ½ ft.

13 L. PUSÍLLUS (Pursh. fl. amer. sept. 2. p. 468.) flowers alternate, without bracteoles; upper lip of calyx bipartite, lower one entire; leaflets 5-7, linear-elliptic, glabrous above, but hairy beneath, as well as the stems and petioles; legumes very hairy, 2-seeded. ⊙. H. Native of North America, on the plains between the Missouri and the White River. Nutt. gen. amer. 2. p. 93. Flowers small, blue mixed with red.

Small Lupine. Fl. June, Aug. Clt. 1817. Pl. ½ foot.

14 L. BI'COLOR (Lindl. bot. reg. 1109.) stems branched, corymbous, and are as well as the leaves clothed with silky pili; leaflets 5-7, linear spatulate; flowers few, verticillate; calyx clothed with silky wool, inappendiculate, having the upper lip bifid, and the lower one elongated and entire; wings longer than the vexillum; legumes many-seeded. ⊙. H. Native of North America, in the interior of the country, about the Columbia River, from Fort Vancouver to the branches of Lewis and Clarke's river. Flowers with a white vexillum, which becomes reddish purple, and the keel and wings bluish purple.

Two-coloured-flowered Lupine. Clt. 1826. Pl. 1 foot.

15 L. MICRA'NTHUS (Doug. in bot. reg. 1251.) flowers somewhat verticillate, bracteolate, sessile; upper lip of calyx bifid, lower one entire; leaflets 5-7, linear, spatulate, ciliated; legumes 6-seeded, furrowed transversely; stem branched; roots granular. ⊙. H. Native of North America, upon the gravelly banks of the southern tributaries of the Columbia, and of the interior of California, in barren ground. Flowers pale bluish purple, the vexillum white in the centre, with 2 or 4 parallel black dots.

Small-flowered Lupine. Fl. May, Jul. Clt. 1826. Pl. ½ to 1 ft.

* * *Perennial herbs.*

16 L. MEXICA'NUS (Cerv. in Lag. nov. spec. 22. no. 288.) herbaceous; flowers alternate, pedicellate, bracteolate; upper lip of calyx emarginate, lower one obscurely tridentate; leaflets oblong-linear, pilose beneath. ♂.? G. Native of Mexico. Ker. bot. reg. 457. Flowers blue, about the size of those of *L. perénnis*.

Mexican Lupine. Fl. Feb. May. Clt. 1819. Pl. 1 to 2 ft.

17 L. PERE'NNIS (Lin. spec. 1015.) herbaceous; flowers alternate, pedicellate, bracteolate; upper lip of calyx somewhat emarginate, lower one entire; leaflets 8-9, lanceolate, mucronulate, rather villous beneath; root creeping. ♃. H. Native of North America, in sandy places, and on sandy hills from Canada to Florida. This is a very common plant in the State of New York, in Long Island, and about Philadelphia, where we have seen it growing in great plenty on sandy banks and in woods. Mill. fig. t. 170. f. 1. Lam. ill. 616. f. 1. Curt. bot. mag. 202. Flowers of a pale bluish purple colour.

Perennial Lupine. Fl. June, July. Clt. 1658. Pl. 1 to 2 ft.

18 L. NOOTKATE'NSIS (Sims, bot. mag. t. 1311. and 2137.) herbaceous; flowers rather verticillate, pedicellate, without bracteoles; both lips of calyx entire; leaflets 7-8, obovate-lanceolate, hairy as well as the stems. ♃. H. Native of North America, on the western coast at Nootka Sound, and of the Island of Unalaschka. Pursh, fl. amer. sept. 2. p. 462. Flowers elegant, blue, mixed with purple, white, or yellow, and streaked with more intense veins.

Nootka Sound Lupine. Fl. May, Jul. Clt. 1794. Pl. 1 to 1½ ft.

19 L. POLYPHY'LLUS (Dougl. in bot. reg. 1096.) herbaceous; flowers rather verticillate, without bracteoles, pedicellate; leaflets 11-15, lanceolate, hairy beneath; both lips of calyx quite entire; stems pilose. ♃. H. Native of North America, on the north-west coast. Corolla purple; the vexillum of a deep bluish purple, and with the keel paler.

Var. β, *albiflòrus* (Lindl. bot. reg. 1377.) flowers white.

Many-leafletted Lupine. Fl. Ju. Sept. Clt. 1826. Pl. 2 to 4 ft.

20 L. ALBICAU'LIS (Dougl. mss.) herbaceous; flowers alternate, pedicellate, bractless; disposed in long racemes; both lips of calyx entire; leaflets 8-9, obovate-lanceolate, mucronate, hairy beneath; stem pubescent. ♃. H. Native of North America, on the north-west coast. Flowers purplish?

White-stemmed Lupine. Pl. 1 to 1½ foot.

21 L. LAXIFLÒRUS (Dougl. in bot. reg. 1140.) plant herbaceous, pilose; flowers alternate, without bracteoles; upper lip of calyx entire, saccate at the base, lower one longer, ovate, and acu-

minated; keel beardless; vexillum obcordate; leaflets 7-9, linear-lanceolate; stipulas small, subulate. ♃. H. Native of North America, about the great rapids of the Columbia River. Racemes loose. Flowers with the vexillum and tips of the wings blue, but the keel and base of the wings are reddish.

Loose-flowered Lupine. Fl. Aug. Sept. Clt. 1826. Pl. 1 to 1½ foot.

22 L. TENE'LLUS (Dougl. mss.) herbaceous; flowers somewhat verticillate, pedicellate, bractless; both lips of calyx entire, lower one linear, elongated; leaflets usually 7, very narrow-linear, clothed with villi as well as the petioles; stem slender; stipulas subulate. ♃. H. Native of North America, on the western coast. Flowers apparently bluish purple.

Slender Lupine. Pl. 1 to 2 feet.

23 L. LE'PIDUS (Dougl. in bot. reg. 1249.) plant herbaceous; flowers alternate, pedicellate, without bracteoles; calyx villous, the upper lip bipartite, the lower one acuminated and elongated; leaflets 5-7, lanceolate, silky on both surfaces; flower bearing stems erect, furnished with 1 or 2 leaves; petioles long. ♃. H. Native of North America, from Fort Vancouver to the great falls of the Columbia river, on the dry elevated banks of streams. Flowers with the vexillum purplish blue inside, with a white spot at the base, and pale outside. Wings purplish blue. Keel dark purple at the apex. Seeds white.

Pretty Lupine. Fl. Aug. Sept. Clt. 1826. Pl. ½ foot.

24 L ORNA'TUS (Dougl. in bot. reg. 1261.) herbaceous; flowers verticillate, appendiculate; upper lip of calyx bifid, lower one entire and elongated; leaflets 7-12, linear-lanceolate, clothed with silvery silky down on both surfaces; legumes 4-5-seeded. ♃. H. Native of North America, in mountain valleys on the banks of the Spokan river, near the Kettle Falls on the Columbia river. Flowers rather large, with a pale vexillum, blue wings, and a ciliated paler keel.

Ornamented Lupine. Fl. May, Nov. Clt. 1826. Pl. 1 to 2 ft.

25 L. MI'NIMUS (Dougl. mss.) herbaceous, dwarf, hairy; stems 1-2-leaved; leaves on long petioles, mostly radical; leaflets 7-8, obovate-lanceolate, clothed with silky villi; flowers somewhat verticillate, bracteolate, almost sessile; bracteas longer than the calyx; upper lip of calyx bipartite, lower one entire, elongated, acuminated. ♃. H. Native of North America, on the western coast. Flowers apparently purple.

Least Lupine. Pl. ⅓ foot.

26 L. LITTORA'LIS (Dougl. in bot. reg. 1198.) herbaceous; flowers verticillate, pedicellate, without bracteoles; both lips of calyx entire; leaflets 5-7, linear-spatulate, silky on both surfaces; legumes 10-12-seeded, furrowed transversely; root granular. ♃. H. Native of North America, on the west coast from Cape Mendocino to Paget's Sound, where it binds together the loose sand by its roots. Flowers with a purple vexillum, blue wings, and a pale keel. The roots are used by the natives about the Columbia river as winter food.

Shore Lupine. Fl. June, Oct. Clt. 1826. Pl. 1 foot.

27 L. A'RIDUS (Dougl. in bot. reg. 1242.) plant herbaceous, very hairy; flowers verticillate, pedicellate, bracteolate; upper lip of calyx bifid, lower one entire; leaflets 5-9, linear-lanceolate, villous; stipulas subulate. ♃. H. Native of North America, growing along with *L. leucophýllus*, where it forms dense tufts. Flowers purplish blue; the vexillum purple, but the wings are darker.

Arid lupine. Fl. Aug. Sept. Clt. 1827. Pl. 1 foot.

28 L. SULPHU'REUS (Dougl. mss.) herbaceous, and clothed with silky villi; flowers somewhat verticillate, pedicellate, without bracteoles; both lips of calyx entire, lower one elongated; leaflets linear-lanceolate, usually 13, silky; stipulas subulate. ♃. H. Native of North America, on the western coast. Flowers sulphur-coloured.

Sulphur-coloured-flowered Lupine. Pl. 1 to 1½ foot.

29 L. PLUMÒSUS (Dougl. in bot. reg. 1217.) plant herbaceous, very villous; flowers alternate, on short pedicels, bracteolate; upper lip of calyx bifid, lower one entire; leaflets 5-7, lanceolate, silky; legumes glabrous, 3-5-seeded; bracteas longer than the flowers, villous, deciduous. ♃. H. Native of Northern California, growing in gravelly soils; it is also found at the sources of the Walla-Wallah river, near the Blue Mountains, on the north-western coast of America. Flowers blue, with the keel and wings pallid.

Feathery Lupine. Fl. June, July. Clt. 1826. Pl. 2 to 3 ft.

30 L. DECU'MBENS (Torrey, in ann. lyc. 2. p. 181.) plant suffruticose, rather decumbent; flowers pedicellate, somewhat verticillate, bracteolate; calyx clothed with silky hairs, having both lips entire; leaflets oblong-lanceolate, acute, and obtuse, silky beneath. ♃. H. Native of North America, on the southern branches of the Arkansa. Flowers small, purple, about half the size of those of *L. perénnis.*

Decumbent Lupine. Pl. procumbent.

31 L. LEUCOPHY'LLUS (Dougl. in bot. reg. 1124.) plant herbaceous, very villous; flowers alternate. pedicellate, bracteolate; upper lip of calyx bifid, lower one entire; leaflets 7-9, oblong-lanceolate; stipulas subulate, woolly. ♃. H. Native of North America. Flowers disposed in long racemes, and are either white or tinged with light pink.

White-leaved Lupine. Fl. June, Nov. Clt. 1826. Pl. 2 to 3 ft.

32 L. SABINIA'NUS (Dougl. bot. reg. 1435.) herbaceous; flowers somewhat verticillate, without bracteoles; racemes many-flowered; calyx villous, with the upper lip ovate and acute, lower one boat-shaped, revolute; wings roundish, size of vexillum; keel acute; leaflets 7-12, lanceolate, acuminated, silky. ♃. H. Native of North America, at the junction of Lewis and Clarke's river with the Columbia. Flowers yellow.

Sabine's Lupine. Fl. May, June. Clt. 1827. Pl. 2 to 3 ft.

33 L. CHAMISSÒNIS (Eschscholtz, in mem. acad. imp. sc. petersb. vol. 10. p. 281. ex Schlecht. Linnæa. vol. 3. p. 147.) stems herbaceous, clothed with cinereous tomentum; leaves on long petioles; leaflets obovate-lanceolate, bluntish, clothed with grey tomentum, but when young with rusty, silky tomentum; flowers verticillate, 3-4 in a whorl; pedicels quadrangular; stipulas linear, villous; upper lip of calyx trifid, lower one lanceolate, entire. ♃. H. Native of California, in sandy places. Flowers purple. Legumes 3-4-seeded, clothed with rusty villi. Bracteas longer than the pedicels.

Chamisso's Lupine. Pl. 3 feet.

34 L. SERI'CEUS (Pursh, fl. amer. sept. 2. p. 468.) herbaceous; flowers rather verticillate, without bracteoles; upper lip of calyx cut, lower one entire; leaflets 7-8, lanceolate, acute, silky on both surfaces; stems clothed with silky tomentum. ♃. H. Native of North America, on the banks of the Kooskoosky river, and of North California, in the sea sand at Port St. Francisco. Flowers pale purple or rose-coloured, according to Pursh, but Chamisso says they are yellow, and fade to a purplish colour in drying.

Silky Lupine. Fl. May, June. Clt. 1826. Pl. 2 to 3 feet.

35 L. ARGE'NTEUS (Pursh, fl. amer. sept. 2. p. 468.) herbaceous; flowers alternate, without bracteoles; upper lip of calyx obtuse, lower one entire; leaflets 5-7, linear-lanceolate, acute, glabrous above, but clothed with silky-silvery down beneath. ♃. H. Native of North America, on the banks of the Kooskoosky river. Flowers cream-coloured.

Silvery Lupine. Fl. May, June. Clt. 1826. Pl. 1 to 2 ft.

36 L. ARGYRÆ'US (D. C. prod. 2. p. 408.) herbaceous; flowers verticillate, pedicellate, bracteolate; upper lip of calyx nearly entire, lower one somewhat tridentate; leaflets oblong, clothed with silky hairs on both surfaces; legumes very hairy, 2-3-seeded. ♃.? G. Native country unknown, but cultivated in

gardens in Teneriffe, where it was gathered by Courant. Flowers blue. It is not known whether this plant is an annual or a perennial.

Silvered Lupine. Pl. 2 to 3 feet?

37 L. E'LEGANS (H. B. et Kunth, nov. gen. amer. 6. p. 477.) plant herbaceous, erect, covered with soft pili; racemes elongated, pedunculate; flowers somewhat verticillate; calyx clothed with silky pili, having the lower lip acute and entire; leaflets lanceolate, acute, clothed with adpressed pili beneath; stipulas setaceous. ♃. ? G. Native of Mexico, between Real del Moran and Totolnico-el-Grande. Flowers violaceous? Legume hairy, 3-6-seeded.

Elegant Lupine. Pl. 1 to 2 feet.

38 L. MONTA'NUS (H. B. et Kunth, nov. gen. amer. l. c.) herbaceous; racemes elongated, pedunculate; flowers somewhat verticillate; calyx clothed with soft pili, having the upper lip acuminated and entire; leaflets 12-13, linear-lanceolate, acute, clothed with adpressed pili beneath. ♃. G. Native of New Spain, at Nevado de Tolucco. Flowers violaceous? Legume hairy, usually 8-seeded.

Mountain Lupine. Pl. ½ foot?

39 L. NUBI'GENUS (Kunth, mim. p. 174. t. 50.) plant herbaceous, dwarf; flowers without bracteoles, on very short pedicels, disposed in very dense spikes; upper lip of calyx bipartite, lower one entire; bracteas longer than the corolla; leaflets oblong, acute, hairy on both surfaces. ♃. G. Native of the Andes, about Quito, at Mount Antisana. Flowers blue.

Cloud-born Lupine. Pl. ¼ foot.

40 L. ALOPECUROÌDES (Desrous. in Lam. dict. 3. p. 626.) plant herbaceous, caulescent, clothed with rusty woolly down; racemes sessile; flowers disposed in very dense spikes, bracteolate; upper lip of calyx bipartite, lower one entire; bracteas longer than the corolla; leaflets oval-lanceolate. ♃. G. Native of the Andes, about Quito. Flowers violaceous.

Fox-tail-like-spiked Lupine. Pl. 2 to 3 feet.

41 L. VAGINA'TUS (Schlecht et Cham. in Linnæa. 5. p. 590.) herbaceous, and clothed with silky villi; stipulas large, adnate to the petioles almost their whole length, 5-nerved, pubescent, drawn out on each side into a tooth, sheathing the axillary branches; the free part of the petiole shorter than the sheath; leaflets 11-13, lanceolate-linear, clothed with silky pili beneath, but glabrous above; stem obtuse-angled, pubescent, fistular; flowers somewhat verticillate; upper lip of calyx deeply bipartite, lower one longer, acuminated, and entire. ♃. F. Native of Mexico, on mount Orizaba. Bracteas oblong, long-acuminated, membranous, deciduous. Corolla blue. Legume in a young state very hairy, 5-6-seeded.

Sheathing-stipuled Lupine. Pl. 1 foot?

42 L. ARBU'STUS (Dougl. in bot. reg. 1230.) suffrutescent; flowers alternate, pedicellate, bracteolate; upper lip of calyx bifid, lower one entire, acute; leaflets 7-13, obovate-oblong, silky on both surfaces; legumes 3-4-seeded; seeds small, white. ♃. F. Native of North California; it is also common near Fort Vancouver. Flowers with a blue vexillum, purple in the centre; wings and carina rose-coloured.

Shrub Lupine. Fl. May, June. Clt. 1826. Shrub 1 to 2 ft.

* * * *Shrubby species.*

43 L. ARBÒREUS (Sims, bot. mag. 628.) shrubby; flowers somewhat verticillate, pedicellate, without bracteoles; both lips of calyx entire; keel ciliated on the inside; leaflets lanceolate-linear, acute, pubescent beneath. ♄. F. Native country unknown. Flowers yellowish.

Tree Lupine. Fl. July, Aug. Clt. 1793. Shrub 6 feet.

44 L. MULTIFLÒRUS (Desrous. in Lam. dict. 3. p. 624.) shrubby; flowers alternate, almost sessile, bracteolate; upper lip of calyx bifid, lower one tridentate; leaflets lanceolate, covered with silky villi. ♄. F. Native of Monte Video. Flowers azure blue, but the vexillum and carina are yellowish on the outside. Spikes very long.

Many-flowered Lupine. Fl. Jul. Sept. Clt. 1810. Sh. 5 to 6 ft.

45 L. MUTA'BILIS (Sweet, fl. gard. 2. t. 130.) shrubby, erect, branched; branches spreading, glaucous, glabrous; leaflets 7-9, glaucescent and rather pubescent beneath, lanceolate, bluntish; flowers somewhat verticillate; calyx without bracteoles, upper lip bifid, lower one keeled, acute, entire. ♄. F. Native of South America. Flowers large, the vexillum white mixed with blue, changing to blue, with a large yellow mark in the centre; wings white, faintly striated; keel white. L. Cruikshánksii, Hook. bot. mag. t. 3056., a native of Peru, is nothing but a slight variety of *L. mutábilis*, differing a little in the colour of the flowers.

Changeable-flowered Lupine. Fl. June, Aug. Clt. 1819. Shrub 3 to 6 feet.

46 L. CANALICULA'TUS (Sweet, fl. gard. 3. p. 283.) shrubby, clothed in every part with silky tomentum; flowers alternate, pedicellate, bracteolate; calyx appendiculate, with the upper lip bifid, and lower one entire and acuminated; leaflets 8-9, linear, canaliculate, obtuse, clothed with silky pubescence beneath; ovary very hairy. ♄. F. Native of Buenos Ayres. Flowers bright blue.

Channelled-leafletted Lupine. Fl. June, Aug. Clt. 1828. Sh. 3 to 6 feet.

47 L. VERSÍCOLOR (Sweet, fl. gard. 2d series, t. 12.) shrubby, erect, branched; branches and leaves pubescent; leaflets 7-9, lanceolate-spatulate, bluntish, and somewhat mucronate, smoothish above, and pubescent beneath; stipulas linear-subulate; racemes elongated, on short peduncles; flowers somewhat verticillate; bracteas caducous, spreading, silky, ciliated, longer than the calyx, which is also silky; upper lip of calyx bifid, lower one entire. ♄. F. Native of Mexico. Flowers small, with the vexillum of a purplish lilac colour above about half-way down, then becoming blue on each side; wings of a fine dark blue, tinged with purple; keel ash-coloured, dark purple towards the point.

Party-coloured-flowered Lupine. Fl. July, Sept. Clt. 1825. Shrub 2 to 4 feet.

48 L. PULCHE'LLUS (Sweet, fl. gard. 2d ser. t. 67.) shrubby, erect, branched; branches erect, clothed with silky pubescence; leaflets 5-7, oblong-lanceolate, acute, mucronate, tapering to the base, pubescent beneath, and with adpressed pili; stipulas setaceous; racemes middle-sized, pedunculate; flowers verticillate; bracteas caducous and setaceous, longer than the pedicels; both lips of calyx entire. ♄. F. Native of Mexico. Flowers disposed in a longish raceme, the vexillum with various shades of purple and blue mixed; wings pale blue, slightly edged with purple. Keel white, tipped with bluish purple.

Neat Lupine. Fl. June, Oct. Clt. 1827. Shrub 3 to 4 feet.

49 L. CAMPE'STRIS (Schlecht et Cham. in Linnæa. 5. p. 589.) shrubby, densely clothed with canescent pubescence; branches angular; leaflets 7, oblong-lanceolate, bluntish, mucronate, green above; stipulas subulate, short; racemes panicled; flowers somewhat verticillate; calyx bibracteolate, with both lips entire, the lowest one longest; legumes hairy. ♄. F. Native of Mexico, between Perote and Plachichuca. Bracteas linear, acuminated, caducous. Flowers violaceous, about the size of those of *L. angustifòlius*.

Field Lupine. Shrub 2 to 4 feet.

50 L. LEPTOPHY'LLUS (Schlecht. et Cham. in Linnæa. 5. p. 589.) shrubby; branches angular, clothed with adpressed pubescence; leaflets 9, linear, acute, with a few silky hairs on both surfaces; stipulas foliaceous, linear; flowers disposed in loose pedunculate racemes, somewhat verticillate; calyx pubes-

cent, with both lips entire, and about equal in length, the upper one broadest; legumes hairy in a young state. ♄. F. Native of Mexico, between Tlachichuca and Tepetitla. Flowers violaceous, about the size of those of *L. lùteus.*

Slender-leaved Lupine. Shrub 1 to 3 feet.

51 L. RUPE'STRIS (H. B. et Kunth, nov. gen. amer. 6. p. 474.) plant shrubby, branched, procumbent or ascendent; flowers somewhat verticillate; calyx clothed with silky pili, with the upper lip bifid, and the lower one tridentate: leaflets lanceolate, acute, clothed with silky pili beneath. ♄. F. Native of South America, on the burning mount Rucu-Pichincha near Quito. Corolla violaceous. Racemes of flowers pedunculate. Legumes clothed with adpressed pili.

Rock Lupine. Shrub proc.

52 L. MICROPHY'LLUS (Desrous. in Lam. dict. 3. p. 624.) shrubby, procumbent, much branched; flowers without bracteoles, disposed in a kind of spicate head; upper lip of calyx bipartite, lower one entire; leaflets 6-9, linear, clothed with silky villi beneath. ♄. F. Native of Peru, on mount Antisana. H. B. et Kunth, nov. gen. amer. 6. p. 473. Flowers blue. Legume oval, acuminated, 6-8 lines long.

Small-leaved Lupine. Shrub proc.

53 L. SMITHIA'NUS (Kunth, mim. p. 177. t. 51.) plant suffruticose, branched, clothed with silky hairs; flowers somewhat verticillate, on very short pedicels, bracteolate; upper lip of calyx bifid, lower one entire; leaflets lanceolate-linear, obtuse, rather villous. ♄. F. Native of South America, on the burning mount Rucu-Pichincha, and in frigid places near Popayan. Stem much branched. Leaflets 3 lines long. Legume oblong, 3-4-seeded, nearly an inch long, clothed with silky hairs. Flowers blue.

Smith's Lupine. Shrub 2 to 3 feet.

54 L. PANICULA'TUS (Desrous. in Lam. dict. 3. p. 625.) plant suffruticose? erect; flowers somewhat alternate, pedicellate, bracteolate; calyx clothed with silky hairs, having the upper lip bifid, and the lower one entire; leaflets 6-7, lanceolate, glabrous above, but rather villous beneath. ♄. F. Native of Peru, and near Santa-Fe-de-Bogota. H. B. et Kunth, nov. gen. amer. 6. p. 476. Flowers blue according to Desrousseux, but according to Kunth they are violaceous, and disposed in loose spikes. Stipulas subulate. Racemes pedunculate.

Panicled-flowered Lupine. Shrub erect.

55 L. SARMENTÒSUS (Desrous. in Lam. dict. 3. p. 626.) plant shrubby, climbing; flowers verticillate, on short pedicels, without bracteoles; upper lip of calyx bifid, lower one entire; leaflets lanceolate, glabrous above, but rather villous beneath. ♄. ◡. F. Native of Peru, on mount Antisana. L. grácilis, Kunth, mim. 182. t. 52. ex H. B. et Kunth, nov. gen. amer. 6. p. 472. Flowers blue. Spikes short, oval, on long peduncles. Legume 8-10 lines long.

Sarmentose Lupine. Shrub 3 feet.

56 L. BIMACULA'TUS (Lam. dict. 3. p. 626.) plant shrubby, sarmentose, and hoary; flowers somewhat verticillate, tern, pedicellate, bracteolate; vexillum bicallous at the base. ♄. F. Native of Peru. Flowers a little smaller than those of *L. vàrius,* bluish violet; the vexillum with 2 yellow marks at the base.

Two-spotted-flowered Lupine. Shrub sarmentose.

57 L. TOMENTÒSUS (D. C. prod. 2. p. 409.) shrub clothed in every part with silky tomentum; flowers verticillate, pedicellate, bracteolate; both lips of calyx entire; leaflets 8-10, oblong, bluntish, mucronulate, tapering to the base; ovary very hairy. ♄. F. Native of Peru. Sweet, fl. gard. 3. t. 261. Flowers large, with the vexillum channelled above, and spotted on each side of the channel with several small blue specks, and a large blue spot on each side near the base; wings about equal in length to the vexillum, striped more or less with blue branched lines; keel with a dark purple point, fringed longitudinally with long white hairs. The vexillum at length changes to a purple, and the wings to pale red, striped with blue at the base.

Tomentose Lupine. Fl. June, Aug. Clt. 1825. Sh. 4 to 5 ft.

58 L.? AFRICA'NUS (Lour. coch. 429.) stem shrubby, diffuse; peduncles many-flowered, terminal; leaflets 3, lanceolate. ♄. S. Native of the Eastern coast of Africa. Flowers yellow.

African Lupine. Shrub 3 feet.

§ 2. *Leaves simple, entire.*

59 L. VILLÒSUS (Willd. spec. 3. p. 1029.) plant herbaceous, decumbent, clothed with wool-like villi; leaves simple, oblong-lanceolate; stipulas filiform; flowers somewhat verticillate or alternate, on short pedicels, bracteolate, upper lip of calyx bidentate, lower one entire; legumes very hairy. ♂. H. Native of South Carolina, Florida, and Georgia, in sandy pine woods. Pursh, fl. amer. sept. 2. t. 21. Nutt. gen. amer. 2. p. 93. L. pilòsus, Walt. car. 180. L. integrifòlius, Desrous. in Lam. dict. 3. p. 627. but not of Lin. Flowers reddish.

Villous Lupine. Fl. July, Aug. Clt. 1787. Pl. proc.

60 L. DIFFU'SUS (Nutt. gen. amer. 2. p. 93.) plant herbaceous, diffusely procumbent, densely clothed with silky villi; leaves simple, oblong-obovate, lower ones alternate; stipulas and petioles short and naked. ♃. F. Native about Wilmington, and elsewhere in both Carolinas, in oak woods.

Diffuse Lupine. Pl. proc.

61 L. INTEGRIFÒLIUS (Lin. amœn. 6. afr. p. 43.) plant herbaceous, villous; leaves simple, oblong, petiolate, acute; flowers alternately pedicellate, bracteolate; upper lip of calyx bifid; lower one entire. ⊙. G. Native of the Cape of Good Hope. Flowers blue.

Entire-leaved Lupine. Pl. 1 foot?

62 L. COCHINCHINE'NSIS (Lour. coch. 429.) plant herbaceous, erect; leaves simple, emarginate, glabrous; flowers bracteolate, disposed in a spike; upper lip of calyx bifid, lower one tridentate; legume glabrous, many-seeded. ⊙. H. Native of Cochinchina and Bengal. Flowers yellow.

Cochin-china Lupine. Pl. 1 to 2 feet.

Cult. Every species of *Lupine* are worth cultivating for the purpose of decorating flower-borders, as they are very ornamental when in flower; they thrive best in light soil, and are most easily increased by seeds. The shrubby kinds require to be protected in severe weather in winter by a glass covering, or by matting. If they are grown against a wall, they can be easily sheltered in winter. Cuttings of them root readily.

CCV. CYLI'STA (from κυλιξ, *kylix,* a calyx; in reference to the calyx being very large). Ait. hort. kew. 3. p. 512. D. C. prod. 2. p. 410.

LIN. SYST. *Diadélphia, Decándria.* Calyx larger than the corolla, 4-cleft; upper segment emarginate or bifid, lower one the largest, and sometimes very large. Corolla papilionaceous, permanent. Keel 2-edged. Stamens diadelphous. Legume usually 2-seeded. Seeds in *C. pychnostàchya* ovate-globose, shining, with a small oval hylum. Embryo with thick cotyledons, and a small incurved radicle. — Twining shrubs, with pinnately-trifoliate leaves, rhomboid or ovate, acute, stipellate leaflets, and axillary simple racemes of yellow flowers. Bracteas large, caducous.

1 C. SCARIÒSA (Ait. l. c. Roxb. cor. 1. t. 92.) calyx very large, scarious, with the upper segment emarginate, lower one very large; legumes 1-celled, 1-2-seeded; bracteas lanceolate, acuminated. ♄. ⌒. S. Native of the East Indies, among the Circars. Flowers pale yellow, mixed with red. Style inflexed at the base, slender, but at length becoming thick and dilated.

Scarious-calyxed Cylista. Pl. tw.

2 C. TOMENTÒSA (Roxb. cor. t. 221.) calyx villous; the seg-

ments cuneated, upper one bifid, lower and lateral ones equal; legume divided transversely into 2 1-seeded cells, somewhat constricted in the middle; bracteas broad, ovate, mucronulately acuminated. ♃. ⌒. S. Native of Mysore. Flowers yellow. Seeds spherical, bluish violet, polished, lower one usually abortive.

Tomentose Cylista. Clt. 1820. Pl. tw.

3 C.? ALBIFLÒRA (Sims, bot. mag. 1859.) calyx half-5-cleft, with nearly equal segments, shorter than the corolla; bracteas ovate, acuminated. ♄. ⌒. S. Native of the Mauritius. The plant is clothed in every part with ferruginous pubescence. Perhaps a species of *Rynchòsia*. Flowers white.

White-flowered Cylista. Fl. April, May. Shrub tw.

4 C. VILLÒSA (Ait. hort. kew. ed. 2. vol. 4. p. 300.) calyx membranous; upper segment bifid. ♄. ⌒. G. Native of the Cape of Good Hope. Dólichos hírtus, Andr. bot. rep. t. 416. Flowers yellow.

Villous Cylista. Fl. April, May. Clt. 1776. Shrub tw.

5 C. PYCHNOSTA'CHYA (D. C. prod. 2. p. 410.) calyx with one of the lips bipartite, and with the other bluntly tridentate. ♄. ⌒. S. Native of Sierra Leone. Leaves unknown. Pedicels twin, densely racemose. Calyx and legume permanent, clothed with velvety down. Petals and stamens permanent. Corolla probably resupinate. The tridentate lip is usually under the vexillum. Perhaps a proper genus.

Slender-spiked Cylista. Shrub tw.

Cult. See *Eriosèma*, for culture and propagation, p. 348.

CCVI. ERYTHRI'NA (from ερυθρος, *erythros*, red; in reference to the colour of the flowers). Lin. gen. 855. Lam. ill. t. 608. D. C. prod. 2. p. 410.—Corallodéndron, Tourn. inst. t. 446.—Mouricòu, Adans.

LIN. SYST. *Diadélphia, Decándria.* Calyx tubular (f. 50. *a.*), with a truncate, somewhat dentate border (f. 50. *a.*), or spathaceous. Corolla with a very long oblong vexillum (f. 50. *b.*); wings as well as the dipetalous keel much shorter than the vexillum. Stamens diadelphous (f. 50. *c.*), straight, the tenth one adhering more or less to the rest, but sometimes free, much shorter than the wings, rarely deficient. Legume long (f. 50. *d.*), torulose, many-seeded, 2-valved. Seeds ovate, having a lateral hylum.—Trees or shrubs, rarely herbs, with small stipulas, which are distinct from the petiole, pinnately-trifoliate leaves, having the leaflets furnished with glands at the base instead of stipels. Stems and petioles usually furnished with prickles. Racemes of flowers elongated, with the pedicels usually approximating by threes. Flowers red, scarlet, or crimson. Seeds shining, usually black and red mixed, or pure black or red.

§ 1. *Acaùles* (from *a*, without, and *caulis*, a stem; in reference to the species contained in this division having nothing but annual stems, rising from a subterraneous trunk). *Both the floriferous and leaf bearing branches dying down yearly, and rising again from an underground stump or trunk.*

1 E. HERBA'CEA (Lin. spec. 992.) branches herbaceous, annual, and are, as well as the leaves, unarmed and glabrous; leaflets rhomboid; racemes elongated; flowers distant, tern; calyx truncate; vexillum lanceolate. ♃. F. Native of Carolina, Florida, and about the Mississippi, in sandy fields and woods. Trew. ehr. t. 58. Sims, bot. mag. 877. Lodd. bot. cab. 851. Floriferous branches sometimes furnished with one or two leaves. Corolla deep scarlet. The tenth or loose stamen free and short.

Herbaceous Coral-tree. Fl. June, Sept. Clt. 1724. Pl. 2 to 3 feet.

2 E. HEDERÆFÒLIA (Spreng. syst. 3. p. 244.) leaflets somewhat 3-lobed, acuminated; pedicels rising in the racemes by threes; calyx 5-toothed; stem prickly; root tuberous. ♃. F. Native of Louisiana. Xyphânthus hederæfòlius, Rafin. Flowers scarlet.

Ivy-leaved Coral-tree. Pl. 1 to 2 feet.

3 E. RESUPINA'TA (Roxb. cor. 3. t. 220.) branches herbaceous, annual, and are, as well as the petioles, rather prickly; leaflets roundish; racemes crowded with flowers, short; calyx bilabiate; vexillum oval-oblong. ♃. S. Native of the East Indies. Vexillum of a lurid scarlet colour. Racemes 2 or 3 inches long, rising before the leaves.

Resupinate-flowered Coral-tree. Clt. 1823. Pl. 1 foot.

§ 2. *Species the stems of which are only herbaceous in the gardens, or when not protected in winter by a stove, but in their native countries become small trees.*

4 E. HO'RRIDA (Moc. et Sesse, fl. mex. icon. ined. D. C. prod. 2. p. 413.) stems almost herbaceous, angular, and are, as well as the petioles and ribs of leaves, very prickly; leaflets ovate, cordate, acute; calyx 5-toothed; legume stipitate, pendulous, prickly. ♃. F. Native of Mexico, on mount Ayahual-tempos. Flowers unknown, but probably crimson.

Horrid Coral-tree. Clt. 1824. Pl. 2 to 3 feet.

5 E. LO'NGIPES (Moc. et Sesse, fl. mex. icon. ined. D. C. prod. 2. p. 413.) stems nearly herbaceous, prickly; petioles unarmed; leaflets ovate; racemes lateral, on long peduncles; calyx obliquely truncate, somewhat bilabiate; vexillum oblong; stamens 9 connected, the tenth free. ♃. F. Native of Mexico. Flowers of a coppery scarlet colour. Root fibrous.

Long-peduncled Coral-tree. Pl. 2 to 3 feet.

6 E. LEPTORHI'ZA (Moc. et Sesse, fl. mex. icon. ined. D. C. prod. 2. p. 413.) stems herbaceous, and are, as well as the petioles, unarmed; leaflets ovate, rather cordate; calyx spathaceous; vexillum oblong, bidentate at the apex; legume rather villous. ♃. F. Native of Mexico. Racemes terminal. Flowers of a pale scarlet colour. Stamens 9 connected, and one free. Legume stipitate, cuspidate at the apex.

Slender-rooted Coral-tree. Pl. 2 to 3 feet.

7 E. CRI'STA-GA'LLI (Lin. mant. 99.) stems woody; petioles prickly, glandular; leaflets oval or ovate, glaucescent, coriaceous, bluntish; calyx truncate, somewhat bidentate; stamens 9 connected, but with the tenth free; keel 3 times the length of the calyx. ♄. F. Native of Brazil. Smith, exot. bot. 2. p. 95. Sweet, fl. gard. 214. A stout shrub. Flowers of a bright deep scarlet colour.

Cock's-comb Coral-tree. Fl. May, July. Clt. 1771. Shrub 6 to 8 feet, or tree 20 feet.

8 E. LAURIFÒLIA (Jacq. obs. 3. p. 1. t. 51.) stems suffruticose, branched; branches glabrous, rather prickly; leaflets petiolate, oblong, acuminated; petioles rather prickly, glandular; calyx truncate, unidentate; keel monopetalous; stamens monadelphous. ♄. F. Native of South America. Sweet, fl. gard. 2. t. 142. E. crísta-gálli, Ker. bot. reg. 313. exclusive of the synonymes. Flowers of a rich dull crimson.

Laurel-leaved Coral-tree. Fl. July, Sept. Clt. 1800. Pl. 6 feet, or tree 20 feet.

§ 3. *Arboreous or shrubby species, with the branches bearing the racemes as well as the leaves.*

9 E. CA'RNEA (Ait. hort. kew. 3. p. 8.) stem shrubby, prickly; petioles unarmed; leaflets rhomboid-ovate, acute, glabrous; vexillum linear, elongated; calyx campanulate, truncate. ♄. S. Native of South America, in Vera Cruz and St. Martha. Lindl. bot. reg. 1327. Trew. ehr. 2. t. 3. E. Americàna, Mill. dict. no. 2. Flowers pale red, not large, about 2 inches long.

Var. β; leaves puberulous beneath. Ker. bot. reg. 389.

Flesh-coloured-flowered Coral-tree. Fl. May, July. Clt. 1733. Shrub 4 to 10 feet.

10 E. CORALLODE'NDRON (Lin. spec. 992. exclusive of var. *α*.) stem arboreous, prickly; petioles unarmed; leaflets broad, rhomboid-ovate, acute, glabrous; calyx truncate, 5-toothed; vexillum oblong; the tenth stamen free, and about equal in length to the rest. ♄. S. Native of the West Indies. Comm. hort. amst. 1. t. 108. E. spinòsa, Mill. dict. no. 1. Flowers deep scarlet, about 2 inches long. The flowers do not appear until the leaves have fallen.

Common *Coral-tree.* Fl. May, June. Clt. 1690. Shrub 6 to 12 feet.

11 E. ENNEA'NDRA (D. C. cat. hort. monsp. 109.) stem arboreous, and is, as well as the petioles, prickly; leaflets rhomboid, pubescent beneath; calyx truncate; vexillum linear-oblong; stamens 9 joined together, the tenth absent. ♄. S. Native of South America. E. velutina, Jacq. hort. schœnbr. 4. t. 466. Flowers of a deep scarlet colour. The leaves push forth when the flowers begin to decay, and fall before they rise. In Jacquin's *E. velutina* the calyx is somewhat bluntly toothed, while in this plant it is truncate.

Enneandrous Coral-tree. Fl. May, July. Clt. 1800. Shrub 6 to 12 feet.

12 E. MACROPHY'LLA (D. C. prod. 2. p. 411.) stem shrubby; petioles rather prickly; leaflets broadly ovate, acuminated, glabrous above, pubescent beneath; calyx tubular, bluntly somewhat bilabiate at the apex; vexillum linear-oblong, straight; wings and keel shorter than the calyx; stamens 10, monadelphous. ♄. G. Native country unknown, but is cultivated in the gardens of Teneriffe. Leaflets 9-12 inches long, and 7-9 inches broad. Racemes clothed with velvety villi. Flowers scarlet. This species comes very near *E. corallodéndron*, but differs from it in the tenth stamen being connected to the rest; it is also nearly allied to *E. móllis.*

Long-leafletted Coral-tree. Clt. 1822. Tree 10 to 12 feet.

13 E. MI'TIS (Jacq. hort. schœnbr. t. 216.) stem arboreous, and is, as well as the petioles, unarmed; leaflets rhomboid-ovate, acute, glabrous; calyx tubular, bilabiate at the apex; vexillum elongated, linear-lanceolate; stamens 9 connected, the tenth one almost free, and about equal in length to the others. ♄. S. Native of Caraccas. E. inérmis, Mill. dict. no. 6. ? Flowers either pale or dark scarlet. The leaves rising when the flowers begin to fade.

Mild Coral-tree. Clt. 1790. Tree 10 to 12 feet.

14 E. SUBERÒSA (Roxb. hort. beng. p. 53.) stem prickly; petioles unarmed; leaflets roundish-rhomboid, tomentose beneath; calyx spathaceous, bilabiate; stamens diadelphous, length of the vexillum. ♄. S. Native of the East Indies. Flowers scarlet.

Corky Coral-tree. Tree.

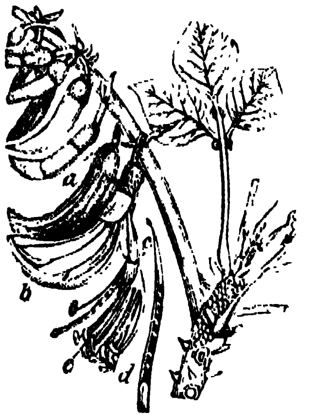
15 E. POIA'NTHUS (Brot. in Lin. trans. 14. p. 342. t. 11.) stem arboreous, prickly; petioles also prickly; lateral leaflets ovate, middle one rhomboid-ovate, all pubescent beneath; calyx obliquely truncate, with the upper side cleft or entire; stamens diadelphous, hardly shorter than the vexillum. ♄. S. Native of South America. Lindl. bot. reg. 1246. Flowers scarlet.

Grass-flowered Coral-tree. Fl. June, Sept. Clt. 1823. Tree 10 to 15 feet.

16 E. SECUNDIFLÒRA (Brot. in Lin. trans. 14. p. 340. t. 12.) stem arboreous, prickly; petioles unarmed; leaflets ovate, somewhat acuminated, glabrous on both surfaces; calyx unopen, obsoletely denticulated, toothless, truncate, and variously cut behind; stamens diadelphous, length of the vexillum; keel equal in length to the wings, but longer than the calyx, and almost 3 times shorter than the vexillum. ♄. S. Native of Brazil. Flowers deep scarlet, secund (f. 50.)

Secund-flowered Coral-tree. Clt. 1820. Tree 10 to 14 feet.

FIG. 50.



17 E. SPECIÒSA (Andr. bot. rep. t. 443.) stems shrubby, prickly; petioles and ribs of leaves prickly; leaflets broad, slightly 3-lobed, acuminated, glabrous; calyx tubular, somewhat bidentate; vexillum linear-lanceolate, elongated. ♄. S. Native of the West Indies. Ker. bot. reg. 750. A. and B. where the petioles are said to be unarmed in the description, but the plant is figured with them. Flowers deep crimson. Stamens undescribed. Racemes and calyxes velvety.

Showy Coral-tree. Fl. Aug. Oct. Clt. 1805. Shrub 6 to 10 feet.

18 E. GUINEE'NSIS; stem much branched, prickly; petioles and ribs of leaves prickly; leaflets oval-lanceolate, entire; calyx spathaceous; legume torulose. ♄. S. Native of Sierra Leone, in the low lands. An elegant species, with long spike-formed racemes of scarlet flowers. The leaves pushing forth when the flowers begin to fade, or as the wet season advances (v. s. herb. Lamb.)

Guinea Coral-tree. Fl. Feb. March. Shrub 6 to 8 feet.

19 E. RUBRINE'RVIA (H. B. et Kunth, nov. gen. amer. 6. p. 454.) stem arboreous, prickly; leaflets roundish-ovate, acuminated, rather cuneated and rounded at the base, 3-nerved, glaucous beneath; calyx tubular, spathaceous, glabrous; vexillum linear, straight; stamens nearly monadelphous. ♄. S. Native of South America, on the western declivities of mountains about Santa-Fe-de-Bogota, where it is called *Chocho.* Flowers flesh-coloured.

Red-nerved-leaved Coral-tree. Clt. 1823. Tree 10 to 20 ft.

20 E. UMBRÒSA (H. B. et Kunth, l. c.) stem arboreous, prickly; leaflets somewhat acuminated, 3-nerved, glabrous, rounded and truncate at the base, the middle one rather deltoid; calyx campanulate, spathaceous; vexillum linear-cuneated, straight, very long; stamens diadelphous. ♄. S. Native of South America, between La Guayra and Caraccas, where it is called *Bucare*, and where it is planted in rows to shade the plantations of *Theobròma Cacào* or chocolate-nut. It is also used in Trinidad for the same purpose. Flowers scarlet.

Shady Coral-tree. Clt. 1817. Tree 40 to 60 feet.

21 E. CA'FFRA (Thunb. prod. 121. fl. cap. 559.) stem arboreous, and is, as well as the petioles and primary ribs of leaves, prickly; leaflets broad-ovate, glabrous, bluntly acuminated; calyx 5-toothed; vexillum oval-oblong, obtuse; stamens 9 connected together, the tenth free. ♄. S. Native of Caffre Land. Ker. bot. reg. 736. A. and B. Sims, bot. mag. 2431. Flowers of a dirty scarlet-colour.

Caffrarian Coral-tree. Fl. June, July. Clt. 1816. Shrub 6 feet.

22 E. HUMEA'NA (Spreng. syst. 3. p. 243.) stem arboreous, prickly; leaflets acute, smooth; petioles prickly, and nerves of leaves beneath; racemes aggregate, straight, terminal; calyx truncate, toothed; stamens diadelphous, shorter than the vexillum. ♄. S. Native country unknown. E. Cáffra, Brot. vag. Flowers scarlet.

Hume's Coral tree. Tree.

23 E. ARBORE'SCENS (Roxb. cor. 3. t. 219.) stem arborescent, prickly; petioles unarmed; leaflets broadly ovate, acutish, pubescent beneath; calyx campanulate, entire; vexillum oval, concave; stamens 10, monadelphous at the base. ♄. S. Native of Nipaul. Flowers of a carmine colour, about an inch and a

half long. Legumes pendulous, pedicellate, villous, cuspidate at the apex.

Arborescent Coral-tree. Clt. 1818. Tree 12 to 15 feet.

24 E. I'ndica (Lam. dict. 2. p. 391. var. α.) stem arboreous, prickly; petioles unarmed; leaflets broad-ovate, acute, glabrous; calyx spathaceous; vexillum spreading, ovate, concave; stamens monadelphous at the base. ♄ . S. Native of the East Indies. E. corallodéndron β, Lin. spec. 992. E. orientàlis, Murr. comm. gœtt. 8. p. 35. t. 1.—Rheed. mal. 6. t. 7.—Rumph. amb. 2. t. 76. Flowers of a splendid scarlet-colour. In Rheede's figure the calyx is acute and much elongated, but in the figure of Rumphius it is short and obtuse; they are therefore probably distinct species.

Indian Coral-tree. Clt. 1814. Tree 20 to 30 feet.

25 E. Loure'iri; stem arboreous, prickly; petioles unarmed; leaflets rather cordate, deltoid, acute, glaucous; calyx spathaceous; vexillum very long, acute; stamens monadelphous at the base, equal in length to the vexillum. ♄ . G. Native of China and Cochin-china. E. corallodéndron, Lour. coch. 427. Flowers scarlet. A decoction of the bark is used against intermittent fevers, and the leaves are used to cleanse ulcers.

Loureiro's Coral-tree. Tree 20 to 30 feet.

26 E. pícta (Lin. spec. 993.) stem arboreous, prickly; petioles and ribs of leaves rather prickly; leaflets broadly ovate, painted with white in the centre; calyx spathaceous; vexillum oval, concave; stamens monadelphous at the base. ♄ . S. Native of the Moluccas. E. I'ndica β, Lam. l. c.—Rumph. amb. 2. t. 77. Flowers of a carmine colour. Seeds dark purple.

Painted-leaved Coral-tree. Clt. 1696. Shrub 6 to 10 feet.

27 E. spatha'cea (D. C. prod. 2. p. 412.) stem arboreous, and is as well as the petioles unarmed; leaflets broad-ovate, acute, glabrous; calyx velvety, spathaceous, acutely 5-toothed at the apex. ♄ . S. Native of St. Domingo. Wings and keel scarlet; vexillum not seen.

Spathaceous-calyxed Coral-tree. Clt. 1824. Sh. 6 to 10 ft.

28 E. veluti'na (Willd. nov. act. scrut. berol. 3. p. 426. spec. 3. p. 914.) stem arboreous, prickly; leaflets rounded at both ends, 3-nerved, rather pilose above, but clothed with soft canescent tomentum beneath, unarmed, terminal one transversely elliptic; calyx spathaceous, slightly 5-toothed, tomentose; vexillum elliptic, reflexed. ♄ . S. Native of South America, near Caraccas. H. B. et Kunth, nov. gen. amer. 6. p. 435. Flowers with a reddish yellow vexillum, and with the wings and keel greenish yellow.

Velvety Coral-tree. Clt. 1810. Tree 60 feet.

29 E. fu'sca (Lour. coch. 427.) stem shrubby, prickly; petioles unarmed; leaflets lanceolate, glabrous; calyx bilabiate; vexillum elongated, convolute; stamens monadelphous at the base. ♄ . G. Native of Cochin-china, on the banks of rivers. Gelàla aquática, Rumph. amb. 2. t. 78. ex Lour. but neither the figure nor description agrees with the present plant. Flowers of a brownish-red colour.

Brownish-flowered Coral-tree. Shrub 8 feet.

30 E. nervòsa (D. C. prod. 2. p. 413.) stem arboreous, and is as well as the petioles unarmed; leaflets oval, acuminated, glabrous above, feather-nerved beneath and clothed with velvety down as well as the petioles; racemes axillary, short; calyx ample, irregularly 5-toothed. ♄ . S. Native of Brazil. Flowers 2 inches long. Leaflets 4-6 inches long, with the nerves elevated beneath. Legumes unknown.

Nerved-leaved Coral-tree. Tree.

31 E. glau'ca (Willd. nov. act. nat. scrut. berol. 3. p. 428. spec. 4. p. 915.) stem arboreous, prickly; petioles almost unarmed; leaflets ovate, glaucous beneath; calyx bilabiate; vexillum cuneiform, spreading; keel longer than the wings; stamens 10, monadelphous at the base. ♄ . S. Native of South America, at Caraccas and near Cumana. Legume glabrous. Seeds grey. Flowers copper-coloured.

Glaucous-leaved Coral-tree. Clt. 1819. Tree 20 feet?

32 E.? isope'tala (Lam. dict. 2. p. 392.) stems sarmentose, and are as well as the petioles unarmed; leaflets ovate-lanceolate, glabrous; calyx campanulate, 5-lobed; petals unguiculate, about equal in length; stamens 10, monadelphous at the base. ♄ . ◡. S. Native of Brazil, at Rio Janeiro. Flowers an inch and a half long. Legume unknown.

Equal-petalled Coral-tree. Shrub cl.

33 E. Senegale'nsis (D. C. prod. 2. p. 413.) stem shrubby, and is as well as the petioles and ribs of leaves prickly; leaflets ovate-oblong, obtuse, coriaceous, glabrous; calyx obliquely truncate, somewhat bilabiate; vexillum oblong-cuneiform, straight, obtuse. ♄ . S. Native of Senegal. Flowers an inch long, deep crimson. Leaflets 3 inches long and 12 or 15 lines broad. The leaves push forth when the flowers begin to fade.

Senegal Coral-tree. Fl. Feb. Mar. Shrub 6 to 8 feet.

34 E. Abyssi'nica (Lam. dict. 2. p. 392.) stem arboreous, prickly; petioles unarmed; leaflets glabrous, obtuse, lateral ones broadly and obliquely ovate, terminal one roundish. ♄ . S. Native of Abyssinia (Bruce). Flowers and fruit unknown. According to Bruce, the seeds of this species of *Coral-tree* are called *Carats* in Abyssinia, and are used in weighing gold and precious stones.

Abyssinian Coral-tree. Tree.

35 E. breviflòra (Moc. et Sesse, fl. mex. icon. ined. D. C. prod. 2. p. 413.) stem shrubby, and is as well as the petioles prickly; leaflets ovate, acute; racemes axillary, shorter than the leaves; calyx bilabiate; vexillum oval; legumes pendulous, few-seeded, glabrous, unarmed, mucronate. ♄ . G. Native of Mexico, at the river Ayacapixtla. Flowers scarlet.

Short-flowered Coral-tree. Tree.

36 E. coralloìdes (Moc. et Sesse, fl. mex. icon. ined. D. C. prod. 2. p. 413.) stem arboreous, bearing a solitary prickle under each leaf; petioles unarmed; leaflets ovate; calyx truncate; vexillum linear-oblong; legumes glabrous, few-seeded, stipitate at the base, cuspidate at the apex. ♄ . G. Native of Mexico. Flowers scarlet. Seeds red; the hylum girded by a white line; they are commonly called *Colorines*.

Coral-like-seeded Coral-tree. Tree.

37 E. pa'tens (Moc. et Sesse, fl. mex. icon. ined. D. C. prod. 2. p. 414.) stem shrubby, and is as well as the petioles unarmed; leaflets ovate, obtuse; racemes terminal, rather velvety; mouth of calyx dilated and obliquely truncate; vexillum spreading, stipitate, roundish; legume villous. ♄ . S. Native of Mexico. Flowers scarlet.

Spreading Coral-tree. Tree.

38 E. divarica'ta (Moc. et Sesse, fl. mex. icon. ined. D. C. prod. 2. p. 414.) stem shrubby, prickly; petioles unarmed; leaflets cordate, acute; calyx velvety, spathaceous, 5-toothed at the apex; vexillum spreading, oval; stamens diadelphous. ♄ . S. Native of Mexico. Flowers scarlet, large, and very beautiful. Racemes lateral, many-flowered. Perhaps the same as *E. spathàcea*, but differs in the trunk being prickly.

Divaricate Coral-tree. Tree.

39 E. monospe'rma (Gaud. in Freycenet, voy. bot. p. 486. t. 114.) arboreous, unarmed; leaflets broadly ovate, reniform, obtuse, clothed with brownish tomentum beneath; legume 1-seeded. ♄ . S. Native of the Sandwich Islands. Flowers scarlet.

One-seeded Coral-tree. Tree.

† *Species, the names of which are given in garden catalogues, but without any description.*

1 *E. aculeatíssima*, Desf. 2 *E. triacántha*, Willd. 3 *E. incàna*, Willd. 4 *E. piscidioìdes*, Hortul. 5 *E. fúlgens*, Hortul. 6 *E. strícta*, Roxb. 7 *E. ovalifòlia*, Roxb. 8 *E. sublobàta*, Roxb.

Cult. The species of *Coral-tree* have fine large leaves and splendid flowers, and are therefore worth cultivating in every collection of stove plants; they all thrive well in light loamy soil. In order to bring them into flower they should be placed on shelves in the stove, when they have lost their leaves giving them hardly any water, and when they begin to shew flowers they may be watered more freely. Cuttings of all, if taken off at a joint without depriving them of their leaves, strike root readily in sand, under a hand-glass, in moist heat. *E. laurifòlia* and *E. crísta-gálli* will thrive and flower freely if planted in the open ground, in a warm sheltered situation; in such a situation, however, they are always killed to the stump in winter.

CCVII. RUDO'LPHIA (in honour of Charles Asmund Rudolph, a botanist of Jena). Willd. nov. act. scrut. berol. 3. p. 151. spec. 3. p. 918.—Erythrìna, spec. of Lin. and Juss.—Bùtea, spec. of Pers.

LIN. SYST. *Diadélphia, Decándria.* Calyx tubular, bilabiate, 4-cleft; upper lobe largest and obtuse, lower one acute, 2 lateral ones very short. Corolla with an oblong-linear, straight, very long vexillum. Wings very narrow, shorter than the calyx, as well as parts of the carina. Stamens diadelphous. Legume compressed, flat, sessile, many-seeded, mucronate by the style. Seeds flat.—Climbing shrubs with simple leaves, which are furnished with 2 stipels each at the top of the petiole.

1 R. VOLU'BILIS (Willd. l. c. Vahl. ecl. 3. p. 41. t. 30.) branches dotted from tubercles; leaves glabrous, cordate, ovate, acuminated; racemes bearing flowers from the base. ♄. ⌒. S. Native of Porto-Rico, on the highest mountains, and of Mexico. Flowers scarlet, an inch and a half long.

Var. β, pilosiúscula (D. C. prod. 2. p. 414.) branches and petioles pilose. Erythrìna cordifòlia, Juss. ined. Erythrìna Portoricénsis, Desf.

Twining Rudolphia. Shrub tw.

2 R. RÒSEA (Tussac, fl. ant. t 22.) branches smooth, glabrous; leaves ovate-oblong, glabrous, acuminated; racemes pedunculate. ♄. ⌒. S. Native of St. Domingo. Flowers scarlet, hardly an inch long. Legume pubescent. Perhaps the figure in Plum. icon. t. 102. f. 1. is referrible to this species, and all the synonymes to the following, but the leaves in our plant are not peltate as in it, the flowers are smaller and the legume is not glabrous nor torose at the seeds, as represented in the figure of Plumier.

Rose-flowered Rudolphia. Clt. 1826. Shrub tw.

3 R. PELTA'TA (Willd. l. c.) leaves rather cordate, oblong-lanceolate, peltate; raceme on a long peduncle. ♄. ⌒. S. Native of St. Domingo. Plum. ed. Burm. t. 102. f. 1. Erythrìna planisíliqua, Lin. spec. 993. Lam. dict. 2. p. 392. Perhaps the same as the last species. Flowers probably scarlet.

Peltate-leaved Rudolphia. Shrub tw.

4 R. DU'BIA (H. B. et Kunth, nov. gen. amer. 6. p. 432. t. 591.) branches angular, sulcated, glabrous; petioles winged; leaves somewhat deltoid-ovate, and somewhat hastately cordate at the base, and acuminated at the apex, glabrous; peduncles axillary; legume beaked by the style. ♄. ⌒. S. Native of New Granada, in shady places near Turbaco, ex Kunth, and in Cuba, about the Havannah, Willd. Glycine sagittàta, Humb. in Willd. enum. 757. Flowers scarlet or rose-coloured.

Doubtful Rudolphia. Clt. 1815. Shrub tw.

Cult. The species are elegant climbers, bearing large scarlet flowers, and are well adapted for covering the rafters in stoves or stove conservatories. Their culture and propagation are the same as for the species *Erythrìna*, which see.

CCVIII. BU'TEA (in honour of John Earl of Bute, once a munificent patron of Botany). Roxb. cor. 1. p. 22. D. C. prod. 2. p. 414.—Plàso, Rheed. and Adans.

LIN. SYST. *Diadélphia, Decándria.* Calyx campanulate, 5-toothed, the 2 superior teeth approximate and almost connected. Corolla with a lanceolate spreading vexillum; keel incurved, about equal in length to the wings and vexillum. Stamens diadelphous. Legume stipitate, compressed, flat, membranous, indehiscent, 1-seeded at the apex. Seed large, compressed.—Asiatic, unarmed trees, with pinnately trifoliate leaves, and large ovate, roundish, stipellate leaflets. Racemes many-flowered. Flowers 3 together, on short pedicels, and furnished with 2 bracteoles each, under the calyx. Corolla of a deep scarlet colour. Down on the calyxes usually black and velvety. This genus probably agrees better with the tribe *Dalbérgieæ* than with the present.

1 B. FRONDÒSA (Roxb. cor. 1. p. 22. t. 21. asiat. res. 3. p. 469.) branches pubescent; leaflets roundish, obtuse, or emarginate, rather velvety beneath; corolla 4-times the length of the calyx; calycine teeth acutish. ♄. S. Native of the East Indies, on [illegible] mountains.—Rheed. mal. 6. t. 16 and 17. B. frondòsa, Kern. icon. sel. 1. t. 4. Erythrìna monospérma, Lam. dict. 1. p. 391. Stipes and sutures of the legumes clothed with white tomentum, but the valves are hardly pubescent. Flowers 2 inches long. The red juice which flows from the tree evaporates to the consistence of gum, which is astringent, and is called gum-lac or East India kino, but is not so good as the African kino. The expressed juice of the fresh flowers, and infusions of the dried flowers yield a water colour brighter than gamboge; they also yield a fine durable yellow lake in a large proportion. The lac insects are frequently found upon the smaller branches and petioles of the tree; but whether the natural juices of its bark contribute to improve their red colouring matter has not been determined.

Frondose Butea. Clt. 1796. Tree 40 feet.

2 B. SUPE'RBA (Roxb. cor. 1. t. 22.) branches glabrous; leaflets roundish, obtuse, velvety beneath; corolla 4-times the length of the calyx; calycine teeth acute. ♄. ⌒. S. Native of Coromandel, on the mountains. This is a very shewy tree, approaching the preceding species, but is larger in all its parts. It yields similar juice.

Superb Butea. Clt. 1798. Shrub tw.

3 B. PARVIFLÒRA (Roxb. hort. beng. p. 53.) branchlets pubescent; leaflets roundish, obtuse, clothed with silky tomentum beneath; racemes panicled; corolla hardly twice the length of the calyx; calycine teeth acute. ♄. ⌒. S. Native of Coromandel. Flowers 4 lines long.

Small-flowered Butea. Shrub tw.

4 B. BRAAMIA'NA (D. C. prod. 2. p. 415.). ♄. ⌒. G. Native of China. Braam. icon. chin. t. 23. This tree comes very near to *B. frondòsa*, but differs in the leaflets being edged with white, probably with white tomentum, in the calyx being greenish, in the flowers being fewer on the racemes, in the genitals being more exserted, and in the petals diverging more.

Braam's Butea. Tree tw.

Cult. The species of this genus bear large fine leaves, and large shewy scarlet flowers. Their culture and propagation are the same as for the species of *Erythrìna*, which see.

Tribe VI.

DALBERGIE'Æ (plants agreeing in some important characters with *Dalbérgia.* Bronn. diss. p. 134. exclusive of some genera. D. C. mem. legum. x. Corolla papilionaceous (f. 51. *b.*), perigynous. Stamens variously connected. Embryo with the radicle bent back upon the edge of the cotyledons (f. 21. *e. f.*), which are thick (f. 21. *c.*). Legumes 1-2-seeded, indehiscent. —Usually climbing shrubs, with impari-pinnate leaves, rarely, but sometimes pinnately trifoliate or simple. This tribe is probably very distinct from *Phascolièæ*, but the germination of the seeds is not sufficiently known.

CCIX. DE'RRIS (δερρις, *derris*, a skin; in reference to the consistence of the legumes). Lour. coch. p. 432. D. C. prod. 2. p. 415.

Lin. syst. *Monadélphia*, *Decándria*. Calyx tubular, with 5 blunt teeth. Corolla papilionaceous. Keel lunate, of 2 concrete petals. Stamens 10, monadelphous. Legume oblong, obtuse, much compressed, 1-seeded, membranous. Seed oblong, flat.—Unarmed, climbing, glabrous shrubs, with impari-pinnate leaves, having from 1 to many pairs of exstipellate leaflets. Racemes axillary and lateral. Flowers white. Roots fleshy.

1 D. TRIFOLIA'TA (Lour. l. c.) leaves pinnately trifoliate; leaflets ovate-lanceolate; racemes axillary, length of leaves. ♄. ◡. G. Native of China, in the province of Canton, in woods.

Trifoliate Derris. Shrub cl.

2 D. PINNA'TA (Lour. l. c.) leaves impari-pinnate, with many pairs of alternate, ovate-oblong leaflets; peduncles lateral, many-flowered. ♄. ◡. S. Native of Cochin-china, in woods.

Pinnate-leaved Derris. Shrub cl.

Cult. These shrubs are well adapted for the climbers in greenhouses, or greenhouse conservatories. Ripened cuttings will root readily in sand, under a hand-glass.

CCX. ENDESPE'RMUM (from ενδεης, *endees*, indigent, and σπερμα, *sperma*, a seed; in reference to the want of seeds, there being only one in each legume). Blum. ex flora, 1825. p. 132. D. C. prod. 2. p. 415.

Lin. syst. *Monadélphia*, *Enneándria*. Calyx bilabiate, bibracteolate at the base; upper lip bluntly 2-lobed, lower one tridentate. Wings and carina on long claws. Stamens 9, monadelphous, the tenth one absent or deficient. Legume on a very long pedicel, membranous and foliaceous, lanceolate, 1-seeded, indehiscent. Seed linear, compressed. This genus is said to be allied to *Dalbérgia*.

1 E. SCA'NDENS (Blum. l. c.). ♄. ◡. S. Native of Java. Leaves abruptly pinnate; leaflets alternate, oblong, elongated, obtuse at the base, ending in a very short acumen at the apex, villous on both surfaces, but more so beneath. Racemes when bearing the flowers shorter than the leaves, but becoming longer as the pods advance. Flowers small, probably white.

Climbing Endespermum. Shrub cl.

Cult. See *Dalbérgia* for culture and propagation, p. 375.

CCXI. PONGA'MIA (*Pongam* is the Malabar name of the first species). Lam. ill. t. 603. Vent. malm. no. 28. D. C. prod. 2. p. 416.—Galedùpa, Lam. dict. 2. p. 594. exclusive of the synonymes of Rumphius, and therefore the name.

Lin. syst. *Monadélphia*, *Decándria*. Calyx cup-shaped, 5-toothed, obliquely truncate. Petals 5, all unguiculate and disposed into a papilionaceous corolla. Stamens 10, monadelphous, having the sheath or tube cleft above, or the tenth stamen loosened from the rest. Legume somewhat stipitate, compressed, flat, indehiscent, beaked, 1-celled, 1-2-seeded.—East Indian trees, with impari-pinnate leaves, opposite leaflets, axillary racemes of usually white or yellow flowers.

1 P. GLA'BRA (Vent. malm. t. 28.) leaves with 2-3 pairs of ovate, acuminated, glabrous leaflets. ♄. S. Native of the East Indies. Robínia mitis, Lin. spec. 1044. Dalbérgia arbòrea, Willd. spec. 3. p. 901. Galedùpa I'ndica, Lam. dict. 2. p. 594. Burm. fl. ind. 163.—Rheed. mal. 6. t. 3. Calyx red. Corolla white.

Glabrous Pongamia. Clt. 1699. Shrub 5 to 10 feet.

2 P. CHINE'NSIS (D. C. prod. 2. p. 416.) leaves with 2 or 3 pairs of ovate-lanceolate, glabrous leaflets; stem shrubby. ♄. G. Native of China. Robínia mìtis, Lour. coch. 455. Flowers yellow, tern in the raceme.

China Pongamia. Shrub 3 feet.

3 P. ULIGINÒSA (D. C. l. c.) leaves with 1-2 pairs of oval-oblong, acuminated, glabrous leaflets. ♄. ⌒. S. Native of Bengal. Galedùpa uliginòsa, Roxb. hort. beng. 53. Robínia uliginòsa, Willd. spec. 3. p. 1133. Flowers white.

Bog Pongamia. Clt. 1824. Shrub tw.

4 P. GRANDIFLÒRA (Vent. malm. no. 28.) leaves with 3-4 pairs of elliptic, obtuse leaflets, which are pubescent beneath. ♄. S. Native of the East Indies. Galedùpa grandiflòra, Vahl. in herb. Juss. Legume compressed, flat, oval, pubescent. Racemes shorter than the leaves.

Great-flowered Pongamia. Clt. 1818. Shrub.

5 P. SERI'CEA (Vent. l. c.) leaves with 3-4 pairs, or only with 1 pair from abortion, of oblong leaflets, which are silky beneath; racemes elongated, approximating into a panicle. ♄. S. Native of Java. Flowers probably white.

Silky-leaved Pongamia. Shrub.

6 P. ATROPURPU'REA (Wall. pl. rar. asiat. 1. p. 70. t. 78.) leaves with 3-4 pairs of oblong, attenuated, coriaceous, smooth leaflets; flowers disposed in dense racemes, numerous, forming a terminal panicle; legumes broad, ovate-lanceolate, 1-seeded, smooth. ♄. S. Native of the Burman empire, in woods on the shores of Martaban, at Amherst, and Moalmyne, and elsewhere. Flowers deep purple. The wood is much esteemed by the Burmese and Taleyne people, who employ it for beams and rafters in their houses. Dr. Wallich was told that they eat the tender leaves.

Dark-purple-flowered Pongamia. Tree 70 feet.

Cult. See *Dalbérgia* for culture and propagation, p. 375.

CCXII. DALBE'RGIA (in honour of Nicholas Dalberg, a Swedish botanist). Roxb. hort. beng. p. 52. and cor. 2. vol. 2. D. C. prod. 2. p. 416. Dalbérgia, spec. Lin. fil. suppl. 52. Lam. ill. 601. f. 2.—Solòri, Adans. fam. 327.

Lin. syst. *Monadélphia*, *Octándria*, and *Decándria*, or *Diadélphia*, *Decándria*. Calyx campanulate, 5-toothed (f. 51. *a.*). Corolla papilionaceous (f. 51. *c.*); petals of keel connected to the apex (f. 51. *b.*). Stamens 8-10, sometimes all monadelphous, with the tube or sheath cleft in front, sometimes divided into 2 equal opposite bundles. Legume stipitate, membranous, compressed, flat, oblong, tapering to both ends, 1-3-seeded (f. 51. *d.*). Seeds compressed, remote. Radicle inflexed.—Sometimes trees, but usually climbing shrubs, with impari-pinnate leaves.

1 D. OUGEINE'NSIS (Roxb. hort. beng. p. 53.) leaves pinnately trifoliate; leaflets ovate-roundish, rather villous, with undulately curled margins; pedicels 1-flowered, rising in fascicles, and are as well as the calyxes villous. ♄. S. Native of the East Indies. Flowers small. Terminal leaflets obovate.

Ougein Dalbergia. Clt. 1820. Tree 30 feet.

2 D. Sìssoo (Roxb. hort. beng. p. 52.) leaflets 5, alternate, petiolulate, obovate, abruptly acuminated, glabrous above, but pubescent beneath; panicles axillary, puberulous, shorter than the leaves. ♄. S. Native of Bengal. Stamens 8, monadelphous, with a dorsal fissure. Legume linear-lanceolate, tapering to the base, stipitate, glabrous, 1-seeded. Flowers white.

Sissoo Dalbergia. Clt. 1820. Tree 30 feet.

3 D. LATIFÒLIA (Roxb. cor. 2. p. 7. t. 113.) leaflets 3-5, alternate, roundish, emarginate, glabrous above and pubescent beneath; panicles axillary, few-flowered, much shorter than the leaves. ♄. S. Native of Coròmandel, on the mountains. Stamens monadelphous, with a dorsal fissure. Flowers white. Legume oblong-lanceolate. The wood is used in making household furniture in India.

Broad-leaved Dalbergia. Clt. 1811. Tree 40 feet.

4 D. RUBIGINÒSA (Roxb. cor. 2. p. 9. t. 115.) leaflets 7, nearly opposite, oblong, obtuse, glabrous; branches and petioles tomentose; panicles axillary, much shorter than the leaves. ♄.

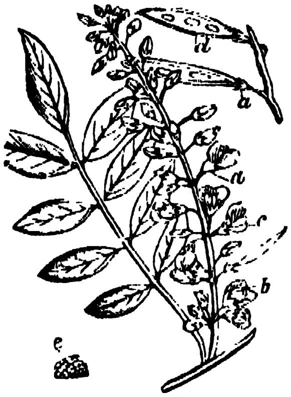
◡. S. Native of Coromandel, on the mountains. Flowers white. Stamens monadelphous, with a dorsal fissure. Legumes unknown.

Rusty Dalbergia. Clt. 1811. Shrub cl.

5 D. ROBU'STA (Roxb. hort. beng. p. 53.) leaflets 7-9, oval, or obovate, obtuse, somewhat mucronulate, minutely pubescent; racemes spike-formed, twice the length of the leaves; pedicels aggregate. ♄. S. Native of the East Indies, in Silhet. Flowers small, white, numerous. Stamens monadelphous, with a dorsal fissure. Legumes unknown.

Robust Dalbergia. Clt. 1816. Tree 30 feet.

FIG. 51.



6 D. SCA'NDENS (Roxb. cor. 2. t. 192.) leaflets 9-11, elliptic-oblong, acutish, glabrous; racemes axillary, spike-formed, longer than the leaves; pedicels in fascicles. ♄. ◡. S. Native of Coromandel. Flowers rose-coloured. Legumes linear-lanceolate, 2-3-seeded, glabrous, tapering to both ends.

Climbing Dalbergia. Clt. 1812. Shrub cl.

7 D. VOLU'BILIS (Roxb. cor. 2. t. 191.) leaflets 11, alternate, oval, mucronate, glabrous; panicles terminal and axillary, divaricate. ♄. ◡. S. Native of Coromandel, on the mountains. Flowers blue. Stamens divided into 2 equal bundles. Legumes linear-oblong, obtuse, 1-2-seeded, glabrous.

Twining Dalbergia. Clt. 1818. Shrub tw.

8 D. FRONDÒSA (Roxb. hort. beng. 53.) leaflets 9-11, alternate, obovate, obtuse, emarginate, glabrous; panicles axillary, usually nearly terminal, length of leaves; pedicels and calyxes hardly pubescent. ♄. S. Native of Coromandel. Flowers white. Stamens divided into two equal bundles. Legume broad, linear, tapering to both ends, 1-3-seeded, glabrous, wingless on both sutures.

Frondose Dalbergia. Tree 30 feet.

9 D. PANICULA'TA (Roxb. cor. 2. p. 8. t. 114.) leaflets 9-11, alternate, elliptic-obovate, obtuse or emarginate, glabrous; panicle terminal; peduncles, pedicels, and calyxes villous. ♄. S. Native of Coromandel, on the mountains. Flowers white. Stamens divided into 2 equal bundles. Legume oval-lanceolate, 1-2-seeded.

Panicled Dalbergia. Clt. 1811. Tree 30 feet.

10 D. TIMORIE'NSIS (D. C. prod. 2. p. 417.) leaflets 9-11, alternate, glabrous on both surfaces; racemes axillary, length of leaves. ♄. S. Native of the Island of Timor. Flowers unknown. D. lanceolària β, Lam. dict. 3. p. 256. ex herb. mus. Paris. Legume linear-lanceolate, attenuated at both ends, glabrous, 1-2-seeded; the seminiferous suture bearing a narrow wing. The figure in Rheed. mal. 6. t. 22. is referrible to this species.

Timor Dalbergia. Clt. 1826. Tree 15 feet.

11 D. LANCEOLA'RIA (Lin. fil. suppl. 316.) leaflets 11-15, alternate, oblong, obtuse, pilose and veinless beneath; racemes axillary, elongated, and are as well as the calyxes pilose. ♄. S. Native of the East Indies. Flowers rusty. Stamens divided into 2 equal bundles. Legume linear-lanceolate, 1-2-seeded, on a long stipe.

Spear-shaped-podded Dalbergia. Tree 30 feet.

12 D. ARBÒREA (Roth nov. spec. 330.) leaflets 17-25, alternate, oval, obtuse, somewhat emarginate, pubescent on both surfaces, when young they are clothed with tomentum; racemes panicled, sub-secund. ♄. S. Native of the East Indies. Stamens equally diadelphous. Legume unknown.

Tree Dalbergia. Tree 30 to 40 feet.

13 D. BARCLA'YII (Telfair, mss. Hook, exot. bot. 188.) leaflets opposite, linear-lanceolate, with revolute margins, silky beneath; racemes terminal, elongated; calyx with subulate teeth; vexillum silky on the back. ♄. S. Native of the Mauritius. Stamens 10, monadelphous. Flowers purple; the pedicels rising 2-3-together from the raceme.

Barclay's Dalbergia. Clt. 1823. Shrub.

14 D. RU'FA; leaflets alternate, elliptic, rather oblique at the base, emarginate at the apex, clothed with rufous pubescence beneath as well as the petioles and branches; racemes or panicles of flowers axillary, short. ♄. S. Native of Sierra Leone. Habit of *Tamaríndus* (v. s. herb. Lamb.).

Rufous Dalbergia. Tree 20 feet.

15 D. AFZELIA'NA; glabrous, smooth; branches warted; leaflets small, alternate, obtuse at both ends, deeply emarginate at the apex; panicles axillary, shorter than the leaves; legumes flat, stipitate, membranous. ♄. S. Native of Sierra Leone. Flowers unknown (v. s. herb. Lamb.).

Afzelius's Dalbergia. Shrub 8 to 10 feet.

16 D. OBLONGIFÒLIA; branches, panicles, and under side of leaves clothed with rufous pubescence; leaflets alternate, elliptic-oblong, glabrous above, obtuse at both ends, and slightly mucronate at the apex; panicles twin, axillary. ♄. S. Native of Sierra Leone. Flowers unknown. (v. s. herb. Lamb.)

Oblong-leaved Dalbergia. Tree.

17 D. SERICEA; branches and panicles clothed with rufescent pubescence; leaflets alternate, when young clothed with silky down, elliptic, tapering to the base, obtuse and mucronate at the apex; panicles sub-corymbous, axillary, much shorter than the leaves. ♄. G. Native of Nipaul. Flowers small. (v. s. herb. Lamb.)

Silky Dalbergia. Shrub.

18 D. MARGINA'TA (Roxb. hort. beng. 53.) glabrous; leaflets alternate, broad, obovate, coriaceous, margined, rather glaucous beneath; panicles 2-3-together, diffuse, shorter than the leaves. ♄. ◡. S. Native of the East Indies.

Margined-leafletted Dalbergia. Shrub cl.

19 D. CAUDA'TA; leaflets numerous, alternate, oblong-lanceolate, emarginate, mucronate, pale beneath; racemes axillary, panicled, pubescent, shorter than the leaves; legumes pubescent, 1-seeded at the base, and hooked, ending in a long coriaceous, obtuse wing. ♄. S. Native of Guiana. (v. s. herb. Lamb.)

Tailed-podded Dalbergia. Tree.

20 D. JAPÓNICA; leaflets opposite, elliptic, tapering to both ends, acuminated, mucronate, glaucous beneath; racemes axillary; flowers secund. ♄. G. Native of Japan. (v. s. herb. Lamb.)

Japan Dalbergia. Tree.

21 D.? LATISÍLIQUA (Desf. cat. hort. par. 198.) leaflets ovate, abruptly acuminated, pubescent beneath; pedicels pubescent; legumes broad. ♄. S. Native of South America. The rest of the plant unknown.

Broad-siliqued Dalbergia. Tree.

22 D.? HETEROPHY'LLA (Willd. spec. 3. p. 901.) leaflets 3-5, ovate, glabrous, obtuse; racemes axillary, longer than the leaves. ♄. S. Native of the East Indies. Stamens 10, monadelphous. Legume reniform-oval, reticulately veined.

Variable-leaved Dalbergia. Tree.

† *Species, the names of which are only known from Roxburgh's Hortus Bengalensis, p. 53. and p. 98. without any description.*

1 *D. emarginàta.* 2 *D. Zeylánica.* 3 *D. tamarindifòlia.* 4 *D. stipulàcea.* 5 *D. rimòsa.* 6 *D. renifórmis.* 7 *D. alàta.* 8 *D. parviflòra.* 9 *D. Cròwei.* 10 *D. spinòsa.*

Cult. The species will all grow freely in a mixture of sand, loam, and peat, and young cuttings of them will strike root freely if planted in a pot of sand, with a hand-glass placed over them, in a little bottom heat. The climbing kinds are well adapted for covering the rafters in stoves or stove conservatories.

CCXIII. PTEROCA'RPUS (from *πτερον*, *pteron*, a wing, and *καρπος*, *carpos*, a fruit; in reference to the pods being girded by a broad wing). Lin. gen. no. 854. Lam. ill. t. 602. exclusive of some species. D. C. prod. 2. p. 418.

Lin. syst. *Monadélphia Decándria*, or *Diadélphia Decándria*. Calyx 5-toothed. Petals 5, disposed into a papilionaceous corolla. Stamens 10, monadelphous or diadelphous. Legume indehiscent, irregular, nearly orbicular, usually varicose, 1-seeded, girded by a wing. Cotyledons thick, incurved. Radicle somewhat inflexed at the base.—Unarmed trees or shrubs, with impari-pinnate leaves, and axillary racemes of flowers. This is a very polymorphous genus, and ought to be divided into several genera, but at present the flowers and fruit of the species are too little known to render this practicable.

Sect. I. Moutou'chia (*Moutouchi* is the Caribbean name of *P. suberòsa*). Aubl. guian. 2. p. 748. t. 299. D. C. prod. 2. p. 418.—Griselìnea, Neck. elem. no. 1358. but not of Forst. Stamens monadelphous, with the sheath or tube entire, not cleft above. Legume roundish, suberose, 1-seeded, having the superior suture straight, but not winged.

1 P. Dra'co (Lin. spec. 438.) leaflets 5-7, alternate, ovate, acuminated, glabrous, shining; fruit smoothish. ♄. S. Native of Guadaloupe and others of the West India islands. P. officinàlis, Jacq. amer. 283. t. 183. f. 92. P. Dràco, Willd. exclusive of the synonymes of Aublet and Commerson. P. hemiptera, Gærtn. fruct. 2. p. 351. t. 156. f. 2. The wood of this tree is white and heavy, the bark thick, of a rusty grey colour, being cut transversely it betrays no marks of redness at first, but in a short time it is variegated with many blood red dots, that collect into little globules or tears. The tree itself when cut in different parts in a short time is full of blood-coloured drops, shining and very clear, in the space of 10 minutes they harden, especially if the sun shines hot, and then are collected under the name of *sanguis draconis* or dragon's-blood. The bark, wood, and leaves have an astringent taste. The resin of *P. Dràco* was formerly sent in abundance from Carthagena to Spain; it no longer occurs in commerce on account of the decreased demand for dragon's-blood, and all the dragon's-blood now in commerce is obtained chiefly from the fruit of *Cálamus Dràco vèrus*, and *rudéntum*, the uses of which we shall give under that head.

Dragon's-blood Pterocarpus. Clt. 1820. Tree 30 to 40 ft.

2 P. suberòsus (Pers. ench. 2. p. 277.) leaflets 5-9, alternate, ovate, acuminated, glabrous, shining; fruit reticulately-rugose from elevated nerves. ♄. S. Native of Guiana, in humid woods. Moutoúchia suberòsa, Aubl. guian. 2. p. 748. t. 299. P. Moutoúchia, Lam. ill. t. 602. f. 1. Racemes panicled. Flowers yellow.

Corky-fruited Pterocarpus. Tree 40 feet.

3 P. crispa'tus (Moc. et Sesse, fl. mex. icon. ined.) leaflets 5-9, alternate, ovate, acutish; fruit smoothish; petals curled. ♄. S. Native of Mexico. Racemes panicled. Flowers of a dirty yellow peach colour.

Curled-petalled Pterocarpus. Tree 40 feet.

Sect. II. Amphyme'nium (from *αμφι*, *amphi*, around, and *ὑμην*, *hymen*, a membrane; in reference to the pods being girded round by a membrane). Stamens monadelphous, with the sheath or tube cleft longitudinally on the upper side, sometimes the whole length. Fruit almost orbicular, containing 1 or 2 seeds inside, girded all round by a broad membrane.

4 P. Ro'hrii (Vahl. symb. 2. p. 79.) leaflets 7-9, alternate, ovate-oblong, abruptly acuminated, and are, as well as the branches and fruit, glabrous. ♄. S. Native of French Guiana, in woods. P. Apalatòa, Rich. in act. soc. nat. par. 1. p. 111. P. Róhrii, Willd. spec. 3. p. 905. exclusive of the synonymes of Aublet, according to König in ann. bot. 1. p. 358. Aubl. guian. 2. t. 145. f. 56. fruit, exclusive of the rest of the plate.

Rohr's Pterocarpus. Clt. 1816. Tree 40 feet.

5 P. orbicula'tus (Moc. et Sesse, fl. mex. icon. ined. D. C. prod. 2. p. 418.) leaflets 5, opposite, ovate, acute, glabrous; fruit orbicular, emarginate at the base, but mucronate at the apex. ♄. S. Native of Mexico. Flowers yellow.

Orbicular-fruited Pterocarpus. Tree 30 feet.

6 P. amphyme'nium (D. C. prod. 2 p. 418.) leaflets 7, ovate-elliptic, acute, rounded at the base, glabrous above, and pubescent beneath; branches, petioles, calyxes, and fruit clothed with soft tomentum. ♄. S. Native of Mexico, on the western declivities of mountains. Amphymènium pubéscens, H. B. et Kunth, nov. gen. amer. 6. p. 380. Flowers yellow?

Around-membraned Pterocarpus. Tree 50 feet.

7 P. marsu'pium (Roxb. cor. 2. p. 9. t. 116.) leaflets 5-7, alternate, elliptic, somewhat emarginate, coriaceous, glabrous; branches and calyxes glabrous; panicle terminal; legume rather truncate, glabrous. ♄. S. Native of Coromandel, on the mountains. Flowers pale yellow. Stamens disposed in 2 pentandrous bundles, which are rather concrete on the lower side.

Pouch-podded Pterocarpus. Clt. 1811. Tree 40 feet.

8 P. dalbergioi'des (Roxb. hort. beng. p. 53.) leaflets 5-7, alternate, elliptic, bluntish, coriaceous, and are, as well as the branches and calyxes, glabrous; panicles of flowers axillary. ♄. S. Native of the East Indies. Stamens divided into 2 pentandrous bundles. Flowers yellow.

Dalbergia-like Pterocarpus. Tree 40 feet.

9 P. bi'lobus (Roxb. in herb. Lamb.) leaflets broad, glabrous, alternate, ovate-roundish, deeply 2-lobed at the apex; racemes short, axillary; fruit 1-seeded. ♄. S. Native of the East Indies.

Two-lobed-leaved Pterocarpus. Tree 20 feet.

Sect. III. Echinodi'scus (from *εχινος*, *echinos*, a hedge-hog, and *δισκος*, *diskos*, a disk; in allusion to the legumes being beset with stiff bristles in the centre). Fruit almost orbicular, and somewhat falcate, mucronate from the base of the style, which is either lateral or oblique, girded all round by a membrane, and beset with long stiff bristles in the centre. Flowers unknown. The species of this section are not well known, or it would have probably constituted a distinct genus.

10 P. Adansònii (D. C. prod. 2. p. 419.) leaflets 13-15, alternate, petiolulate, oval or rather oblong, acutish or mucronate, adult ones glabrous above, but clothed with adpressed, silky velvety, canescent down beneath, as well as the branches, petioles, peduncles, and legumes; point of legume lateral, somewhat falcate, not reflexed. ♄. S. Native of Senegal. P. Senegalénsis, Vahl. ex herb. Juss.

Adanson's Pterocarpus. Tree 20 to 30 feet.

11 P. echina'tus (Pers. ench. 2. p. 277.) leaflets ovate, somewhat cordate, glabrous; legume smoothish, falcate, with the point directed towards the pedicel. ♄. S. Native at Capo de Solar.

Echinated-fruited Pterocarpus. Tree.

12 P. erina'ceus (Lam. dict. 5. p. 728. ill. 602. t. 4.) leaflets alternate, elliptic, obtuse, glabrous above, but clothed with rusty pubescence beneath; fruit having a short, straight, lateral point. ♄. S. Native of Senegal and other parts of Guinea. The true African kino has been discovered by Mr. Mungo Park to be the produce of this tree. It is known up the rivers Gambia and Senegal by the name of *Pan du Sangue*. Kino is a gum resin

which is a powerful remedy in obstinate chronic diarrhœas and dysenteries, and in all diseases arising from laxity of the solids. Externally it is applied as a styptic to check hæmorrhages from wounds or ulcers, and to diminish the discharge of ichorous matter from ill-conditioned ulcers.

Hedge-hog-fruited Pterocarpus. Tree 20 feet.

13 P. Angole'nsis (D. C. prod. 2. p. 419.) leaflets 11, petiolulate, ovate, ending in a short taper point, glabrous above, but pubescent along the nerves beneath; fruit large, rather villous. ♄. S. Native of the western coast of Africa, in the kingdom of Angola.

Angola Pterocarpus. Tree 30 feet.

Sect. IV. Santala'ria (from *santalum*, the Latin name for Saunder's-wood). D. C. prod. 2. p. 419. Stamens unequally diadelphous, that is, 9 connected, and 1 free. Fruit almost orbicular, containing 2 or 3 seeds inside.

14 P. I'ndicus (Willd. spec. 3. p. 904.) leaflets 5-9, alternate, ovate, acute, glabrous; racemes axillary, simple or branched; fruit acutely mucronate. ♄. S. Native of the East Indies.—Rumph. amb. 2. t. 70. P. I'ndicus, Roxb. hort. beng. p. 53. P. Dràco, Lam. ill. t. 602. f. 2.—Comm. hort. amst. 1. t. 109. Flowers white.

Indian Pterocarpus. Tree 30 feet.

15 P. Santali'nus (Lin. fil. suppl. 318.) leaflets 3-5, alternate, roundish, retuse, glabrous; racemes axillary, simple or branched; petals crenated. ♄. S. Native of India, on mountains. Flowers yellow, streaked with red. This is the true Santàlum rùbrum of Kœnig. The wood is dark red with black veins, heavy, close, capable of a good polish, and sinking in water. The wood is known in commerce by the name of *Saunder's-wood;* it yields a deep red colouring matter, which appears to be of a resinous nature, to ether and alcohol, but not to water. Its colouring matter forms beautifully coloured precipitates with many metallic solutions. It also yields one kind of dragon's-blood.

Saunder's-wood. Clt. 1800. Tree 66 feet.

16 P. Santalinoi'des (Lher. herb. D. C. prod. 2. p. 419.) leaflets 7-9, alternate, oval, acuminated, glabrous; racemes axillary, simple, shorter than the leaves; peduncles clothed with velvety pubescence; bracteoles 2, linear, subulate, longer than the calyx. ♄. S. Native of Sierra Leone. Flowers dirty yellow.

African Saunder's-wood or *Santalum-like* Pterocarpus. Clt. 1793. Tree 60 feet.

17 P. fla'vus (Lour. coch. p. 431.) leaflets 5-7, opposite, ovate, acute; racemes lateral, spiked; vexillum toothed. ♄. G. Native of China and the Moluccas. P. lùteus, Poir. suppl. 4. p. 610.—Rumph. amb. 3. t. 117. Bark yellow, bitter, and is used for dyeing yellow. Flowers yellow.

Yellow-barked Saunder's-wood. Tree 40 feet.

18 P. Roxbu'rghii; leaflets alternate, ovate, obtuse, pubescent beneath; fruit 1-seeded. ♄. S. Native of the East Indies. P. flàvus, Roxb. hort. beng. p. 153. but not of Lour.

Roxburgh's Pterocarpus. Tree 30 feet.

19 P. uliginòsus (Roxb. hort. beng. p. 533.) leaflets opposite, ovate, acuminated, glabrous; racemes long, panicled. ♄. S. Native of the East Indies. Flowers white.

Bog Pterocarpus. Tree.

20 P. Sapindoi'des (D. C. prod. 2. p. 419.) leaflets 11-13, opposite, oval, acuminated, glabrous; panicles axillary, much shorter than the leaves, rather velvety. ♄. S. Native of South America. Stamens diadelphous. Fruit unknown. Perhaps referrible to *Amerímnum.*

Sapindus-like Pterocarpus. Tree 20 feet.

21 P. sca'ndens (Poir. dict. 5. p. 730.) leaflets 7-11, opposite, oblong, acuminated, glabrous; racemes axillary, longer than the leaves; stems climbing. ♄. ◡. S. Native of Caraccas. Amerímnum scándens, Willd. spec. 3. p. 909. Points of leaflets emarginate. Flowers violaceous. Calyx truncate. Legume 2-seeded.

Climbing Pterocarpus. Clt. 1817. Shrub cl.

Sect. V. Atele'ia (from ατελης, *ateles*, imperfect; in reference to *P. Atelèia*, which is without the wings and keel to the flowers). Moc. et Sesse, fl. mex. icon. ined. D. C. prod. 2. p. 419. Legume membranous, samaroid, stipitate, compressed, with the upper suture straight, and furnished with a narrow wing, but the lower suture is convex. Racemes simple. Perhaps a proper genus.

22 P. Atele'ia (D. C. prod. 2. p. 419.) leaflets 13, alternate, ovate, lower ones smallest. ♄. S. Native of Mexico. Atelèia pterocárpa, Moc. et Sesse, fl. mex. icon. ined. Flowers white, disposed in racemose spikes. Corolla with an oblong vexillum, but the wings and keel are wanting. Stamens 10, monadelphous at the base.

Imperfect-flowered Pterocarpus. Tree 20 feet.

23 P. microca'rpus (Pers. ench. 2. p. 277.) leaflets 7, opposite, elliptic, obtuse at both ends, but emarginate at the apex, coriaceous, glabrous; peduncles and petioles pubescent. ♄. S. Native of South America. Flowers unknown. Legume pale, 1-seeded, reticulately veined.

Small-fruited Pterocarpus. Tree.

24 P. gu'mmifer (Bert. in herb. Balb. D. C. prod. 2. p. 419.) leaflets 5-7, opposite, oblong, attenuated at both ends, bluntish, glaucescent; petioles and pedicels glabrous. ♄. S. Native of St. Domingo. D. C. legum. mem. 10. t. 57. f. 1. Flowers unknown. Pods like those of the two preceding species.

Gum-bearing Pterocarpus. Tree.

25 P. pelta'ria (D. C. prod. 2. p. 419.) leaflets 3, oblong-linear, glabrous; legumes stipitate, oval, winged on one side, 1-seeded. ♄. G. Native of the Cape of Good Hope. Clypèola and Peltària Capénsis, Burm. herb.—D. C. legum. mem. 10. t. 57. f. 2. Racemes terminal, almost simple. Flowers pendulous. Calyx acutely 5-toothed, small, permanent. Petals deciduous. Stamens monadelphous, with the sheath or tube permanent, and cleft above.

Buckler-podded Pterocarpus. Tree.

Cult. The species of *Pterocárpus* thrive best in a loamy soil, and young cuttings not deprived of their leaves root readily in sand under a hand-glass, in heat.

CCXIV. DREPANOCA'RPUS (from δρεπανον, *drepanon*, a sickle, and καρπος, *carpos*, a fruit; in reference to the form of the pods, which are falcate). Meyer, prim. esseq. 238. D. C. prod. 2. p. 420.—Nephròsis, Rich. ined.—Orucària, Juss. ined.

Lin. syst. *Monadélphia Decándria*, or *Diadélphia Decándria.* Calyx 5-toothed, with 2 bracteas at the base, lower tooth diverging at the apex. Petals 5, disposed into a papilionaceous corolla. Stamens 10, monadelphous, with the sheath or tube cleft in front, or equally diadelphous, that is, disposed in 2 pentandrous bundles. Legume compressed, indehiscent, wingless, falcate, 1-celled, 1-seeded. Seeds fixed to the ventral suture.—Shrubs, with impari-pinnate leaves with usually from 5-9 nearly opposite oval-oblong leaflets. Panicles of flowers terminal.

1 D. luna'tus (Meyer, l. c.) spines stipular, hooked; leaflets 5-9, alternate, glabrous, oblong, obtuse; panicle ferruginous. ♄. S. Native of South America by the sea-side. Pterocárpus lunàtus, Lin. fil. suppl. 317. P. ápterus, Gært. fruct. t. 156. Nephròsis aculeàta, Rich. herb. Orucària lunàta, Juss. herb.—Plum. ed. Burm. t. 201. f. 2. Orucària, Clus. exot. 47 and 48. with a figure.—Bauh. hist. 1. p. 445. with a figure. Flowers white. Legumes crescent-shaped.

Lunate-podded Drepanocarpus. Clt. 1792. Sh. 6 to 10 feet.

2 D. Africa'nus; spines stipular; leaflets alternate, oblong, obtuse, white beneath; racemes terminal. ♄. S. Native of Guinea, on the sea shore. Legume flat, crescent-shaped, as well as the seed. (v. s. herb. Lamb.)

African Drepanocarpus. Fl. Feb. Shrub 6 to 10 feet.

3 D. du'bius (H. B. et Kunth, nov. gen. amer. 6. p. 390.) spines none; leaflets 5-7, puberulous beneath. ♄. S. Native of Caraccas, in the plains. Leaflets elliptic, rounded at both ends, membranous. Legume reniformly semi-lunate, wrinkled reticulately. Flowers unknown.

Doubtful Drepanocarpus. Tree 30 feet.

4 D. ? cyathifo'rmis (D. C. prod. 2. p. 420.) spines none; shrub climbing; leaflets alternate, ovate, acuminated, glabrous; panicles somewhat corymbous; fruit orbicular, rather cup-shaped. ♄. ◡. S. Native of Mexico. Pterocárpus cyathifórmis, Moc. et Sesse, fl. mex. icon. ined.

Cup-shaped-podded Drepanocarpus. Shrub cl.

5 D. microphy'llus (Meyer, in act. soc. nat. cur. bonn. 12. p. 807.) spines stipular, recurved; leaves with many pairs of leaflets; stamens monadelphous. ♄. S. Native of Panama. Very like the following species.

Small-leafletted Drepanocarpus. Shrub 6 to 10 feet.

6 D. isade'lphus (Meyer, l. c.) spines stipular, recurved; leaflets 12-16 pairs; stamens equally diadelphous. ♄. S. Native of Surinam. Ovary hairy, falcate. Fruit unknown.

Isadelphous-stamened Drepanocarpus. Shrub 6 to 10 feet.

7 D. panicula'tus; leaves with 4 pairs of leaflets; leaflets elliptic, coriaceous, pubescent beneath; panicles equal in length to the leaves; fruit lunate. ♄. S. Native of St. Domingo. Pterocárpus paniculàtus, Spreng. syst. 3. p. 192.

Panicled Drepanocarpus. Tree.

Cult. See *Pterocárpus* for culture and propagation, p. 377. The species require to be watered occasionally with salted water to make them thrive.

CCXV. ECASTAPHY'LLUM

CCXV. ECASTAPHY'LLUM (from ἕκαστος, *hecastos*, each, and φυλλον, *phyllon*, a leaf; in reference to the leaves of the two first species being each composed of only one leaflet). P. Browne, jam. 299. Rich. in Pers. ench. no. 1670. D. C. prod. 2. p. 420. —Hecastophýllum, H. B. et Kunth, nov. gen. amer. 6. p. 387.

Lin. syst. *Diadélphia, Octo-Decándria.* Calyx campanulate, somewhat bilabiate, upper lip emarginate, lower one trifid. Corolla papilionaceous. Stamens 8-10, equally diadelphous or 9, and 8 of them equally diadelphous and 1 loose. Legume nearly orbicular, membranous, valveless, biovulate, but only 1-seeded. Seed reniform. Radicle uncinately-inflexed.—Shrubs, with simple, trifoliate, or impari-pinnate leaves, and axillary subcorymbose panicles of flowers.

1 E. Bro'wnei (Pers. ench. 2. p. 277.) petiole bearing only one leaflet; the leaflet broad, ovate, rounded and cordate at the base, acuminated at the apex, and pubescent beneath. ♄. S. Native of the West Indies and South America, as well as of Senegal and Gambia, in swampy places. E. frutéscens, Browne, jam. p. 299. t. 52. f. 1. Pterocárpus Ecastaphýllum, Lin. spec. 1052. exclusive of the synonyme of Plumier. Berg. act. stockh. 1769. p. 116. t. 4. Amerímnum Siebèri, Reichb. in Sieb. pl. exsic. seneg. no. 36. Leaves spreading in a double row, pubescent when young, but glabrous in the adult state. Calyx ferruginous.

Var. β, glàbrum; leaves glabrous beneath.

Browne's Ecastaphyllum. Clt. 1733. Shrub 6 to 8 feet.

2 E. du'bium (H. B. et Kunth, nov. gen. amer. 6. p. 388.) petiole with only one leaflet; leaflet elliptic-oblong, ending in a short blunt acumen, rather cordate at the base, and marked with pellucid lines, and pilose on the nerve beneath; legumes reniform, wrinkled. ♄. S. Native of the province of Caraccas, near Caicara at the Orinoco.

Doubtful Ecastaphyllum. Shrub 6 to 8 feet.

3 E. Plumie'ri (Pers. ench. 2. p. 227.) leaves impari-pinnate, with 3-5 broadly ovate, bluntish, glabrous leaflets. ♄. S. Native of South America.—Plum. ed. Burm. t. 246. f. 2. Pterocárpus Plumièri, Poir. suppl.

Plumier's Ecastaphyllum. Clt. 1820. Shrub 6 to 10 feet.

4 E. pube'scens (D. C. prod. 2. p. 421.) leaves impari-pinnate, with 5-7 alternate, ovate, acuminated leaflets, which are pubescent, as well as the branches and legumes. ♄. S. Native of Cayenne or French Guiana. Panicles axillary, branched, pedunculate. Stamens equally diadelphous. Legume nearly orbicular, almost an inch in diameter.

Pubescent Ecastaphyllum. Shrub.

5 E. Moneta'ria (D. C. prod. 2. p. 421.) leaflets 3, alternate, ovate, acuminated, glabrous; peduncles axillary, numerous, spiked. ♄. S. Native of Surinam in humid places. Dalbérgia Monetària, Lin. fil. suppl. 317. Pterocárpus ternàta, Poir. dict. 5. p. 727. ex Kunth and Richard, Pers. ench. 2. p. 277. Stamens 9, 8 of which are disposed in two equal bundles, but the ninth one is loose, or hardly connected to the others at the base. Legume oval, roundish. Flowers minute, white. The root when cut yields a purple juice. The wood is red, and yields a resin resembling dragon's-blood.

Money-like-podded Ecastaphyllum. Shrub 6 to 10 feet.

6 E. Berte'rii (D. C. prod. 2. p. 421.) leaflets 3, alternate, obovate-orbicular; racemes spike-formed, simple, axillary, solitary; legume coriaceous, glabrous, nearly orbicular. ♄. S. Native of St. Domingo. Pterocárpus Bertèrii, Spreng. syst.

Bertero's Ecastaphyllum. Shrub.

† *A doubtful species.*

7 E. ? microphy'llum (H. B. et Kunth, nov. gen. amer. 7. p. 268.) leaflets 25-45, small, oblong, acute, and somewhat mucronate, rounded at the base, clothed with adpressed pili on both surfaces; legumes falcate, oblong, rather rugulose. ♄. S. Native of Venezuela, near Santa Barbara.

Small-leafletted Ecastaphyllum. Shrub.

Cult. See *Pterocárpus*, p. 377. for the culture and propagation of the species.

CCXVI. AMERI'MNUM

CCXVI. AMERI'MNUM (from *a*, priv. and μεριμνα, *merimna*, care; void of care or in a state of security; but what induced Dr. P. Browne to give this name to the present genus is unknown to us, unless it was the careless flow of the branches, or some medical virtue which the plant is supposed to possess). P. Browne, jam. 288. Adans. fam. 2. p. 320. D. C. prod. 2. p. 421.—Amerímnum species of Swartz, fl. ind. occ. 3. p. 1233. t. 25.

Lin. syst. *Monadélphia, Decándria.* Calyx somewhat bilabiate, 5-toothed. Petals 5, disposed into a papilionaceous corolla. Stamens 10, monadelphous, with the sheath or tube cleft in front. Legume compressed, 2-valved, 1-celled, 1-seeded; the superior suture straight, and a little winged; the lower one very convex. —Small trees or shrubs, with alternate, stalked, ovate, somewhat cordate, simple leaves.

1 A. Bro'wnei (Swartz, fl. ind. occ. 3. p. 1234.) leaves ovate, somewhat cordate, acute, glabrous; peduncles axillary, 10-flowered, glabrous or puberulous. ♄. S. Native of Jamaica, St. Domingo, and Carthagena, in dry places among bushes. P. Browne, jam. 288. t. 32. f. 3. Jacq. amer. 199. t. 180. f. 58. Pterocárpus Amerímnum, Poir. dict. 5. p. 729. Flowers white, sweet-scented. The shrub being weak supports itself upon its neighbours.

Browne's Amerimnum. Clt. 1793. Shrub 6 to 10 feet.

2 A. STRIGULÒSUM (H. B. et Kunth, nov. gen. amer. 6. p. 389.) leaves ovate, rather cordate, obtuse, clothed with adpressed pili on both surfaces. ♄. S. Native on the banks of the Orinoco. Branches and petioles clothed with ferruginous tomentum. Racemes axillary, solitary, 3 times longer than the petioles.

Strigulose Amerimnum. Shrub 6 to 10 feet.

Cult. See *Pterocárpus*, p. 377, for culture and propagation.

CCXVII. BRY'A (from *βρυω*, *bryo*, to sprout; the seeds germinate before falling from the tree). P. Browne, jam. 299. Bronn. legum. 135. D. C. prod. 2. p. 421.—Aldina, Adans. fam. 328.

LIN. SYST. *Monadélphia, Decándria.* Flowers the same as those of *Amerimnum*, but the stamens are all monadelphous, the tenth one concrete with the others to the middle. Legume biarticulate; joints 1-seeded, dehiscent, compressed, with the superior suture straight, and the lower one convex, but the upper joint is sometimes wanting.—American trees, furnished with stipular spines, simple crowded leaves, or perhaps trifoliate leaves, with the leaflets sessile.

1 B. E'BENUS (D. C. prod. 2. p. 421.) spines distinct; leaflets aggregate, obovate; peduncles 2-3-together, axillary, 1-2-flowered, shorter than the leaves. ♄. S. Native of the West Indies. P. Browne, jam. 299. t. 31. f. 2. Plum. ed. Burm. t. 246. f. 1. Aspálathus E'benus, Lin. spec. 1001. Amerímnum E'benus, Swartz, prod. 104. Pterocárpus buxifòlius, Murr. syst. 642. Pterocárpus glàbrus, Reichb. Flowers bright yellow. Fruit lunate, hairy. The wood of this tree is cut in the West Indies, and sent to England under the name of ebony, though it is not the true ebony, which is a plant of a very different genus. The wood of this American ebony being of a fine greenish brown colour, and polishing very well, and of a very hard durable nature, is much coveted by musical instrument makers. Dr. Browne says that the small dimensions of this shrubby tree renders it fit only for few purposes, the trunk seldom exceeding 3 or 4 inches in diameter, but that the slender branches being very tough and flexile are frequently used for riding switches, and generally kept at all the wharfs about Kingston to scourge the refractory slaves.

American *Ebony*. Fl. July, Aug. Clt. 1713. Tree 12 to 14 ft.

2 B.? PARVIFLÒRA (D. C. prod. 2. p. 421.) spines connate; leaflets oblong-lanceolate, tapering to the base; racemes bracteate, few-flowered. ♄. S. Native of Brazil. Amerímnum parviflòrum, Spreng. neue entd. 2. p. 159.

Small-flowered Brya. Shrub 12 feet.

Cult. See *Pterocárpus* for culture and propagation, p. 377.

CCXVIII. DEGUE'LIA (abridged from *assa-ha pagara undeguele*, the Caribbean name of the plant). Aubl. guian. 2. p. 750. t. 300. Lam. ill. t. 603. D. C. prod. 2. p. 422.—Cylizòma, Neck. elem. no. 1343.

LIN. SYST. *Diadélphia, Decándria.* Calyx bilabiate, upper lip entire, lower one trifid. Petals 5, disposed into a papilionaceous corolla; wings and carina equal in length, but the vexillum is larger. Stamens 10, diadelphous. Ovary (ex Richard) declinate, narrow, oblong, hispid, straightish. Style stretched out, capillary, hispid on the inner side even to the apex. Stigma terminal, capitate, glandular. Legume (ex Aubl.) globose, small, 2-valved, 1-seeded. Seed spherical, covered with farina.—A sarmentose shrub, with impari-pinnate leaves, furnished with 2 pairs of oval acute leaflets, spike-formed axillary racemes of flowers. This genus, according to its habit, is allied to *Nissòlia* and *Pterocárpus*, but the legume, as it is described by Aublet, belongs probably to a different plant (according to Richard).

1 D. SCA'NDENS (Aubl. l. c.) ♄. ◡. S. Native of Guiana, on the banks of rivers. Branches and leaves glabrous. Peduncles clothed with brown velvety down. Bracteas small, acute. Flowers white.

Climbing Deguelia. Shrub cl.

Cult. See *Pterocárpus* for culture and propagation, p. 377.

Suborder II. or *Tribe* VII.

SWARTZIE'Æ (plants agreeing with *Swártzia* in important characters). D. C. legum. mem. xi. prod. 2. p. 422. Sepals closely joined into an ovate-globose alabastrum before expansion (f. 52. *b.*), which at last bursts valvately, as the flowers expand (f. 52. *g.*). Petals few, irregular or wanting, and are, as well as the stamens, hypogynous (f. 52. *d.*). Radicle incurved (f. 21. *e. f.*). Cotyledons thick. Germination unknown. Leaves simple or simply pinnate. This is a very distinct suborder or tribe, agreeing with *Detarièæ* in the valveless calyx, with tribe *Mimòseæ* in the hypogynous stamens, and in the irregular petals as well as in the habit of the plants with *Dalbergièæ*.

CCXIX. SWA'RTZIA (in honour of Olof Swartz, M.D. a long time resident in the West Indies, and author of Flora Indica Occidentalis, &c.) Schreb. gen. 1227. Willd. spec. 2. p. 1219. D. C. prod. 2. p. 422.

LIN. SYST. *Deca-Polyándria, Monogýnia.* Sepals closely connected into an ovate-globose alabastrum, but bursting afterwards somewhat irregularly and almost valvately almost to the base. Petal one, hypogynous, flat, lateral or wanting. Stamens 10-15-25, variable in number, hypogynous, sometimes with 2 or 4 of them larger than the others, and sterile, and appearing like petals, the rest usually connected a little way at the base. Legume usually stipitate, 2-valved, 1-celled, few-seeded. Seeds arillate, exalbuminous. Embryo with thick cotyledons, and an uncinately, inflexed, short, exserted radicle.—Trees, with simple or impari-pinnate leaves, and with the flowers rising in racemes from the axils of the leaves.

SECT. I. POSSÌRA (the name of *S. arboréscens* in Guiana). Aubl. guian. 2. p. 934.—Rittèra, Schreb. gen. no. 1919.—Hoelzèlia, Neck. elem. no. 1383. Flowers usually with one petal, rarely with 3; when the last is the case, one of them is much larger than the rest.

* *Leaves simple, having the petiole bidentate at the apex. The teeth in place of stipels.*

1 S. SIMPLICIFÒLIA (Willd. spec. 2. p. 1219.) leaves simple, ovate-oblong, obtuse, emarginate; peduncles usually 5-flowered; petal one, roundish, ovate, larger than the calyx; stamens 20-25. ♄. S. Native of the West Indies. Rittèra símplex, Vahl. Possìra símplex, Swartz, prod. 82. Flowers pale yellow.

Simple-leaved Swartzia. Clt. 1818. Shrub 6 to 10 feet.

2 S. GRANDIFLÒRA (Willd. l. c.) leaves simple, oblong-ovate, acuminated; peduncles 3-flowered; petal roundish-reniform, large; stamens 20-25. ♄. S. Native of Trinidad and St. Vincent. Rittèra grandiflòra, Vahl. ecl. 2. p. 37. pl. amer. dec. 1. t. 9. Flowers yellow. Ovary stipitate, arched.

Great-flowered Swartzia. Clt. 1821. Shrub 6 to 8 feet.

3 S. DODECA'NDRA (Willd. l. c.) leaves simple, ovate, drawn out at the apex into an emarginate acumen; peduncles usually 5-flowered; petal oblong, length of calyx; stamens 10-20. ♄. S. Native of South America. Rittèra dodecándra, Vahl. symb. 2. p. 60. t. 34. Ovary stipitate. Flowers yellow.

Dodecandrous Swartzia. Shrub 6 feet.

4 S. PARVIFLÒRA (D. C. legum. mem. xi. t. 60.) leaves simple, on very short petioles, ovate, drawn out into an emarginate

acumen; peduncles usually 3-flowered; petal unguiculate, roundish, a little fringed, length of calyx; stamens 20-25. ♄. S. Native of Cayenne. Legume on a short stipe, ovate, 2-seeded. Seeds ovate-conical, truncate at the central extremity.

Small-flowered Swartzia. Shrub 6 feet.

5 S. ochna'cea (D. C. legum. mem. xi. t. 58.) leaves simple, ovate-elliptic, acutish; peduncles 1-flowered. ♄. S. Native of South America, about Buenos Ayres. Flowers unknown. Legume standing on a stipe half an inch long, obovate, tapering to the base, apiculated by the style. Seed 1, large, reniform.

Ochna-like Swartzia. Shrub 6 feet.

* * *Leaves impari-pinnate, with 3-7 leaflets.*

6 S. triphy'lla (Willd. l. c.) leaves trifoliate, but the lower ones are simple; leaflets oval-lanceolate, acuminated; peduncles 2-5-flowered. ♄. S. Native of Guiana and Cayenne. Possìra arboréscens, Aubl. guian. 2. p. 934. t. 353. Possìra triphýlla, Swartz, prod. 82. Flowers yellow.

Var. β, grandiflòra (Raddi, mem. pl. bras. add. p. 16.) leaflets undulated; petal large. Native near Rio Janeiro.

Three-leafletted Swartzia. Shrub 8 feet.

7 S. a'ptera (D. C. legum. mem. xi. prod. 2. p. 423.) leaves trifoliate; petioles terete, wingless; leaflets ovate-elliptic, drawn out into a blunt, narrow, somewhat emarginate acumen; peduncles 2-5-flowered. ♄. S. Native of Cayenne and Guiana.

Wingless-petioled Swartzia. Shrub 6 feet.

8 S. myrtifòlia (Smith, in Rees' cycl. no. 5.) leaves with 3-5 leaflets; petioles marginated; leaflets lanceolate-oblon[illegible] orbicular, length of calyx; stamens very numer[illegible]; petal [illegible]ous, polyadelphous. ♄. S. Native of the C[illegible]. Petal yellowish.

Myrtle-leaved Swa[illegible]rtzia. Shrub 6 feet.

9 S. [illegible] (Willd. l. c.) leaves with 5 leaflets: petioles terete; leaflets elliptic, acuminated; peduncles rather velvety; racemes twin; petal orbicular, unguiculate, longer than the calyx; stamens numerous. ♄. S. Native of Trinidad. Rittèra pinnàta, Vahl. eccl. 2. p. 38. Corr. ann. mus. 9. p. 289. t. 24. f. 2. Possìra pinnàta, Poir. suppl. 4. p. 533. Legume elongated, many-seeded. Leaflets 7 inches long. Flowers yellowish.

Pinnate-leaved Swartzia. Clt. 1817. Shrub 6 feet.

10 S. longifòlia (D. C. legum. mem. xi. prod. 2. p. 423.) leaves with 5 leaflets; petioles terete; leaflets elliptic-oblong, acuminated, shining; racemes panicled, rather velvety, a little longer than the petioles; petal orbicular; stamens 10. ♄. S. Native of Cayenne. Calyx bipartite, with the lobes reflexed. Petals 3, particularly with a roundish vexillum and 2 wings. Ovary clothed with hoary, adpressed down. Leaflets 7-8 inches long. Perhaps a true species of *Swártzia.*

Long-leaved Swartzia. Shrub 6 to 12 feet.

11 S. brachysta'chya (D. C. legum. mem. xi.) leaves with 5-7 leaflets, and are as well as the branchlets glabrous; petioles terete; leaflets elliptic, acuminated; peduncles smoothish, 5-9-flowered; petal ovate-orbicular, longer than the calyx. ♄. S. Native of Cayenne. Flowers polyandrous. Stamens about 40, nearly equal in length. Leaflets 3 inches long.

Short-spiked Swartzia. Shrub 6 to 10 feet.

12 S. tomentòsa (D. C. legum. mem. xi. t. 59.) leaves with 5-7 leaflets; petioles terete, and are as well as the branchlets velvety; leaflets oval-oblong, acuminated, velvety beneath; stipulas nearly orbicular. ♄. S. Native of Cayenne, on the banks of rivers, where it is called *Bois pagaie blanc.* Robínia Panacòco, Aubl. guian. 2. p. 769. t. 307. Robínia tomentòsa, Willd. spec. 3. p. 1134. Racemes rising beneath the leaves along the branches. Flowers red. The wood is white, and very useful. *Anacoco* is the Guiana name of the tree.

Tomentose Swartzia. Tree 60 feet.

13 S. Flemi'ngii (Raddi, mem. pl. bras. add. p. 18.) leaves pinnate; petioles terete; leaflets oblong, hairy beneath; flowers spicate; petal pilose beneath. ♄. S. Native of Brazil. Flowers white, rising in branches, furnished with orbicular leaves. Ovary covered with silky tomentum.

Flemingia-like Swartzia. Tree 60 feet.

14 S. Langsdórfii (Raddi, l. c. p. 17.) leaves pinnate; petioles marginated; leaflets ovate, acute, glabrous, reticulated with veins; racemes 5-6-flowered. ♄. S. Native of Brazil. Flowers white, rising like those of the preceding.

Langsdorf's Swartzia. Tree 60 feet.

15 S. polyphy'lla (D. C. legum. mem. xi. prod. 2. p. 424.) leaves with 9-11 leaflets; petioles terete, wingless; leaflets ovate, acuminated, glabrous; racemes usually 3-together, slender, somewhat spike-formed; petal roundish. ♄. S. Native of Cayenne. Ovary glabrous, stipitate. From the petal falling off very soon the plant is easily confounded with the next section.

Many-leafletted Swartzia. Tree 20 feet.

Sect. II. Touna'tea (*Tounou* is the Guiana name of *S. alàta*). Aubl. guian. 1. p. 550. t. 218. D. C. prod. 2. p. 424.—Swártzia, Schreb. gen. no. 1227.—Gynanthístrophe, Poit. in. herb. Deless. Flowers apetalous. Legume hooked at the apex.

16 S. ala'ta (Willd. spec. 2. p. 12[illegible]) leaves pinnate, with 5 leaflets; petioles mar[illegible]ginated; leaflets oval-oblong, acute, rather velvety be[illegible]neath; racemes many-flowered, spike-formed. ♄. S. Native of Guiana, in woods. Tounàtea Guianénsis, Aubl. l. c. Ovary hairy, attenuated at the base, containing 4 or 5 ovula, crowned by a short, hooked stigma. Flowers small, green.

Winged-petioled Swartzia. Tree 20 feet.

17 S. ape'tala (Raddi, l. c. p. 19.) leaves pinnate; leaflets ovate-lanceolate, acuminated, glabrous; spikes 20-30-flowered; flowers apetalous. ♄. S. Native of Brazil.

Apetalous Swartzia. Tree 25 feet.

Cult. Sandy loam and peat is the best mixture for the species of this genus; and cuttings, not deprived of any of their leaves, will root if planted in a pot of sand, with a hand-glass placed over them, in heat.

CCXX. BA'PHIA (from βαφη, *baphe*, a dye; the tree produces the cam-wood of commerce). Afz. ex Lodd. bot. cab. 4. p. 367. D. C. prod. 2. p. 424.

Lin. syst. *Decándria, Monogýnia.* Calyx calyptriform, inclosing the corolla, bursting under the carina, and erect under the vexillum, at length falling off altogether. Corolla with a roundish spreading vexillum, linear wings, which are about the length of the vexillum, and an acute carina. Stamens 10, distinct. Legume falciform. Seeds 6, lenticular.—A tree with impari-pinnate leaves. Leaflets 5, oval-oblong, acuminated, shining. Pedicels 2-3-together, 1-flowered, axillary. Flowers white or yellow.

1 B. nítida (Lodd. l. c.). ♄. S. Native of Sierra Leone. The wood is used for dyeing under the name of cam-wood. It is brought from Sierra Leone to this country.

Shining-leaved Cam-wood. Fl. Ju. Nov. Clt. 1793. Tr. 50 ft.

Cult. See *Swártzia* for culture and propagation.

CCXXI. ZOLLE'RNIA (dedicated to Frederick William III. King of Prussia, as we presume from his being descended from the princes of Hohen Zollern). Max. et Nees. in nov. act. bon. 13. p. 1. t. 2 and 3.

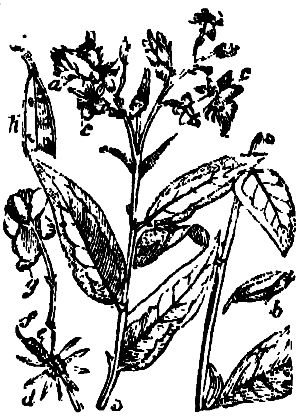
Lin. syst. *Enneándria, Monogýnia.* Calyx entire, cleft laterally (f. 52. *a.*), reflexed. Petals 5, nearly equal (f. 52. *c.*). Stamens 9-13 (f. 52. *d.*), hypogynous; anthers erect, linear (f. 52. *d.*), acuminated, all complete, or 2 a little smaller than the others. Legume (f. 52. *h.*), stipitate, 1-celled, 2-valved, few-seeded. Seeds exalbuminous. Embryo with the radicle uncinately inflexed.—Unarmed trees or shrubs, with simple stipulate leaves, and axillary or terminal, many-flowered racemes, bibracteolate pedicels and yellow flowers.

1 Z. sple'ndens (Max. et Nees. l. C. p. 15. t. C.) stipulas nearly orbicular; leaves ovate-oblong, glabrous. ♄. S. Native of Brazil. Flowers large, yellow.

Splendid Zollernia. Shrub 10 to 15 feet.

2 Z. falca'ta (Max. et Nees. l. c. p. 16. t. D.) stipulas falcate; leaves oblong, acute at the base, attenuated at the apex and bluntish, glabrous. ♄. S. Native of Brazil, on the banks of the river Paraiba. Kramèria glàbra, Spreng. neue entd. 2. p. 157. Flowers yellow, smaller than those of the first species. (f. 52.)

FIG. 52.



Falcate-stipuled Zollernia. Tree 20 feet.

Cult. See *Swártzia* for culture and propagation, p. 380.

Division II. Rectе'mbriæ (from *rectus*, straight, and *embryo*, an embryo; in reference to the radicle and cotyledons being straight). Radicle and cotyledons straight. (f. 21. *i. k. l m.*)

Suborder III. *or Tribe* VIII.

MIMO'SEÆ (plants agreeing with *Mimòsa* in important characters). Embryo straight (f. 21. *m.*), sometimes with the radicle bending a little to the cotyledons. Flowers regular (f. 53. *a.*), usually polygamous (f. 53. *b.*), rarely all hermaphrodite (f. 54. *b.*). Sepals 4-5, valvate in æstivation, usually connected together at the base, the calyx is therefore 4-5-toothed (f. 54. *a.*). Petals 4-5, equal (f. 53. *a.*), also valvate in æstivation, usually hypogynous, rarely inserted in the bottom of the calyx, sometimes more or less connected together into a monopetalous corolla. Stamens inserted with the petals, free (f. 53. *b.* f. 54. *b.*), or monadelphous, equal in number to the petals or multiple that number (f. 53. *b.*). Embryo straight (f. 21. *m.*), with a hardly evident plumule. Umbilical funicle usually twisted. Leaves abruptly pinnate or abruptly bipinnate. Cotyledons in all, except *Entàda*, and perhaps some species of *I'nga*, foliaceous and exserted.

CCXXII. ENTA'DA (the Malabar name of one of the species). Adans. fam. 2. p. 318. Rich. herb. D. C. mem. legum. xii. prod. 2. p. 424.—Gigalòbium, P. Browne, jam. 362.

Lin. syst. *Polygàmia, Monœ'cia.* Flowers polygamous. Petals 5, distinct. Stamens 10-25. Anthers glandular at the apex. Legume compressed, evidently articulated; the valves usually separating into 2 membranes at maturity. Joints of legume 1-seeded, with the ribs permanent. Seeds thick. Cotyledons fleshy, remaining unchanged and inclosed within the spermaderm in germination.—Shrubs with climbing, unarmed stems, bipinnate or conjugately bipinnate leaves, usually with the rachis terminating in a tendril. Flowers white, innumerable, with many abortions, disposed in dense spikes. Legume glabrous, unarmed, very large.

1 E. gigalòbium (D. C. legum. mem. xii. prod. 2. p. 424.) leaves bipinnate, ending in a tendril, with 1-2 pairs of pinnæ, and 2-4 pairs of oblong, emarginate, glabrous leaflets; spikes of flowers axillary; stamens 20-25. ♄. ◡. S. Native of the West Indies, climbing over trees and forming arbours. Mimòsa scándens, Swartz, obs. 389. Lun. hort. jam. 1. p. 137. M. scándens Americàna, Lin. and most other authors. Legume 6-8 feet long, coriaceous, with the sutures very thick. Seeds nearly orbicular, 2 inches in diameter. The shrub is called *Cacoon* in the West Indies.

Giant-podded Entada. Clt. 1819. Shrub cl.

2 E. Pursæ'tha (D. C. legum. mem. xii. prod. 2. p. 425.) leaves bipinnate, ending in a tendril, with 1-2 pairs of pinnæ and 2-4 pairs of ovate, emarginate, glabrous leaflets on each pinna; spikes of flowers axillary; stamens 10. ♄. ◡. S. Native of the Moluccas on the sea-shore, Malabar, and the Mauritius.—Rheed. mal. 8. t. 32, 33, 34.—Rumph. amb. 5. t. 4. Pursæ'tha, Lin. fl. zeyl. 644. Burm. ind. 222. Mimòsa scándens, Roxb. hort. beng. p. 40. M. scándens I'ndica of authors. Legume like that of *E. gigalòbium.* This species is classed among the emetics in Java.

Pursætha Entada. Clt. 1780. Shrub cl.

3 E. monosta'chya (D. C. legum. mem. xii. prod. 2. p. 425.) leaves bipinnate, terminated by a tendril, having 1 or 2 pairs of pinnæ, and with 4 or 5 pairs of oblong-obovate, emarginate, glabrous leaflets on each pinna; spikes of flowers solitary. ♄. ◡. S. Native of Malabar. E. Rheèdii, Spreng. syst. 2. p. 325. Spikes elongated, simple, and axillary, according to Rheede's figure. Flowers decandrous. Entàda, Rheed. mal. 9. t. 77. Mimòsa Entàda, Willd spec. 4. p. 1041. Legume unknown.

One-spiked Entada. Clt. 1800. Shrub cl.

4 E. polysta'chya (D. C. legum. mem. xii. t. 61 and 62. prod. 2. p. 425.) leaves bipinnate, at length ending in a tendril, with 2-3 pairs of pinnæ, and with 7 pairs of oval, emarginate, glabrous leaflets on each pinna; spikes of flowers numerous, in fascicles. ♄. ◡. S. Native of Guiana, Martinico, and Guadaloupe. Mimòsa polystàchya, Lin. spec. 520. Jacq. amer. p. 265. t. 183. f. 93. M. bipinnàta, Aubl. guian. 2. p. 946. E. Parràna, Spreng. syst. 2. p. 325. Legume a foot long, compressed, membranous. Seeds oval, 6 lines long. Flowers apetalous, ex Jacq. but 5-petalled in the specimen. The plant climbs up trees, and often destroys them.

Many-spiked Entada. Clt. 1816. Shrub cl.

5 E. chilia'ntha (D. c. l. c.) leaves bipinnate, with 3-4 pairs of pinnæ, and 7-8 pairs of linear, oblong leaflets on each pinna, which are pubescent beneath; spikes twin, terminal on the branches. ♄. ◡. S. Native of Guiana, in humid places. Mimòsa chiliántha, Meyer, prim. esseq. 163.—Plum. ed. Burm. t. 12. Flowers decandrous.

Lip-flowered Entada. Shrub cl.

6 E.? Adenanthe'ra (D. C. l. c.) leaves with 2 pairs of pinnæ; leaflets ovate, oblique, glabrous; tendrils terminal. ♄. ◡. S. Native of the Island of Mallicocco. Adenanthèra scándens, Forst. prod. no. 117. This plant, from its habit, is related to the present genus.

Adenanthera-like Entada. Shrub cl.

Cult. See shrubby species of *Mimòsa* for culture and propagation, p. 387.

CCXXIII. MIMO'SA (from μιμος, *mimos*, a mimic; the leaves of many of the species, particularly in sensitive plants, mimic animal sensibility). Adans. fam. 2. p. 319. Gærtn. fruct. 2. p. 344. Willd. spec. 4. p. 1028. D. C. prod. 2. p. 425.—Mimòsa species of Lin.

Lin. syst. *Polygàmia, Monœ'cia.* Flowers polygamous. Petals 4-5, connected together into a 4-5-cleft, funnel-shaped corolla. Stamens inserted in the base of the corolla, or in the stipe of the ovary, equal in number to the lobes of the corolla, or double or triple that number, particularly from 4 to 15 in number. Legume compressed, flat, 1 or many-jointed; joints 1-seeded; ribs permanent. Stipulas petiolar. Leaves bipinnate, with 1 or more pairs of pinnæ, each pinna bearing 2 or many pairs of leaflets. Flowers rose-coloured or white, disposed in heads. Leaves usually sensible to the touch, as in the common sensitive plant.

Sect. I. Eumimòsa (from *eu*, well, and *Mimòsa*; genuine species). D. C. legum. mem. xii. prod. 2. p. 425. Legumes compressed, moniliform, particularly with the ribs contracted at the articulations. Flowers rose-coloured.

§ 1. *Sensitìvæ. Leaves with 1 pair of pinnæ, and with 2 pairs of leaflets on each pinna, the inner pair smaller than the outer pair. Stamens 4, rarely 5. Leaves in most of the species sensible to the touch.*

1 M. de'bilis (Humb. et Bonpl. in Willd. spec. 4. p. 1029.) stem herbaceous, simple, rather prickly, glabrous, unarmed at the base of the petioles, but hairy; leaflets obovate, mucronate, clothed on both surfaces with adpressed pubescence; heads of flowers elliptic, solitary. ⊙. S. Native of South America, near Caripe. H. B. et Kunth, nov. gen. amer. 6. p. 248. Flowers rose-coloured. Pods unknown.

Weak Sensitive-plant. Pl. 1 to 2 feet.

2 M. a'lbida (Humb. et Bonpl. in Willd. spec. 4. p. 1030.) branches clothed with canescent pubescence, prickly; leaflets dimidiately-oblong, acute, pubescent; petioles unarmed; heads of flowers twin. ♄. S. Native of Peru, near Moche, in sand by the sea-side. A creeping shrub, very nearly allied to *M. sensitìva*. Legume hispid, 4-celled, hardly constricted between the seeds. Flowers rose-coloured. Kunth, mim. p. 2. t. 1.

Whitish Sensitive-plant. Shrub creeping.

3 M. sensitìva (Lin. spec. 1501.) stem and petioles prickly; leaflets ovate, acute, clothed with adpressed pili beneath, but glabrous above. ♄. S. Native of Brazil. Flowers rose-coloured and tetrandrous, as in the preceding species, however, Linnæus's plant is said to have pentandrous flowers. Trew. ehr. t. 95. Ker. bot. reg. 25. Lindl. bot. reg. Flowers purple. Leaflets broad, but not so sensible to the touch as those of *M. pudìca*.

Sensitive-plant. Fl. April, Sept. Clt. 1648. Sh. 3 to 6 ft.

4 M. obtusifòlia (Willd. enum. p. 1047.) stem and petioles prickly; leaflets dimidiately cordate, ovate, obtuse, glabrous. ♄. S. Native of Brazil. Flowers red. Very like *M. sensitìva*, but more prickly and glabrous.

Blunt-leafletted Sensitive-plant. Fl. June, July. Clt. 1816. Shrub 2 to 4 feet.

5 M. strigòsa (Willd. spec. 4. p. 1030.) branchlets and petioles beset with stiff hairs and prickles; leaflets rather dimidiate, ovate-oblong, acute, strigose on both surfaces; heads of flowers usually solitary. ♄. S. Native of South America, at the Orinoco and of Mexico. H. B. et Kunth, nov. gen. amer. 6. p. 248. Flowers purple. Perhaps the same as *M. strigòsa* of Pers. ench. 2. p. 263.

Strigose Sensitive-plant. Fl. June, Jul. Clt. 1818. Sh. 1 ft.

6 M. adhæ'rens (H. B. et Kunth, nov. gen. amer. 6. p. 249.) branches hairy and prickly; petioles villous, unarmed; leaflets dimidiately-obovate, mucronate, clothed above with adpressed pili, and with silky and somewhat strigose hairs beneath; heads of flowers solitary. ♄. S. Native of South America, at the Orinoco. Flowers red. Legume unknown.

Adhering Sensitive-plant. Shrub 3 to 4 feet.

7 M. floribu'nda (H. B. et Kunth, nov. gen. amer. 6. p. 250.) branches and petioles pubescently-pilose and very prickly; leaflets 2-pairs, somewhat dimidiately ovate, acute, clothed with strigose hairs beneath, but glabrous above; heads of flowers twin or tern. ♄. S. Native of South America, near Cumana, and of Mexico, near Jalapa. Flowers red.

Var. β, *Willdenòwii* (D. C. prod. 2. p. 426.) heads of flowers disposed in a terminal panicle. M. floribúnda, Willd. spec. 4. p. 1031. M. Willdenówii, Poir. suppl. 1. p. 50.

Bundle-flowered Sensitive-plant. Fl. June, July. Clt. 1824. Shrub 1 to 1½ foot.

§ 2. *Pudìcæ* (*pudicus*, chaste; in reference to the sensitive qualities of the leaves). *Leaves with 1 or more pairs of pinnæ; when the last is the case, they are disposed in a digitate manner at the top of the common petiole, each pinna bearing many pairs of leaflets, which are about equal in size and shape. Stamens 4, rarely 5. Leaves usually sensible to the touch.*

8 M. pistaciæfòlia (Willd. spec. 4. p. 1028.) unarmed; leaves with 1 pair of pinnæ, each pinna bearing 3 pairs of elliptic, obtuse leaflets, with a gland between the terminal pair. ♄. S. Native of Caraccas. Flowers red. Legume linear, sinuated, 6-7 inches long. Perhaps belonging to a different division of the genus.

Pistachio-leaved Humble-plant. Tree 10 to 15 feet.

9 M. vìva (Lin. spec. 1500.) plant unarmed, herbaceous; leaves with 1 pair of pinnæ, each pinna bearing 4 pairs of roundish leaflets; legume with only one joint. ♃. S. Native of Jamaica, in meadows. Sloan. hist. 2. t. 182. f. 7. Flowers purple.

Lively Humble-plant. Fl. July, Aug. Clt. 1739. Pl. 1 ft.

10 M. pectina'ta (Kunth, mim. p. 5. t. 2. nov. gen. amer. 6. p. 25.) branches prickly, and beset with stiff villi; leaves conjugately pinnate; common petiole rather shorter than the prickles; leaflets many pairs, approximate, linear, acute, with strigosely ciliated margins. ♄. S. Native of the Andes of Quito, in hot places. Flowers red. Fruit unknown.

Pectinate-leaved Humble-plant. Shrub.

11 M. polyca'rpa (Kunth, mim. p. 8. t. 3. nov. gen. amer. 6. p. 25.) branches prickly, striated, pilose; leaves conjugately pinnate; petioles much longer than the prickles; leaflets many pairs, oblong-linear, acute, glabrous above, but clothed with adpressed pili beneath as well as on the margins. ♄. S. Native of Peru, in sandy places. Heads of flowers solitary. Flowers red. Legumes pilose, with very hispid margins.

Many-fruited Humble-plant. Shrub 1 to 2 feet.

12 M. pudi'ca (Lin. spec. 1501.) stem herbaceous, prickly, with the petioles and peduncles more or less beset with stiff hairs or bristles; leaves somewhat digitately pinnate, with 4 pinnæ, each pinna bearing many pairs of linear leaflets. ⊙. S. Native of Brazil. Andr. bot. rep. t. 544. Flowers red. Legumes glabrous in the middle, but with the margins beset with stiff bristles. Superior leaves sometimes the same as the inferior ones. This plant is commonly grown in gardens, under the name of the sensitive plant, the leaves falling on the slightest touch. Sensitive plants were not unknown to the ancients. Theophrastus speaks of the Αισχυνομενη, as growing about Memphis in Egypt, and Pliny of the *Æschynomene*, so called from its contracting the leaves at the approach of the hand. It is thus characterized in the flowery poetry of Darwin:

> " Weak with nice sense the chaste *Mimosa* stands,
> From each rude touch withdraws her timid hands;
> Oft as light clouds o'erpass the summer glade,
> Alarm'd she trembles at the moving shade,
> And feels alive through all her tender form
> The whisper'd murmurs of the gathering storm;
> Shuts her sweet eye-lids to approaching night,
> And hails with freshen'd charms the rising light."

The cause of the well-known motion of the leaves of the sensitive and humble plants has been the subject of many ingenious explanations; but it has not been treated by any botanist with so much ingenuity as by Dr. Dutrochet, whose theory we give as explained in the Botanical Register.

M. Dutrochet states, that having ascertained hot nitric acid to possess the power of separating and reducing to its simplest form the whole mass of vegetable tissue, and that the same acid produced other effects equally advantageous for the examination of the most obscure parts of vegetable structure, he was induced to give his attention to that of *Mimòsa pudìca*, in the hope of gaining some evidence respecting the cause to which its sensibility is to be ascribed. Beginning with the pith he observed a considerable number of minute globules, of a greenish colour, intermingled among the cells, and adhering to them in an irregular manner. After attempting to show the probability of these globules having deceived Mirble in various points of his analysis of vegetation, and especially in regard to the pores, which that botanist supposes to exist in the cellular tissue of plants, Dr. Dutrochet proceeds to remark, that the application of hot nitric acid to these globules renders them perfectly opaque, whence he concludes that they are in fact minute cells, filled with a particular fluid which is subject to become concrete by the application of acids. Now it is known that such fluids as are thus altered by acids are usually dissolved and liquefied again by the application of alkalies. A few drops, therefore, of a solution of hydrate of potass were suffered to fall upon a portion of the pith on which nitric acid had been acting, and the mixture was exposed to the heat of a lamp. Being examined after a few minutes, the globules were found to have resumed their natural appearance. This curious fact indicated, in the opinion of Dutrochet, a strong and unexpected point of analogy between plants and animals. According to the microscopical researches of some modern observers, it has been ascertained that all the organs of animals are composed of a conglomeration of minute corpuscles, similar to those just described; the corpuscles which constitute the muscles are soluble in acids, but those which compose the nervous system are insoluble in the same acids, and only soluble in alkalies. Now, as the chemical properties and external appearance of the particles scattered among the cellular tissue of plants, and constituting the nervous system of animals, are the same, the author is induced to infer, that the spherical particles of plants are in fact the scattered elements of their nervous system. This hypothesis receives additional strength from the great similarity which exists between the medullary substance of the brain of *Molúsca gastropòda* and the cellular medullary tissue of plants. In pursuit of this idea, Dr. Dutrochet made a variety of experiments upon the sensitive plant, the results of which seem to be these:— The principal point of locomotion or of mobility exists in the little swelling which is situated at the base of the common and partial petioles of the leaves; this swelling is composed of a very delicate cellular tissue, in which is found an immense number of nervous corpuscles; the axis of the swelling is formed of a little fascicle of tubular vessels. It was ascertained by some delicate experiments, that the power of movement, or of contraction and expansion, exists in the parenchyma and cellular tissue of the swelling, and that the central fibres have no specific action connected with the motion. It also appeared that the energy of the nervous powers of the leaf depended wholly upon an abundance of sap, and that a diminution of that fluid occasioned an extreme diminution of the sensibility of the leaves. Prosecuting his remarks still further, the author ascertained that in the motion of the sensitive plant two distinct motions take place, the one of locomotion, which is the consequence of direct violence offered to the leaves, and which occurs in the swellings already spoken of; the other is nervimotion, which depends upon some stimulus applied to the surface of the leaflets, unaccompanied by actual violence, such as the solar rays concentrated in the focus of a lens. As in all cases the bending or folding of the leaves evidently takes place from one leaf to another with perfect continuity, it may safely be inferred, that the invisible nervous action takes place in a direct line from the point of original irritation, and that the cause by which this action of nervimotion is produced must be some internal uninterrupted agency. This was, after much curious investigation, determined by the author to exist neither in the pith nor in the bark, nor even in the cellular tissue filled with nervous corpuscles, and on which he supposes the locomotion of the swelling at the base of the petioles to depend. It is in the ligneous part of the central system in certain tubes supplied with nervous corpuscles, and serving for the transmission of sap, that Dr. Dutrochet believes he has found the true seat of nervimotion, which he attributes to the agency of the sap alone, while he considers the power of locomotion to depend upon the nervous corpuscles alone.

Var. β, *glabràta* (D. C. prod. 2. p. 426.) stem glabrous. Native of St. Domingo and St. Thomas. Plum. ed. Burm. t. 202.

Var. γ, *tetrándra* (Willd. spec. 4. p. 1032.) leaflets clothed with adpressed pili beneath. M. pudìca, H. B. et Kunth, nov. gen. amer. 6. p. 252.

Chaste or Common Humble-plant. Fl. April, Sept. Clt. 1638. Pl. 1 foot.

13 M. HISPÍDULA (H. B. et Kunth, nov. gen. amer. 6. p. 252.) stems prickly, and densely beset with stiff hairs; leaves somewhat digitately pinnate, with 4 pinnæ; leaflets linear, acute, ciliated, glabrous; heads of flowers usually twin; legumes very hispid. ♄. S. Native of South America, near Santa Barbara. Very nearly allied to *M. pudìca*. Flowers red.

Hispid Humble-plant. Fl. May, Sept. Clt. 1820. Sh. 1 to 2 ft.

14 M. PUDIBU′NDA (Willd. spec. 4. p. 1032.) stem shrubby, prickly, glabrous; leaves somewhat digitately pinnate, with 4 pinnæ, each pinna bearing many pairs of linear leaflets; heads of flowers elliptic. ♄. S. Native of Brazil, about Bahia. Flowers red.

Blushing Humble-plant. Fl. Ju. Aug. Clt. 1818. Sh. 1 to 2 ft.

15 M. TOMENTÒSA (Humb. et Bonpl. in Willd. spec. 4. p. 1033.) branches unarmed, clothed with silky hairs; leaves somewhat digitately pinnate, with 4 pinnæ, each pinna bearing many pairs of oblong-linear leaflets, which are clothed with hoary silky villi beneath. ♄. S. Native of South America, on the banks of the river Orinoco. Kunth, mim. p. 11. t. 4. H. B. et Kunth, nov. gen. amer. 6. p. 253. Flowers red. Legumes unknown. The specific name is fallacious.

Tomentose Humble-plant. Shrub.

16 M. HIRSU′TA (Moc. et Sesse, in herb. Lamb.) prickles stipular, recurved; leaves with only 1 pair of pinnæ, each pinna bearing numerous linear, mucronate leaflets; stem hispid as well as the pedicels, petioles, and rachis of leaves; peduncles solitary or twin, axillary, about the length of the petioles; calyx hispid; legumes prickly on the margins, 3-4-jointed. ⊙. S. Native of Mexico. Heads of flowers nearly globular, red.

Hairy Sensitive-plant. Pl. 1 to 2 feet.

17 M. TRICE′PHALA (Schlecht. et Cham. in Linnæa. 5. p. 591.) leaves with 1 pair of pinnæ, each pinna bearing 12 pairs of oblique, ovate-elliptic, mucronate leaflets, which are adpressedly ciliated on the margins, shining and glabrous above, but strigose beneath; petiole short; stipulas small, filiform; branches, rachis of leaves, and peduncles scabrous from stiff hairs; heads tern, on long peduncles, axillary, and forming a loose terminal raceme, which is leafy at the base. ♄. S. Native of Mexico, between Laguna, Verde, and Actopan. Flowers pale red. Legumes unknown.

Three-headed Mimosa. Shrub.

18 M. POLYDA′CTYLA (Humb. et Bonpl. in Willd. spec. 4. p. 1033.) stems prickly, glabrous, pilose above; leaves somewhat digitately pinnate, with 8 pinnæ, each pinna bearing many pairs of linear leaflets. ♄. S. Native of Guiana, and about Demerara, as well as in Maranham. Flowers purple. Heads of flowers twin, ovate, pedunculate.

Many-fingered Humble-plant. Fl. June, July. Clt. 1822. Shrub 1 to 2 feet.

§ 3. *Bipinnàtæ* (from *bipinnàtus*, bipinnate leaves). *Leaves bipinnate, with the pinnæ distant, not approximate at the top of the common petiole, as in the last division.*

* *Plants prickly.*

19. M. GEMINA'TA (Moc. et Sesse, fl. mex. icon. ined. D. C. prod. 2. p. 427.) stems diffuse, and are as well as the petioles prickly; leaves bipinnate, with 2-3 pairs of pinnæ, each pinna bearing 15-20 pairs of leaflets; heads of flowers axillary, twin. ♃. S. Native of North America, on the western coast. Heads of flowers almost like those of *M. pudica*. Flowers red. Legumes unknown.

Twin-headed Mimosa. Pl. diffuse.

20 M. MONTA'NA (Kunth, mim. p. 31. t. 10. nov. gen. amer. 6. p. 259.) branches prickly, puberulous; leaves bipinnate, short, unarmed, with 2-3 pairs of pinnæ, each pinna bearing 4-6 pairs of elliptic-oblong, puberulous leaflets. ♄. S. Native of Peru, on the Andes, near Caxamarca, at the height of 4310 feet above the level of the sea. Heads of flowers solitary or twin, of a very pale rose colour or white. Legume linear, many-jointed, glabrous.

Mountain Mimosa. Shrub 1 to 2 feet.

21 M. HU'MILIS (Humb. et Bonpl. in Willd. spec. 4. p. 1037.) branches prickly, hispid; leaves bipinnate, with 3-4 pairs of pinnæ, each pinna bearing 6-13 pairs of linear, acutish leaflets, which are puberulous beneath as well as on the margins; prickles straight, subulate, those on the petioles opposite; heads of flowers solitary. ♄. S. Native of Peru. H. B. et Kunth, nov. gen. amer. 6. p. 254. Flowers red. Legume ovate, 2-jointed, beset with bristles.

Humble Mimosa. Shrub ½ foot.

22 M. HAMA'TA (Willd. spec. 4. p. 1033.) branches, petioles, and peduncles pubescent and prickly; leaves bipinnate, with 4 pairs of pinnæ, each pinna bearing 7-8 pairs of leaflets; peduncles longer than the leaves. ♄. S. Native of the East Indies. Legume 5-jointed, sinuated, pubescent.

Hooked Mimosa. Shrub 2 to 4 feet.

23 M. SÓMNIANS (Humb. et Bonpl. in Willd. spec. 4. p. 1036.) branches prickly, rather hispid; leaves bipinnate, with 4-5 pairs of pinnæ, each pinna bearing many pairs of linear, glabrous leaflets; rachis rather prickly; heads of flowers solitary. ♄. S. Native of New Granada, on the Andes. H. B. et Kunth, nov. gen. amer. 6. p. 256. Kunth, mim. p. 20. t. 7. Flowers red. Legume linear, many-jointed, hispid.

Sleeping Mimosa. Shrub 2 to 6 feet.

24 M. PA'LPITANS (Humb. et Bonpl. in Willd. spec. 4. p. 1036.) branches prickly, glabrous; leaves bipinnate, with 5-6 pairs of pinnæ, each pinna bearing many pairs of linear, glabrous leaflets; rachis setose, and rather prickly; heads of flowers usually twin. ♄. S. Native of South America. Flowers red. Legumes linear, 8-12-jointed, rather setose. Perhaps distinct from *M. sómnians*.

Beating Mimosa. Shrub 2 to 4 feet.

25 M. INTERME'DIA (Kunth, mim. p. 16. t. 6. H. B. et Kunth, nov. gen. amer. 6. p. 255.) branches hispid, and are as well as the rachis prickly; leaves bipinnate, with 4-7 pairs of pinnæ, each pinna bearing 9-15 pairs of linear, obtuse, glabrous leaflets; heads of flowers usually twin. ♄. S. Native of the plains of Caraccas. Flowers red. Legume short, 2-4-jointed, oblique, hispid, with the upper joint broader than the rest.

Intermediate Mimosa. Shrub procumbent.

26 M. SOMNICULÒSA (H. B. et Kunth, nov. gen. amer. 6. p. 257.) branches pilose, and are as well as the rachis prickly; leaves bipinnate, with 10-12 pairs of pinnæ, each pinna bearing many pairs of linear, acutish, glabrous leaflets; heads of flowers solitary. ♄. S. Native of South America, within the tropics. Flowers red.

Sleepy Mimosa. Shrub.

* * *Plants unarmed.*

27 M. VI'SCIDA (Willd. enum. p. 1048.) branches and petioles unarmed; but clothed with clammy glands; leaves bipinnate, with 4 pairs of pinnæ, each pinna bearing many pairs of linear, obtuse, glabrous leaflets; heads of flowers globose, solitary. ♄. S. Native of Brazil. Flowers red. Legume unknown. Perhaps belonging to a different section.

Clammy Mimosa. Clt. 1825. Shrub 2 feet.

28 M. MICROCE'PHALA (Humb. et Bonpl. in Willd. spec. 4. p. 1039.) branches and petioles unarmed, but clothed with adpressed pili; leaves bipinnate, with 12-14 pairs of pinnæ, each pinna bearing many pairs of oblong-linear, obtuse, ciliated leaflets; heads of flowers ovate, twin or tern. ♄. S. Native of the banks of the river Orinoco. Kunth, mim. p. 23. t. 8. nov. gen. amer. 6. p. 257. Flowers red. Legume linear, many-jointed, strigose.

Small-headed Mimosa. Fl. June, July. Clt. 1820. Shrub 2 to 4 feet.

SECT. II. HABBA'SIA (*Habbas* is the Egyptian name of *M. polyacántha*). D. C. legum. mem. xii. prod. 2. p. 428. Legume compressed, very hispid, with straight parallel margins, never contracted at the articulations; joints few, shorter than broad. In all the species the branches and petioles are prickly; the prickles on the petioles usually opposite. Leaves bipinnate. Flowers white.

29 M. DO'RMIENS (Humb. et Bonpl. in Willd. spec. 4. p. 1035.) branches prickly, and densely clothed with white hairs; leaves bipinnate, with 5-7 pairs of pinnæ, each pinna bearing 9-12 pairs of linear, rather falcate, acute leaflets, which are pubescent on both surfaces; prickles opposite, subulate, straight, placed between each pinna, and at their base; heads of flowers solitary. ♄. S. Native of South America, in sand on the banks of the river Apures. Flowers white. Legume unknown, but is allied to *M. asperàta*.

Sleeping Mimosa. Fl. June, July. Clt. 1818. Sh. procumb.

30 M. CANE'SCENS (Willd. spec. 4. p. 1038.) leaves bipinnate, with 8-10 pairs of pinnæ, each pinna bearing many pairs of leaflets, which are covered with hoary strigæ; cauline prickles hooked, those on the petioles remote. ♄. S. Native of Guinea. Flowers white. Branches, petioles, and peduncles beset with stiff pubescence.

Canescent Mimosa. Fl. June, July. Clt. 1822. Shrub 1 foot.

31 M. HÍSPIDA (Willd. spec. 4. p. 1037.) leaves bipinnate, with 10 pairs of pinnæ, each pinna bearing many pairs of 3-nerved leaflets; cauline prickles hooked, petiolar ones wanting. ♄. S. Native of Caraccas. Branches, petioles, and peduncles setose. Legume attenuated at both ends, flat, setose, of about 15 joints. Flowers white.

Hispid Mimosa. Tree 10 to 20 feet.

32 M. CILIA'TA (Willd. enum. p. 1048.) leaves bipinnate, with 10 pairs of pinnæ, each pinna bearing many pairs of ciliated leaflets; prickles straight, opposite, a pair between each pair of pinnæ, but solitary at the base of the pinnæ. ♄. S. Native of Brazil. Branches and petioles hairy. Flowers white. Legumes unknown. Allied to *M. asperàta*.

Ciliated-leafletted Mimosa. Shrub.

33 M. PELLI'TA (Humb. et Bonpl. in Willd. spec. 4. p. 1037.) leaves bipinnate, with 8-12 pairs of pinnæ, each pinna bearing many pairs of leaflets, which are hispid on the margins, as well as on the under surface; cauline prickles straight, as well as those at the base of the pinnæ; peduncles twin, 4 times longer than the

heads of the flowers. ♄. S. Native of South America, near Cumana, and on the banks of the river Magdalena near Nares. Branches and petioles hispid. Legumes rather incurved, and hispid, composed of 21-23 joints. Stamens 10-12 in the specimens collected about Cumana, but only 8 in those collected near Nares, ex Kunth, mim. 27. t. 9. H. B. et Kunth, nov. gen. 6. p. 258.

Clad Mimosa. Shrub 3 to 4 feet.

34 M. POLYACA'NTHA (Willd. spec. 4. p. 1034.) leaves bipinnate, with 8-11 pairs of pinnæ, and each pinna bearing many pairs of leaflets; prickles on the stem, as well as those between the pinnæ, hooked, those at the base of the pinnæ straight, and subulate; peduncles 4 times the length of the heads of flowers. ♄. S. Native of Guinea, Abyssinia, and Upper Egypt. Bruce, trav. 5. t. 7. M. Hábbas, Delile, ill. fl. ægypt. p. 31. but not of Link. Peduncles and petioles beset with stiff adpressed villi. Perhaps sufficiently distinct from *A. asperàta.*

Many-spined Mimosa. Shrub 2 to 3 feet.

35 M. ASPERA`TA (Willd. spec. 4. p. 1035.) leaves bipinnate, with 8-12 pairs of pinnæ, each pinna bearing many pairs of leaflets, which are clothed with adpressed bristles beneath, as well as on the margins; prickles on the stem, and between the pinnæ rather hooked, but those at the base of the pinnæ are straight; peduncles usually twin, length of the heads of flowers. ♄. S. Native of Jamaica, Vera Cruz, and about Demerara. D. C. legum. mem. xii. t. 63. Calyx unequally many-toothed. Leaves falling on the slightest touch.

Var. α, hirsùtior (D. C. l. c.) M. asperàta, Lin. spec. 1507. Mill. fig. t. 182. f. 3. Breyn. cent. t. 19.

Var. β, læ`vior (D. C. l. c.) M. pigra, Lin. amœn. 4. p. 274.—Breyn. cent. t. 20.

Roughened Mimosa. Fl. June, July. Clt. 1733. Shrub 3 to 6 feet.

36 M. SICA`RIA (Hoffm. verz. pfl. 1824. p. 221.) leaves bipinnate, with usually 5 pairs of pinnæ, each pinna bearing many pairs of linear, rather ciliated leaflets; prickles straight, subulate, those on the stems scattered, between the pinnæ opposite, and solitary between the pairs. ♄. S. Native of Brazil. Perhaps sufficiently distinct from *M. asperàta.*

Sicaria Mimosa. Shrub 4 to 6 feet.

SECT. III. BATAUCAU'LON (from *βατος, batos*, a bramble, and *καυλος, kaulos*, a stem; stems prickly). D.C. prod. 2. p. 429. Legumes compressed, flat, quite glabrous or hardly pubescent, with parallel ribs, never contracted at the articulations, unarmed or bearing a single row of spines. The leaves of all are bipinnate, and the flowers either white or pale yellow.

37 M. RUBRICAU'LIS (Lam. dict. 1. p. 20.) branch and petiolar prickles scattered and hooked; leaves bipinnate, and are, as well as the branchlets, clothed with adpressed pubescence, having 4-5 pairs of pinnæ, and each pinna bearing 10-12 pairs of oblong-linear leaflets; glands oblong, one situated between each pair of pinnæ when young. ♄. S. Native of the East Indies. M. octándra, Roxb. cor. 2. t. 200. M. Rottlèri, Spreng. syst. 2. p. 206. Heads of flowers yellowish, 3 or 4 rising together from the axils of the upper leaves, which are abortive. Legume compressed, curved, glabrous, obscurely articulated, and furnished with hooked prickles on both sutures, very rarely unarmed.

Red-stemmed Mimosa. Fl. June, July. Clt. 1799. Shrub rambling.

38 M.? CERATÒNIA (Lin. spec. 1508.) branch and petiolar prickles scattered and hooked; leaves bipinnate, and are, as well as the branches, glabrous, with usually 5 pairs of pinnæ, each pinna bearing many pairs of obovate leaflets; legumes quite smooth, obscurely articulated, and bearing hooked prickles on the ribs on both sides. ♄. S. Native of St. Domingo and Porto-Rico. Plum. ed Burm. 17. t. 8. Acàcia Ceratònia, Willd. spec. 4. p. 1091. A rambling shrub.

Ceratonia-like Mimosa. Shrub 1 to 2 feet.

39 M. OLIGACA'NTHA (D. C. prod. 2. p. 429.) cauline prickles hooked, one under each leaf; leaves bipinnate, unarmed, and are, as well as the branches, glabrous; pinnæ 3-4 pairs, and each pinna bearing 3-4 pairs of obovate leaflets; legumes evidently articulated, and hardly aculeated on the ribs. ♄. S. Native of St. Martha. Prickles of legume straight, subulate, and very few.

Few-spined Mimosa. Shrub 3 to 6 feet.

40 M. CA'STA (Lin. spec. 1500.) branch and petiolar prickles scattered and hooked; leaves bipinnate, with only one pair of pinnæ, situated at the top of the petiole, each pinna bearing 4 pairs of obliquely-ovate acute leaflets, which are rough from adpressed strigæ, and ciliated; legumes oval-oblong, with the disks glabrous, but with the sutures very spiny. ♄. S. Native of South America. Comm. hort. 1. t. 28. The lower flowers of the spikes are barren, but the upper ones are fertile.

Chaste Mimosa. Fl. July. Clt. 1741. Shrub.

41 M. LEJOCA'RPA (D. C. legum. mem. xii.) prickles on the branches very few and straightish; leaves unarmed, bipinnate, and are, as well as the branches, glabrous, with 12 pairs of pinnæ, each pinna bearing many pairs of linear leaflets; legumes unarmed, glabrous, evidently articulated, disposed in racemes. ♄. S. Native of St. Martha. Acàcia nùtans, Spreng. in herb. Balb. Perhaps belonging to a different division of the genus.

Smooth-fruited Mimosa. Shrub.

† *Species uncertain to which genus they belong, or to what section of the genus; they are therefore disposed according to the form of the leaves.*

* *Leaves simple.*

42 M. BAUHINIFÒLIA (Salisb. prod. p. 324.) leaves simple, 2-lobed, pubescent.—Native country, flowers, and fruit unknown. Perhaps a species of *Bauhinia* or *Hymenæ`a.*

Bauhinia-leaved Mimosa. Shrub.

* * *Leaves simply pinnate.*

43 M.? PILÒSA (Lour. coch. 650.) unarmed; leaves pinnate, with many pairs of very pilose leaflets; leaflets ovate, obtuse; heads of flowers terminal; legume straight, slender. ♄. G. Native of Cochin-china, in woods. M. crinìta, Pers. ench. 2. p. 261. Flowers white, disposed in large heads, polyandrous. Perhaps a species of *I'nga.*

Pilose Mimosa. Shrub 4 feet.

44 M. FE`RA (Lour. coch. p. 652.) prickles scattered, branched; leaves impari-pinnate; leaflets 5 pairs, oblong-ovate, emarginate; spikes of flowers lateral; corolla 5-cleft, decandrous; legumes curved, flat, many-seeded. ♄. S. Native of Cochin-china and China, where it is planted for hedges, which are impenetrable to animals. From the branched spines we should judge this tree to be a species of *Gleditschia.*

Fierce Mimosa. Tree 50 feet.

* * * *Leaves with one pair of pinnæ.*

45 M. STAMÍNEA (Billb. pl. bras. in flora. 1821. p. 332.) unarmed; leaves with one pair of pinnæ, each pinna bearing about 25 pairs of leaflets; heads of flowers globose, axillary, pedunculate; stamens very long. ♄. S. Native of Brazil.

Long-*stamened* Mimosa. Shrub or tree.

46 M. CASCABELI'LLO (Coll. hort. ripul. 91.) unarmed; leaves with one pair of pinnæ, each pinna bearing 2-3 pairs of elliptic, acutish, glabrous leaflets, with an adpressed gland between the outer pair of leaflets. ♄. S. Native country unknown, as well as the flowers and fruit. Said to be allied to *M. pistaciæfòlia.*

Cascabelillo Mimŏsa. Shrub 3 to 4 feet.

47 M. HIRSUˋTA (Spreng. syst. 2. p. 204.) unarmed; stipulas linear; leaves with one pair of pinnæ, each pinna bearing 12 pairs of oval, marginated, ciliated leaflets; common petiole hairy. ♄ . S. Native of Monte Video.

Hairy Mimosa. Shrub or tree.

48 M. SPRENGEˋLII (D. C. prod. 2. p. 430.) prickles scattered, horizontal; branches strigose, adpressed downwards; leaves with 1 pair of pinnæ, each pinna bearing 6 pairs of obliquely ovate-oblong, nerved leaflets, ciliated at the base; flowers axillary, sessile, pentandrous. ♄ . S. Native of Monte Video. M. ciliàta, Spreng. syst. 2. p. 204. but not of Willd.

Sprengel's Mimosa. Shrub or tree.

* * * * *Leaves pinnate and bipinnate.*

49 M. COCHLIOCAˊRPA (Gomes. obs. pl. bras. p. 30. t. 4. f. 3.) unarmed; leaves doubly and abruptly-pinnate, with 3 pairs of pinnæ, and 3 pairs of leaflets; heads of flowers solitary; legumes compressed, spiral. ♄ . S. Native of Brazil, near Rio Janeiro. Abaremotèma, Pis. bras. 77. Leaflets ovate-lanceolate, 3 or 4 pairs on each pinna, and 3 pairs of pinnæ. Stamens 20, monadelphous. Bark chinky, and very astringent.

Twisted-fruited Mimosa. Shrub 3 to 6 feet.

* * * * * *Leaves bipinnate.*

† *Unarmed shrubs or trees.*

50 M.? CORNICULAˋTA (Lour. coch. 651.) unarmed; leaves bipinnate; leaflets usually 8 pairs; petiole prickly at the base, and propped by a recurved callous horn; panicle terminal, subcorymbose. ♄ . G. Native of China, in the suburbs of Canton. Flowers white, 4-cleft, polyandrous and monadelphous. Perhaps a species of *Acàcia*. Loureiro did not see any hermaphrodite flowers.

Horned-petioled Mimosa. Tree 20 feet.

51 M. BALSAˊMICA (Mol. chil. ed. gall. 338.) unarmed; leaves bipinnate; pinnæ 6 pairs; leaflets somewhat denticulated; flowers octandrous. ♄ . S. Native of Chili.

Balsam Mimosa. Shrub or tree.

52 M. TERMINAˋLIS (Salisb. prod. 325.) leaves bipinnate; petioles acutely angled above; leaflets unequal-sided, ovate-lanceolate, mucronulate, coriaceous. ♄ . G. Native about Port Jackson, in New South Wales.

Terminal Mimosa. Tree.

53 M. AGGREGAˋTA (Pers. ench. 2. p. 263.) leaves bipinnate; leaflets distant, pilose beneath, as well as the petioles; peduncles numerous, aggregate in the axils of the leaves. ♄ . S. Native of the East Indies. Perhaps a species of *Acàcia*.

Aggregate-peduncled Mimosa. Tree.

54 M. RHOMBIFÒLIA (Pers. ench. 2. p. 263.) leaves bipinnate; leaflets large, rhomboid; flowers disposed in spikes. ♄ . S. Native of Trinidad. Perhaps a species of *Acàcia*.

Rhomb-leafletted Mimosa. Tree.

55 M.? TOˊRTILIS (Forsk. descrip. p. 176.) leaves bipinnate, with 5 pairs of pinnæ, the outer pair furnished with a scale between, each pinna bearing 7-9 pairs of oblong, very short leaflets; legumes twisted, glomerated. ♄ . G. Native of Arabia, near Hares. Flowers white, disposed in heads. Perhaps a species of *Acàcia*.

Twisted-podded Mimosa. Tree.

56 M.? GLOMERAˋTA (Forsk. descrip. 177.) leaves bipinnate; legumes black, twisted, glomerated. ♄ . S. Native of Arabia.

Glomerate-podded Mimosa. Shrub.

57 M.? FLAˋVA (Forsk. descript. 176.) leaves bipinnate, with 3-5 pairs of pinnæ, each pinna bearing 7-10 pairs of linear obtuse leaflets, destitute of any glands. ♄ . G. Native of Arabia. Flowers pale yellow.

Yellow-flowered Mimosa. Shrub.

†† *Armed shrubs or trees.*

58 M. LUˋTEA (Mill. dict. no. 17.) prickles very long; leaves bipinnate, glabrous; flowers globose, pedunculate. ♄ . S. Native of South America. Flowers yellow.

Yellow Mimosa. Tree.

59 M. TRINEˊRVIS (Desf. cat. hort. par. 180. Pers. ench. 2. p. 266.) glabrous; rameal and petiolar prickles scattered, and rather hooked; leaves bipinnate, with 3-4 pairs of pinnæ, each pinna bearing 8-10 pairs of oval-rhomboid, mucronulate, veiny leaflets, which are 3-nerved at the base; there is a gland at the base of the petiole, and one between each of the two extreme pairs of pinnæ. ♄ . S. Native country unknown, as well as the legumes and flowers. Acàcia trinérvis, Desv. journ. bot. 1814. 1. p. 70. Perhaps the figure in Breyn. cent. 1. t. 17. appertains to this plant, and therefore it is the same as M. longisíliqua of Lam. dict. 1. p. 21. The species appears to be intermediate between the sections *Habbàsia* and *Bataucaúlon* of the present genus.

Three-nerved-leafletted Mimosa. Tree?

60 M.? ANGULAˋTA (Spreng. neue entd. 2. p. 158.) prickles on the angles of the branches scattered, and bent backwards; leaves bipinnate, with 12 pairs of pinnæ, each pinna bearing many pairs of linear ciliated leaflets; petioles unarmed, and are, as well as the branches, very villous, and bearing glands between the pairs of pinnæ; panicle branched. ♄ . S. Native of Brazil. Legume unknown. Said to be allied to *M. rubricaúlis*.

Angular-branched Mimosa. Shrub or tree.

61 M. RUGAˋTA (Lam. dict. 1. p. 20.) prickles scattered, short, hooked; leaves bipinnate, with 7-8 pairs of pinnæ, each pinna bearing 13-15 pairs of linear leaflets; there is a sessile gland at the base of the petiole; legumes complanate, sinuated, plicate, wrinkled, mucronate. ♄ . S. Native of the East Indies. Legumes 5 inches long, and one inch broad. Flowers unknown.

Wrinkled Mimosa. Tree.

62 M. LATISPINÒSA (Lam. dict. 1. p. 22.) spines petiolar, scattered, very broad, compressed, straight; leaves bipinnate, at length becoming glabrous, glandless, with 12-20 pairs of unarmed pinnæ, each pinna bearing 10-15 pairs of elliptic-oblong leaflets. ♄ . S. Native of Madagascar. Petioles, branches, and under side of leaves pubescent. Flowers and fruit unknown.

Broad-spined Mimosa. Clt. 1823. Shrub.

63 M.? SINUAˋTA (Lour. coch. 653.) shrub climbing and prickly; leaves bipinnate, with many pairs of pinnæ, as well as leaflets; leaflets small, linear; heads of flowers axillary, solitary, small, on long peduncles; legumes compressed, sinuated. ♄ . ◡. G. Native of Cochin-china, in woods. Perhaps a species of *Entàda*. Corolla wanting.

Sinuated-podded Mimosa. Shrub cl.

64 M.? SEMISPINÒSA (Lin. spec. 1508.) prickles crowded at the tops of the internodes; leaves bipinnate. ♄ . S. Native of South America. The rest unknown.

Half-spiny Mimosa. Shrub.

65 M.? CAMPECHIAˋNA (Mill. dict. no. 20.) spinose; leaves bipinnate; leaflets narrow; spines split their whole length. ♄ . S. Native about Campeachy. The rest unknown.

Campeachy Mimosa. Tree.

66 M. KANTUˊFFA (Bruce, trav. ed. gall. 8vo. vol. 13. p. 88. t. 36.) rameal, stipular, and petiolar prickles hooked; leaves bipinnate, with 7-8 pairs of pinnæ, each pinna bearing about 9 or 10 pairs of oblong obtuse leaflets; spikes of flowers cylindrical; stamens 10, free. ♄ . S. Native of Abyssinia. A very prickly bush, with sweet-scented flowers. Pterolòbium, R. Brown, abyss.

whence the legume is probably winged. Perhaps a species of *Acàcia* or *Gagnebìna*.

Kantuffa Mimosa. Shrub 6 feet.

67 M.? AGRE'STIS (Sieb. in Spreng. syst. 2. p. 206.) prickles on the branches horizontal and straight; branches hoary; leaves bipinnate, with 6 pairs of pinnæ, each pinna bearing about 16 pairs of pubescent leaflets; racemes spicate, exceeding the leaves. ♄. G. Native of Palestine. Perhaps the same as M. arvénsis, Sieb. ex Steud. nom.

Field Mimosa. Shrub.

68 M. Æ'MULA (Spreng. syst. 2. p. 206.) prickles much crowded, straight, and rather flexuous; leaves bipinnate, with 8 pairs of pinnæ, each pinna bearing about 12 pairs of roundish leaflets, which are clothed with stellate pubescence, but tomentose beneath; heads of flowers tomentose, hairy. ♄. S. Native of Brazil.

Rival Mimosa. Shrub or tree.

69 M.? ABSTE'RGENS (Roxb. ex Spreng. syst. 2. p. 206.) prickles on the branches crowded, and a little recurved; branches dotted; branchlets villous; leaves bipinnate, with 8 pairs of pinnæ, each pinna bearing many pairs of linear ciliated leaflets; petioles unarmed, pubescent, glandular at the base; heads of flowers panicled. ♄. S. Native of the East Indies.

Cleansing Mimosa. Clt. 1820. Shrub.

70 M.? MADAGASCARIE'NSIS (Spreng. l. c.) prickles on the branches scattered, and a little reflexed; leaves bipinnate, with 10 pairs of pinnæ, each pinna bearing many pairs of minute linear leaflets, which are villous, as well as the branchlets; peduncles lateral, usually twin. ♄. G. Native of Madagascar.

Madagascar Mimosa. Shrub or tree.

71 M.? BRASILIE'NSIS (Spreng. l. c.) prickles stipular, opposite, erect; petioles hairy, almost unarmed; leaves bipinnate, with many pairs of pinnæ, as well as leaflets; leaflets linear, imbricated; heads of flowers shorter than the leaves. ♄. S. Native of Brazil.

Brazil Mimosa. Shrub or tree.

72 M. FERRUGI'NEA (Rottl. in Spreng. l. c.) prickles both of the branches and petioles recurved; petioles and branchlets pubescent; leaves bipinnate, with many pairs of pinnæ, as well as leaflets; leaflets linear, dimidiate, imbricated, glabrous; gland oblong, situated at the base of the petiole; heads of flowers panicled, terminal. ♄. S. Native of the East Indies.

Rusty Mimosa. Clt. 1818. Shrub.

73 M. BARCLAYA'NA (Hort.) There is nothing further known of this plant than that it is a native of Madagascar.

Barclay's Mimosa. Shrub or tree.

Cult. The leaves of most of the species of this genus are sensitive to the touch, and are therefore all worth cultivating for curiosity. They thrive well in a mixture of loam and peat, and young cuttings will root if planted in a pot of sand, with a bell-glass placed over them in heat. Some of the kinds ripen seeds in abundance, by which they are easily increased. The seeds of the annual kinds require to be sown in pots, and the pots placed in a hot-bed, and when the plants rise to the height of 2 or 3 inches they should be potted off separately into small pots, and shifted from size to size of pots as they grow, giving the plants plenty of heat and moisture.

CCXXIV. GAGNEBI'NA (meaning unknown). Neck. elem. no. 1296. D.C. legum. mem. xii. no. 3. prod. 2. p. 431.

LIN. SYST. *Decándria, Monogýnia.* Flowers hermaphrodite. Calyx 5-toothed. Petals 5, oblong-linear, distinct. Stamens 10. Style long, filiform, deciduous. Legume complanate, dry, indehiscent, with a marginal wing rising from both sutures, transversely many-celled inside; cells 1-seeded.—Elegant, unarmed, glabrous shrubs, natives of the Mauritius and Madagascar. Leaves bipinnate, with many pairs of linear leaflets, which are equal in size and shape, and having a gland at the base of the petiole, and one between each pair of pinnæ. Spikes of flowers axillary, cylindrical, yellow. Legumes clothed with white villi when young, but glabrous in the adult state.

1 G. TAMARI'SCINA (D. C. prod. 2. p. 432.) leaves with about 20 pairs of pinnæ, each pinna bearing about 30 pairs of leaflets; spikes of flowers crowded at the tops of the branches, disposed in a kind of racemose corymb. ♄. S. Native of the Mauritius and Madagascar. D. C. legum. mem. xii. t. 64. f. B. Mimòsa tamaríscina, Lam. dict. 1. p. 13. Acàcia tamaríscina, Willd. spec. 4. p. 1062.—Pluk. alm. t. 329. f. 3.

Tamarix-like Gagnebina. Clt. 1824. Shrub 6 feet.

2 G. AXILLA'RIS (D. C. prod. 2. p. 432.) leaves with 24 pairs of pinnæ, each pinna bearing about 50 pairs of leaflets; spikes of flowers axillary, lower ones solitary, upper ones rising by twos or threes. ♄. S. Native along with the preceding species. D. C. legum. mem. xii. t. 64. f. A. M. pterocárpa, Lam. dict. 1. p. 13. Vahl. symb. 3. p. 103.

Axillary-spiked Gagnebina. Clt. 1824. Shrub 6 feet.

Cult. See *Mimòsa* for culture and propagation.

CCXXV. I'NGA (the South American name of *I. vèra*, adopted by Marcgraff). Plum. gen. 13. t. 25. Willd. spec. 4. p. 104. Kunth, mim. p. 35. D. C. legum. mem. xii.—Amòsa, Neck. elem. no. 1298.

LIN. SYST. *Polygàmia, Monœ'cia.* Flowers polygamous. Calyx 5-toothed. Petals 5, connected together into a 5-cleft corolla. Stamens numerous, exserted, sometimes joined together a short way at the base, and sometimes a great way up. Legume broad, linear, compressed, 1-celled. Seeds sometimes imbedded in pulp, sometimes in farina, and sometimes, though rarely, enwrapped in a pellicle.—Usually unarmed trees or shrubs, with spikes or heads of red or white flowers. This genus will require to be still further divided into separate genera, when the characters of the species are better known. The legumes being in some thickened at the margins, in others flat, straight, or twisted. The seeds in some are imbedded in pulp, in others enveloped in a dry pellicle at maturity. The stamens in some are monadelphous only at the base, while in others they are connected into a long exserted column, and the pollen in the anthers in some is powdery, but in others it is in a few granular masses, as in *Asclepiàdeæ.*

§ 1. *I'ngæ vèræ* (true species of *I'nga*). *Leaves simply pinnate. Leaflets large, from 2 to 9 pairs, the extreme ones always the largest. The species contained in this division are all natives of South America; they are unarmed trees, bearing spikes of flowers, with a few exceptions, and furnished with glands on the petioles between the pairs of leaflets.*

* *Pterópodæ* (from πτερον, *pteron*, a wing, and πους ποδος, *pous podos*, a foot; in reference to the footstalks of the leaves being winged). *Common petiole evidently winged.*

1 I. SA'PIDA (H. B. et Kunth, nov. gen. amer. 6. p. 286.) leaves with 2 pairs of oblong acuminated leaflets, which are membranous, quite smooth, shining above, and attenuated at the base. ♄. S. Native of the banks of the river Magdalena. Legumes 5-6 inches long, and a little arched, containing pulp which is sweet and sapid. Flowers unknown.

Sapid Inga. Tree 50 feet.

2 I. QUASSIÆFÒLIA (Willd. spec. 4. p. 1013.) leaves with 2 pairs of ovate-oblong acuminated leaflets, which are shining on both surfaces; spikes of flowers ovate, pedunculate; corolla villous. ♄. S. Native of Para, in Brazil. Superior leaflets 3 inches long. Branches glabrous. Legume unknown.

Quassia-leaved Inga. Clt. 1820. Tree 40 feet.

3 I. NI′TIDA (Willd. spec. 4. p. 1013.) leaves with 2 pairs of oblong-lanceolate leaflets, which are shining on both surfaces, and pilose on the veins beneath; spikes of flowers pedunculate, oblong; corolla villous. ♄. S. Native of Para, in Brazil. Branches hairy. Superior leaflets 4-5 inches long. Legume unknown.

Shining-leaved Inga. Tree 30 to 40 feet.

4 I. PILOSIU′SCULA (Desv. journ. bot. 1814. p. 71.) leaves with 2 pairs of oval-oblong, acuminated, shining leaflets, which are rather pilose, as well as the branches; glands large, one between each pair of leaflets; spikes of flowers oblong-capitate, pedunculate; corolla villous. ♄. S. Native of Cayenne. Mimòsa pilosiúscula, Rich. in act. soc. hist. nat. par. 1. p. 113. Mimòsa lùcida, Vahl. ecl. amer. 3. p. 31. t. 24. Petioles cuneately winged beneath the upper pair of pinnæ, and somewhat orbicularly winged beneath the lower pair. Branches terete. Superior leaflets 5-6 inches long. Legume unknown.

Pilose Inga. Tree 40 feet.

5 I. SETI′FERA (D. C. prod. 2. p. 432.) leaves with 2 pairs of oval abruptly-acuminated leaflets, which are rather cuneated at the base, paler beneath, and rather villous on both surfaces; petiole broadly winged, and drawn out at the apex into a long bristle, which is longer than the superior internode of the leaves; spikes of flowers ovate, pedunculate; corolla villous. ♄. S. Native of French Guiana. Superior leaflets 6-8 inches long, and the lower ones 3 inches long, having the nerves clothed with adpressed villi, and the intervals between the nerves rather pilose. Legume unknown.

Bristle-bearing Inga. Clt. 1824. Tree 20 to 30 feet.

6 I. LU′CIDA (H. B. et Kunth, nov. gen. amer. 6. p. 287.) leaves with 2 pairs of nearly elliptic, rather acuminated, coriaceous, quite smooth leaflets, which are shining above, and rounded at the base; spikes of flowers panicled, elliptic-oblong; corolla clothed with silky wool. ♄. S. Native on the banks of the river Magdalena, near Badilles. Seeds black.

Lucid-leaved Inga. Tree 20 to 30 feet.

7 I. UMBELLI′FERA (Steud. nom. p. 431.) leaves with 2 pairs of lanceolate leaflets, which are glabrous, as well as the corollas and branches, with a gland between one of the pairs of leaflets; umbels of flowers axillary, pedunculate. ♄. S. Native of South America. Mimòsa umbellífera, Vahl. ecl. amer. 3. p. 30. Legumes spiral. Flowers white.

Umbelliferous Inga. Tree.

8 I. FU′LGENS (Kunth, mim. p. 36. t. 11. nov. gen. amer. 6. p. 287.) leaves with 2-3 pairs of obovate-elliptic, quite smooth leaflets, which are rounded at both ends, and undulated on the margins; spikes of flowers elliptic-oblong, somewhat panicled; corolla clothed with silky hairs. ♄. S. Native of New Granada, near Honda. Flowers red. Legumes unknown.

Fulgent Inga. Tree.

9 I. MACROPHY′LLA (Humb. et Bonpl. in Willd. spec. 4. p. 1015.) leaves with 2 or 3 pairs of ovate, cordate, rather acuminated, membranous, glabrous leaflets, which are shining above; spikes of flowers pedunculate; corolla villous. ♄. S. Native of South America, on the banks of the Orinoco near St. Fernando de Atabapo. H. B. et Kunth, nov. gen. amer. 6. p. 286. Branches tetragonal. Superior leaflets half a foot long. Legumes unknown.

Long-leafletted Inga. Tree.

10 I. A′LBA (Willd. spec. 4. p. 1013.) leaves with 3-4 pairs of oblong, acuminated, nearly equal leaflets, which are glabrous above and scabrous beneath; spikes of flowers ovate, twin, pedunculate. ♄. S. Native of Cayenne: Mimòsa álba, Swartz. fl. ind. occ. 2. p. 976. Vahl. ecl. 3. p. 31. Petioles a little margined, wingless at the base, but winged at the apex. Corolla green. Filaments white, monadelphous. Legume unknown.

White-stamened Inga. Clt. 1804. Tree 10 to 20 feet.

11 I. FEUI′LLEI (D. C. prod. 2. p. 433.) leaves with 3-4 pairs of oval-oblong, glabrous leaflets, which are acute at both ends; spikes of flowers usually twin, ovate, pedunculate; legumes very long, linear, flat, glabrous. ♄. S. Native of Peru, also cultivated in the gardens about Lima. Pacài, Feuill. obs. 3. p. 2. p. 27. t. 19. but not of Frezier. Flowers white. Legume 1-2 feet long, containing a sweet white pulp which is eaten by the natives of Peru.

Feuille's Inga. Clt. 1824. Tree 20 to 30 feet.

12 I. SINEMARIE′NSIS; leaves with 2 pairs of ovate, shining, glabrous leaflets, which taper to both ends; spikes axillary, solitary, shorter than the leaves, pedunculate. ♄. S. Native of Guiana, and the island of St. Christopher. Mimòsa Sinemariénsis, Aubl. guian. 2. p. 945. Swartz, fl. ind. occ. 2. p. 979. Flowers white.

Sinemari Inga. Tree 20 feet.

13 I. MOCINIA′NA; leaves with 5 pairs of elliptic, acuminated leaflets, which are pubescent above, but clothed with silky down beneath; petioles winged; peduncles, rachis, and young branches clothed with rusty down; peduncles solitary, axillary; corolla clothed with yellowish down. ♄. S. Native of Mexico. Flowers red. (v. s. in herb. Lamb.)

Mocino's Inga. Tree.

14 I. SETÒSA; clothed with bristles in every part, but more so on the petioles, branches, and peduncles; leaves with 6 pairs of sessile, broad, elliptic, acuminated leaflets; petioles broadly winged; stipulas roundish, acuminated; peduncles long, axillary, solitary, bearing spikes of loose flowers at the apex. ♄. S. Native of Peru. (v. s. in herb. R. et P. in herb. Lamb.)

Bristly Inga. Tree.

15 I. PISA′NA; clothed with rusty pubescence, especially on the under side of the leaves, peduncles, and young branches; leaves with 3-4 pairs of oblong, acuminated leaflets; petioles winged; spikes of flowers forming a terminal panicle. ♄. S. Native of Peru. Mimòsa Pisàna, Ruiz et Pav. in herb. Lamb.

Pisan Inga. Tree.

16 I. ODORA′TA; young stems and peduncles pubescent; leaves with 2 pairs of oblique, elliptic, long-acuminated leaflets; spikes twin or tern, axillary. ♄. S. Native of Peru. Mimòsa odoràta, Ruiz et Pav. in herb. Lamb. Petioles only sometimes winged at the very apex.

Sweet-scented Inga. Tree.

17 I. PAVONIA′NA; clothed with rusty down; petioles winged; leaflets alternate, elliptic-oblong, broad, acuminated, and rather cordate at the base, glabrous above, except on the nerves; spikes of flowers axillary, solitary; bracteas linear, length of calyx. ♄. S. Native of Peru. Calyx tubular, ribbed. Corolla villous. (v. s. in herb. Lamb.)

Pavon's Inga. Tree.

18 I. FASTUÒSA (Willd. spec. 4. p. 1014.) leaves with 4-5 pairs of ovate-oblong, acuminated leaflets, which are glabrous above, but clothed with rusty hairs beneath; glands pedicellate; spikes few-flowered; peduncles and corollas villous. ♄. S. Native of Caraccas. Mimòsa fastuòsa, Jacq. fragm. t. 10. Corolla tubular, rufous, 2 inches long. Stamens red, twice the length of the corolla. Legume broad-linear, twisted in a spiral manner, with thickened margins.

Proud Inga. Clt. 1820. Tree 50 feet.

19 I. SAPINDOÌDES (Willd. spec. 4. p. 1012.) leaves with usually 4 pairs of oblong, acuminated leaflets, which are glabrous and shining above, and rather scabrous beneath; spikes of flowers oblong, solitary; corollas glabrous; branchlets hairy. ♄. S. Native of Caraccas. Flowers white. Legumes linear, glabrous, a foot long.

Sapindus-like Inga. Tree 50 feet.

20 I. VELUTÌNA (Willd. spec. 4. p. 1014.) leaves with 4 pairs of ovate, acute leaflets, which are clothed with soft pubescence on both surfaces, but shining above; spikes of flowers solitary; corolla villous; branches and peduncles hairy. ♄. S. Native of Para, in Brazil. Legumes unknown. There is a solitary gland between each of the lower pairs of leaflets, and 3 between the superior pair.

Velvety Inga. Clt. 1820. Tree.

21 I. AFFI'NIS (D. C. prod. 2. p. 433.) leaves with 4 pairs of oval, acuminated leaflets, which are pubescent above and rather shining, but villous beneath and opaque; petioles, branches, peduncles, and flowers clothed with velvety tomentum; spikes of flowers solitary or twin; corolla villous. ♄. S. Native of Brazil. This species is very nearly allied to *I. velutìna*, but the leaflets are not above half the size, with a solitary gland between each pair of leaflets.

Allied Inga. Clt. 1800. Tree.

22 I. INGOÌDES (Willd. spec. 4. p. 1012.) leaves with 4 pairs of oval-oblong, acuminated leaflets, which are clothed with velvety tomentum beneath, with a gland between each pair; racemes terminal, tomentose. ♄. S. Native of Cayenne. Mimòsa ingoìdes, Rich. act. soc. hist. par. 1. p. 113. Allied to the following species.

Inga-like Inga. Tree 20 feet.

23 I. SPU'RIA (Humb. et Bonpl. in Willd. spec. 4. p. 1014.) leaves with 5-6 pairs of oblong, acuminated leaflets, which are shining and glabrous above, but clothed with fine pubescence beneath; spikes of flowers axillary, usually twin; corollas villous; legumes sulcate, pubescent. ♄. S. Native of South America, in humid places near Cumana and Santa Fe de Bogota. Kunth, mim. 39. t. 12. H. B. et Kunth, nov. gen. amer. 6. p. 289. Allied to *I. vèra*, but the leaves are pubescent beneath, and the legume is longer and mucronate. Corolla green.

Spurious Inga. Clt. 1820. Tree 40 to 60 feet.

24 I. VE'RA (Willd. spec. 4. p. 1010.) leaves with 4-5 pairs of obovate-oblong, acuminated, glabrous, membranous leaflets; spikes axillary, few-flowered, usually solitary; corolla clothed with silky wool; legume furrowed, pubescent. ♄. S. Native of Brazil, Mexico, West Indies, and near Maypures, on the Orinoco, &c. Mimòsa I'nga, Lin. spec. 1498.—Sloan. hist. t. 183. f. 1. —Plum. gen. t. 25. Flowers white. Legume sweet and edible.

True Inga. Fl. July, Aug. Clt. 1739. Tree 20 to 30 feet.

25 I. BONPLANDIA'NA (H. B. et Kunth, nov. gen. amer. 6. p. 288.) leaves with 5 pairs of elliptic-oblong, acute, rather cordate, somewhat coriaceous, glabrous leaflets, which are shining above; flowers in spikes; corollas silky; legumes glabrous. ♄. S. Native of South America, in the province of Jaen de Bracamoros, on the banks of the Camaya.

Bonpland's Inga. Tree 40 to 50 feet.

26 I. INSÍGNIS (Kunth, mim. p. 43. t. 13. H. B. et Kunth, nov. gen. amer. 6. p. 290.) leaves with 5 pairs of elliptic, acuminated, glabrous leaflets, which are rounded at the base, the nerves rather hairy, shining above; spikes of flowers oblong, axillary, twin; corollas clothed with silky hairs. ♄. S. Native of South America, between Quito and Puembo. Flowers white. The legume, according to Bonpland, is quadrangular, woody, tomentose, and pulpy inside.

Shewy Inga. Tree 40 to 50 feet.

27 I. ORNIFÒLIA (H. B. et Kunth, nov. gen. amer. 6. p. 291.) leaves with 5 pairs of oblong-lanceolate, acuminated, coriaceous, pilose leaflets, which are cordate at the base and shining above; spikes of flowers solitary, axillary, and terminal. ♄. S. Native near Quito. Flowers unknown. Legume linear, with thickened margins, rather falcate, densely tomentose.

Ash-leaved Inga. Tree 20 feet.

28 I. ORNA'TA (Kunth, mim. p. 46. t. 14. H. B. et Kunth, nov. gen. amer. 6. p. 292.) leaves with 5 pairs of oblong, acute leaflets, which are rounded at the base, and pubescent above; branches and peduncles clothed with hairy pubescence; spikes of flowers oblong, twin, panicled; corolla clothed with silky hairs. ♄. S. Native in the province of Popayan, on the bank of the river Cauca. Corolla rufous, 10 lines long. Stamens red, 3 inches long. Legumes 3-4 feet long, furrowed, pulpy inside.

Adorned Inga. Tree.

29 I. RHOIFÒLIA (Willd. enum. p. 1046.) leaves with 5 pairs of oblong, acuminated leaflets which are shining and hairy above, but villous beneath; branches clothed with ferruginous tomentum. ♄. S. Native of Brazil. Flowers and fruit unknown.

Red-leaved Inga. Tree.

30 I. BERTERIA'NA (D. C. legum. mem. xii. prod. 2. p. 434.) leaves with 6 pairs of oblong, acuminated leaflets, which are rather puberulous above, but clothed with soft velvety down beneath, with a gland situated between each pair; branches, peduncles, petioles, calyxes, and nerves of leaves clothed with short velvety down; spikes of flowers ovate, axillary, solitary; corolla clothed with silky hairs. ♄. S. Native of St. Martha. Corolla white. Stamens red.

Bertero's Inga. Tree.

31 I. ANGUSTIFÒLIA (Willd. spec. 4. p. 1012.) leaves with 4-9 pairs of lanceolate, acuminated leaflets, which are shining on both surfaces; legumes linear, flat, glabrous. ♄. S. Native of Caraccas. Glands small, between the pairs of leaflets. Flowers unknown.

Narrow-leafletted Inga. Tree.

* * *Apterópodæ* (from *α*, priv. *πτερον*, *pteron*, a wing, and *πους ποδος*, *pous podos*, a foot; in allusion to the footstalks of the leaves being without wings, so conspicuous in the last division). *Common petiole hardly winged or altogether naked.*

32 I.? BOURGÒNI (D. C. prod. 2. p. 434.) leaves with 2-3 pairs of ovate, shining, glabrous leaflets; petioles a little winged at the apex of the articulations, and also each furnished with a gland; spikes of flowers axillary, short, usually 4 together. ♄. S. Native of Guiana, Cayenne, Caraccas, and of Barbados, in humid woods. Mimòsa Bourgòni, Aubl. guian. 2. t. 358. Mimòsa fagifòlia, Lin. spec. 1498. I. marginàta, Willd. spec. 4. p. 1015. The legume, according to Aublet, is dry and divided internally into many cells by transverse dissepiments. The column of stamens exserted beyond the corolla, which is glabrous. *Bourgoni* is the French name of the tree in Guiana.

Bourgoni Inga. Clt. 1752. Tree 30 to 40 feet.

33 I. MARGINA'TA (H. B. et Kunth, nov. gen. amer. 6. p. 285.) leaves with 2 pairs of oblong, much acuminated, membranous, glabrous leaflets, which are opaque above, and shining beneath, and cuneated at the base; petiole rather pilose, furnished with a narrow wing at the apex. ♄. S. Native of South America, in the valleys of Araguem. Perhaps sufficiently distinct from *I. Bourgòni.* Flowers white.

Marginate-petioled Inga. Clt. 1820. Tree 20 to 30 feet.

34 I. THYRSOI'DEA (Desv. journ. bot. 1814. 1. p. 71.) leaves with 3 pairs of ovate, glabrous leaflets, which are veiny beneath; petioles almost naked except at the tops of the articulations, where they are a little winged; branches angular, cinereous; flowers thyrsoid. ♄. S. Native of Guiana. Legume unknown. Flowers not sufficiently known.

Thyrsoid Inga. Tree.

35 I. RUBIGINÒSA (D. C. prod. 2. p. 434.) leaves with 4-5 pairs of oblong-ovate, acuminated leaflets, which are glabrous and shining above, except on the nerves, but clothed with rusty-velvety down beneath, as well as the branches, petioles, peduncles, and calyxes; spikes of flowers oblong, usually twin; corolla clothed with silky hairs. ♄. S. Native of Cayenne.

Mimòsa rubiginòsa, Rich. act. soc. hist. nat. par. 1. p. 113. Pers. ench. no. 18. Corolla rufous, 9 lines long. Legume unknown.

Rusty Inga. Tree.

36 I. THIBAUDIÀNA (D. C. legum. mem. xii. prod. 2. p. 434.) leaves with 4-5 pairs of ovate-oblong, acuminated leaflets, which are glabrous above, except the nerves, but pubescent beneath as well as the petioles, peduncles, and calyxes; spikes of flowers usually twin, oblong, but panicled at the tops of the branches; corollas clothed with silky pubescence. ♄. S. Native of Cayenne. Petioles winged at the apex, but naked at the base. Corolla slender, 7 lines long. Stamens red, exserted. Legume unknown.

Thibaud's Inga. Tree.

37 I. FRAXÍNEA (Willd. spec. 4. p. 1019.) leaves with 5 pairs of oblong, acuminated, shining leaflets; petiole semi-terete, pubescent; spikes of flowers pedunculate, pubescent, and panicled at the tops of the branches; corollas glabrous. ♄. S. Native of Para, in Brazil. Legume unknown.

Ash-like Inga. Tree 20 to 30 feet.

38 I. INÆQUÀLIS (Humb. et Bonpl. in Willd. spec. 4. p. 1019.) leaves with 4 pairs of oblong-lanceolate, membranous leaflets, which are unequal at the base, shining above, and glabrous on both surfaces as well as the petioles, peduncles, and flowers; spikes of flowers oblong, on short peduncles. ♄. S. Native on the banks of the Orinoco.

Unequal-leafletted Inga. Tree.

39 I. HUMBOLDTIÀNA (H. B. et Kunth, nov. gen. amer. 6. p. 285.) leaves with 4 pairs of oblong, acute, membranous, glabrous leaflets, which are acutish at the base and shining above; spikes of flowers nearly globose, terminal, panicled; corolla clothed with silky hairs. ♄. S. Native of New Granada, on the banks of the river Magdalena. Legumes unknown.

Humboldt's Inga. Tree.

40 I. NÓBILIS (Willd. enum. 1047.) leaves with 3-4 pairs of oblong, acute, glabrous leaflets; spikes panicled; peduncles pubescent; corolla silky. ♄. S. Native of Brazil. Legumes unknown.

Noble Inga. Tree.

41 I. JUGLANDIFÒLIA (Willd. spec. 4. p. 1018.) leaves with 3-4 pairs of oblong, acuminated, glabrous leaflets, which are attenuated at the base; petioles glandless, and are as well as the branches clothed with ferruginous pubescence; spikes of flowers 2-3-together, axillary, pedunculate; corolla villous. ♄. S. Native of Caraccas. Legume linear, flat, 7 inches long. This is very distinct, from the absence of the glands on the petiole.

Walnut-leaved Inga. Tree 20 to 30 feet.

42 I. CORÙSCANS (Humb. et Bonpl. in Willd. spec. 4. p. 1017.) leaves with 3 pairs of oblong leaflets, which are attenuated at both ends, coriaceous, glabrous, and shining; petioles, branches, peduncles, and flowers glabrous; spikes of flowers 2-3-together, crowded, axillary. ♄. S. Native of New Granada, on the banks of the river Magdalena, near Viejo. Spikes of flowers 2 inches long. Legume unknown. Kunth, nov. gen. amer. 6. p. 285.

Glittering Inga. Tree.

43 I. STIPULÀRIS (D. C. legum. mem. xii. prod. 2. p. 435.) leaves with 2-3 pairs of oval, acutish leaflets, which are shining above, but glabrous on both surfaces, as well as the branches and flowers; stipulas large, orbicular, permanent, foliaceous; spikes of flowers ovate, axillary, solitary, pedunculate. ♄. S. Native of Cayenne. Calyx tubular, 2-3 lines long. Corolla hardly twice the length of the calyx. Legume unknown.

Stipular Inga. Tree.

44 I. CAPITÀTA (Desv. journ. bot. 1814. vol. 1. p. 71.) leaves with 2 pairs of ovate, acuminated, shining leaflets, which are quite glabrous on both surfaces, as well as petioles, branches, peduncles, and flowers; spikes of flowers ovate-oblong, axillary, 2-3-together, pedunculate. ♄. S. Native of Cayenne. Branches warted, terete. Calyx tubular, 2 lines long. Legume unknown.

Capitate-flowered Inga. Tree.

45 I. LAURÌNA (Willd. spec. 4. p. 1018.) leaves with 2 pairs of obovate-oblong, acuminated, shining leaflets, which are glabrous on both surfaces, as well as the petioles, peduncles, and flowers; spikes of flowers solitary or twin, elongated, almost sessile, axillary. ♄. S. Native of St. Christopher, Martinico, St. Domingo, Brazil, Guadaloupe, and Porto-Rico. Mimòsa laurìna, Swartz, fl. ind. occ. 2. p. 978. Mimòsa fagifòlia, Jacq. amer. 264. t. 164. Calyx 1 line long. Corolla white, 3-times the length of the calyx. The pulp contained in the legumes is purgative.

Laurel-like Inga. Clt. 1818. Tree 30 feet.

46 I. PUNCTÀTA (Willd. spec. 4. p. 1016.) leaves with 2-3 pairs of oblong, acuminated, shining leaflets, which are glabrous as well as the branches; petioles terete, pubescent; spikes of flowers ovate, pedunculate, and panicled at the tops of the branches; corolla clothed with silky villi. ♃. H. Native of Caraccas. Branches beset with white dots. Legume unknown.

Dotted-branched Inga. Clt. 1818. Tree.

47 I. SPLÉNDENS (Willd. spec. 4. p. 1017.) leaves with 2 pairs of oblong, acuminated, shining leaflets, which are glabrous on both surfaces, as well as petioles and branches; spikes of flowers axillary, twin, pedunculate; corolla clothed with silky villi. ♄. S. Native of Para, in Brazil. Branches warted. Legumes unknown. The species is said to be allied to *I. punctàta*, but it is larger in all its parts.

Splendent Inga. Tree.

48 I. SPECTÁBILIS (Willd. spec. 4. p. 1017.) leaves with 2 pairs of ovate, acute, shining leaflets, which are unequal at the base and glabrous on both surfaces, as well as the petioles and branches; spikes terminal; corollas villous. ♄. S. Native of South America, and cultivated in St. Martha. Mimòsa spectábilis, Vahl, act. soc. hafn. 2. p. 219. t. 10. Leaflets thickly beset with feather nerves, the superior ones 6 or 7 inches long and 4 broad, but the lower ones are one-half smaller than the superior ones.

Showy Inga. Tree.

49 I. SERTULÍFERA (D. C. prod. 2. p. 436.) leaves with 2 pairs of ovate, shining leaflets, which are glabrous on both surfaces as well as the calyxes and corollas; flowers pedunculate, umbellate; umbels simple. ♄. S. Native of Cayenne. Mimòsa coriàcea, Pers. ench. 2. p. 262. I'nga coriàcea, Desv. journ. bot. 1814. vol. 1. p. 71. but not of Willd. Branches warted. Leaflets large. Legumes unknown.

Little-garland-bearing Inga. Tree.

50 I. NODÒSA (Willd. spec. 4. p. 1016.) leaves with 2 pairs of ovate-oblong, unequal-sided, glabrous leaflets, furnished with a small gland between the lower pair. ♄. S. Native of Ceylon, Mimòsa nodòsa, Lin. spec. 1496.—Pluk. alm. 211. f. 5.

Knotted Inga. Tree.

51 I. CORIÀCEA; leaves with 3-4 pairs of leaflets, lower ones the smallest; petioles wingless; leaflets lanceolate, acuminated, oblique at the base, undulated on the margins, hairy as well as the petioles and young branches; peduncles short, few-flowered, lateral, terminal, and axillary. ♄. S. Native of Mexico. Mimòsa coriàcea, Sesse et Moc. in herb. Lamb.

Coriaceous-leaved Inga. Tree.

52 I. COCCÍNEA; petioles wingless; leaves with 3 pairs of broad-elliptic, acuminated, smooth leaflets, which are oblique at the base, sometimes with a smaller leaflet on one side at the base; spikes long. ♄. S. Native of Peru. Mimòsa coccínea, Ruiz, et Pav. in herb. Lamb. Flowers scarlet.

Scarlet-flowered Inga. Tree.

53 I. CARNÒSA; petioles wingless; leaves with 3 pairs of broad, elliptic, mucronate, smooth leaflets; peduncles axillary, twin, clothed with rusty down as well as the young branches; legumes lanceolate, flat. ♄. S. Native of Peru. Mimòsa carnòsa, Ruiz et Pav. in herb. Lamb.

Fleshy Inga. Tree.

54 I. RUIZIA'NA; petioles wingless; leaves with 4 pairs of elliptic-oblong, very long, and very broad, smoothish leaflets; panicles axillary, clothed with rusty down; spikes capitate, many-flowered. ♄. S. Native of Peru. (v. s. in herb. Lamb.)

Ruiz's Inga. Tree.

55 I. AGGREGA'TA; petioles wingless; leaves with 3-4 pairs of smooth, membranous, ovate-oblong, acuminated leaflets; spikes aggregate, axillary. ♄. S. Native of Peru. (v. s. in herb. Lamb.)

Aggregate-spiked Inga. Tree.

56 I. STIPULA'CEA; petioles hispid, wingless; leaves with 2 pairs of broad, elliptic, acuminated, sessile leaflets, which are attenuated at the base; tube of stamens much exserted; stipulas large, rounded at the apex, nerved. ♄. S. Native of Peru. Mimòsa stipulàcea, Ruiz et Pav. in herb. Lamb.

Large-*stipuled* Inga. Tree.

57 I. GUAYAQUILE'NSIS; petioles naked; leaves with 2 pairs of elliptic-oblong, glabrous leaflets, which are attenuated at both ends, and acuminated at the apex; spikes sessile, solitary, or twin. ♄. S. Native of Guayaquil. (v. s. in herb. Ruiz et Pav.)

Guayaquil Inga. Tree.

58 I. FAGIFO'LIA; petioles wingless; leaves with 3 pairs of long, oblong-lanceolate, glabrous leaflets, furnished with 1 gland between each pair; panicles terminal and axillary, twin or solitary; peduncles clothed with rusty down. ♄. S. Native of Peru. Mimòsa fagifòlia, Ruiz et Pav. in herb. Lamb. Flowers red.

Beach-leaved Inga. Tree.

59 I. UMBELLA'TA; petiole wingless, bearing only one pair of leaflets at the apex, which are ovate-elliptic, acuminated, and glabrous; peduncles axillary; flowers umbellate, pedicellate. ♄. S. Native of Peru. Mimòsa axillàris, Ruiz et Pav. in herb. Lamb. Flowers apparently white.

Umbellate-flowered Inga. Tree.

60 I. HETEROPHY'LLA (Willd. spec. 4. p. 1020.) leaves with 1-2 pairs of oblong, acuminated leaflets, which are shining on both surfaces; petioles, branches, and flowers glabrous; glands of the petiole somewhat pedicellate; peduncles terete at the base; flowers disposed in umbellate racemes. ♄. S. Native of Para, in Brazil. Mimòsa Pàra, Poir. suppl. 1. p. 44. Branches warted from dots. Leaflets 1½ inch long. Legumes unknown.

Various-leaved Inga. Tree.

61 I. HYMENÆOÌDES (Desv. journ. bot. 1814. 1. p. 70.) leaves with 1-2 pairs of ovate, oblique, obtuse, shining leaflets; petioles glandless; branches, peduncles, and flowers glabrous; heads of flowers axillary, pedunculate; legumes oblong, obtuse, straight, tapering at the base, with thickened margins. ♄. S. Native of Cayenne. Leaflets rather coriaceous, 1½ inch long and 1 inch broad. Legumes 2 inches long.

Hymenæa-like Inga. Clt. 1823. Tree.

62 I. INÍCUIL (Schlecht. et Cham. in Linnæa. 5. p. 592.). This species comes very near *I. corúscans*, with the glands on the petioles usually obsolete, the legume 1 foot long and an inch broad, 6-10-seeded, glabrous, curved, or straight, with the valves thick, and containing eatable pulp. There is another tree found in Mexico, near Colipa, very similar to *I. Inicuil*, but differs in the glands, in the petioles being always present, and in the inflorescence being in few-flowered heads, on short peduncles, which are disposed in crowded fascicles in the axils of the leaves. ♄. S. Native of Mexico, where it is called *Inicuil*. Bracteoles minute, ciliated. Flowers white.

Inicuil Inga. Tree.

§ 2. *Hymenæoìdeæ* (containing plants which have the habit of *Hymenæ'a*). *Leaves with* 1 *pair of pinnæ, and each pinna bearing 2-3 or many leaflets.*

* *Bigéminæ* (from *bis*, twice, and *geminus*, a twin; in reference to the leaves, which are divided twice by twos). *Leaves with one pair of pinnæ, and each pinna bearing only one pair of leaflets.*

63 I. MICROPHY'LLA (Humb. et Bonpl. in Willd. spec. 4. p. 1004.) spines stipular, straight; leaflets dimidiately-elliptic, obtuse, and retuse, glabrous, rather coriaceous; petiole smooth, furnished with a gland in the fork; spikes of flowers globose-elliptic, solitary, axillary; corolla 4-cleft, glabrous. ♄. S. Native of South America, near Cumana. H. B. et Kunth, nov. gen. amer. 6. p. 293. Spines thick. Legumes unknown.

Small-leaved Inga. Clt. 1817. Shrub 6 feet.

64 I. PU'NGENS (Humb. et Bonpl. in Willd. spec. 4. p. 1004.) spines stipular, very short, straight; leaflets dimidiately-oblong, obtuse and retuse, membranous, glabrous; petioles hairy, furnished with a gland in the fork; heads of flowers globose, racemose; corolla 5-cleft, pubescent; legumes torulose, circinnate. ♄. S. Native of Mexico. H. B. et Kunth, nov. gen. amer. 6. p. 294. Flowers white.

Pungent Inga. Tree 50 feet.

65 I. DU'LCIS (Willd. spec. 4. p. 1005.) spines stipular, very short, straight; leaflets somewhat dimidiately-oblong, obtuse, and somewhat retuse and mucronate; petioles hairy, shorter than the leaflets, with a gland in the fork, as well as one between the leaflets; heads of flowers globose, racemose. ♄. S. Native of Coromandel and the Philippine islands. Mimòsa dúlcis, Roxb. cor. 1. t. 99. Flowers white, in terminal racemes. Legume twisted, red, and glabrous, containing a fleshy sweet pulp, which is reckoned wholesome.

Sweet Inga. Clt. 1800. Tree 30 feet.

66 I. JAVA'NA (D. C. prod. 2. p. 436.) spines stipular, very short, and straight, or wanting; leaflets somewhat dimidiately-oblong, obtuse, glabrous; petiole smooth, and longer than the leaflets, with a gland in the fork; heads of flowers globose, racemose. ♄. S. Native of Java. Legume flat, incurved, glabrous, coarctate between the seeds.

Java Inga. Tree 20 feet.

67 I. U'NGUIS-CA'TI (Willd. spec. 4. p. 1006.) spines stipular, straight; leaflets roundish-elliptic, rather dimidiate, emarginate, membranous, glabrous; petiole glabrous, furnished with a gland in the fork, and between the leaflets; heads of flowers globose, disposed in terminal racemes; legume twisted. ♄. S. Native of the Caribbee Islands, and near Cumana. Mimòsa únguis-càti, Lin. spec. 499. Jacq. hort. schœnbr. 3. t. 392. Descourt, fl. ant. 1. t. 11. Quámochilt, Hern. mex. 94.—Plum. ed. Burm. t. 4. Flowers whitish. In Jamaica it is called *Black-bean shrub*. The seeds, according to Sloane, are eaten by goats, and sometimes by the negroes; they are frequently brought to England, and strung as beads. The bark is astringent, and is used in lotions and fomentations in America.

Cat's-claw Inga. Clt. 1670. Tree 10 feet.

68 I. GUADALUPE'NSIS (Desv. journ. bot. 1814. 1. p. 70.) plant unarmed; leaflets obovate-rhomboid, obtuse, veiny, quite smooth; petiole glabrous, furnished with a gland in the fork, and one between the leaflets; heads of flowers globose, pedunculate, racemose; legumes twisted, glabrous. ♄. S. Native of Guadaloupe. Mimòsa Guadalupénsis. Pers. ench. 2. p. 262. Perhaps only an unarmed variety of *I. únguis-càti*. Flowers white.

Guadaloupe Inga. Tree.

69 I. MELLI'FERA (Willd. spec. 4. p. 1006.) spines stipular, recurved; leaflets somewhat dimidiately-obovate, with a gland at the base of the petiole; legume ensiform, straight. ♄. S. Native of Arabia Felix. Mimòsa ùnguis-càti, Forsk. desc. 176. M. mellífera, Vahl. symb. 2. p. 103. Flowers white, from which bees collect a great deal of honey.

Honey-bearing Inga. Tree 10 feet.

70 I. LANCEOLA'TA (Humb. et Bonpl. in Willd. spec. 4. p. 1005.) spines stipular, straight; leaflets somewhat dimidiately-lanceolate, obtuse; petiole rather puberulous, furnished with a gland in the fork, and between the leaflets; spikes of flowers cylindrical, axillary, solitary; legumes curved. ♄. S. Native of New Andalusia, near Cumana. Kunth, mim. 49. t. 15. nov. gen. amer. 6. p. 293. Flowers white, as in the rest of the present division of the genus. Legume linear, glabrous. Spikes longer than the leaves.

Lanceolate-leafletted Inga. Tree 50 to 60 feet.

71 I. LIGUSTRI'NA (Willd. spec. 4. p. 1007.) spines stipular, short, straight; leaflets dimidiately-oblong, obtuse at both ends; petiole pubescent, with a gland in the fork, as well as one between the leaflets; spikes of flowers cylindrical, axillary, solitary; legume straight. ♄. S. Native of Caraccas, in sandy places. Mimòsa ligustrìna, Jacq. fragm. t. 32. f. 5. Spikes of flowers white, about equal in length to the leaves.

Privet-like Inga. Tree 15 feet.

72 I.? FŒ'TIDA (Willd. spec. 4. p. 1008.) unarmed; leaves bipinnate, with 1 or 2 pairs of bifoliate pinnæ; leaflets somewhat dimidiately-oblong, acutish, glaucous and rather puberulous beneath; spikes of flowers twin, cylindrical. ♄. S. Native of the West Indies. Mimòsa fœ'tida, Jacq. hort. schœnbr. 3. t. 390. Acàcia fœ'tida, H. B. et Kunth, nov. gen. amer. 6. p. 265. Corolla greenish. Stamens 10, white. Spikes of flowers almost extrafoliaceous. Legume unknown. Seeds naked, ex Bonpl.

Fetid Inga. Clt. 1816. Tree 10 to 20 feet.

73 I. HYMENÆÆFÒLIA (Humb. et Bonpl. in Willd. spec. 4. p. 1008.) spines stipular, very minute, straight; leaflets somewhat dimidiately-oblong, acuminated, obtuse, somewhat coriaceous, glabrous; petioles glabrous, furnished with a gland in the fork, and between the leaflets; spikes of flowers elliptic-oblong, racemose; corolla 5-cleft, pubescent. ♄. S. Native of Cumana, in shady woods near Caripe, and on the banks of the river Magdalena. H. B. et Kunth, nov. gen. amer. 6. p. 296. Flowers large. Legume unknown.

Hymenæa-leaved Inga. Tree 20 feet.

74 I. SPRENGE'LII; spines stipular, twin, straight; leaves with one pair of pinnæ, each pinna bearing 2 obliquely-oblong, obtuse, coriaceous, glabrous leaflets; flowers racemose; legumes glabrous, smoothish. ♄. S. Native of South America. I. Bertèrii, Spreng. syst. 3. p. 127. but not of D. C.

Sprengel's Inga. Tree.

75 I. PUBE'SCENS (Bert. ined. D. C. prod. 2. p. 437.) spines stipular, very small, straight; leaflets oblong-lanceolate, rather oblique at the base, obtuse, pubescent beneath; petiole rather pubescent, with a gland in the fork and between the leaflets; heads of flowers globose, racemose. ♄. S. Native of St. Martha. Corolla greenish, puberulous. Stamens red. Legume unknown. Very like *I. fórfex.*

Pubescent Inga. Tree.

76 I. FO'RFEX (Kunth, mim. p. 52. t. 16. nov. gen. amer. 6. p. 295.) leaflets obliquely-oblong, or lanceolate-oblong, acute, and rather mucronate; petiole glabrous, with a gland in the fork and between the leaflets; heads of flowers globose, racemose. ♄. S. Native of New Granada, near Carthagena. Corolla greenish, puberulous. Stamens red.

Forcep Inga. Tree 20 feet.

77 I. RÒSEA (Steud. nom. p. 431.) spines stipular, straight; leaflets lanceolate, and are, as well as the branches, glabrous; heads few-flowered, disposed in loose axillary racemes; pedicels twin. ♄. S. Native of Cayenne. Mimòsa ròsea, Vahl. ecl. amer. 3. p. 33. t. 25. Flowers red. Legume unknown.

Var. β, *subinérmis* (D. C. prod. 2. p. 437.) leaflets oblong, pubescent beneath; spines very short.

Rose-coloured-flowered Inga. Shrub 6 to 10 feet.

78 I. MACROSTA'CHYA (Steud. nom. p. 431.) spines stipular, straight; leaflets lanceolate-oblong, and are, as well as the branches, glabrous, with a gland at the top of the common petiole, as well as one at the tops of partial ones; spikes of flowers axillary, elongated, solitary; corolla clothed with fine tomentum on the outside. ♄. S. Native of Cayenne. Mimòsa brachystàchys, Vahl. ecl. amer. 3. p. 34. t. 24. Legumes unknown.

Long-spiked Inga. Tree.

79 I. PANICULA'TA (Spreng. in herb. Balb. D. C. prod. 2. p. 437.) unarmed; leaflets elliptic-oblong, obtuse at both ends, rather velvety above, but clothed with velvety tomentum beneath; petioles clothed with soft pubescence, nearly glandless; heads of flowers nearly globose, pedunculate, panicled. ♄. S. Native of South America. Corolla velvety. Stamens red. Legume unknown.

Panicled Inga. Tree.

80 I. TETRAPHY'LLA; leaves with 1 pair of pinnæ, and each pinna bearing 1 pair of leaflets; leaflets oblong, oblique, clothed with white pili beneath; peduncles twin, axillary; heads of flowers globose. ♄. S. Native of Mexico. Mimòsa tetraphýlla, Sesse et Moc. in herb. Lamb.

Four-leafletted Inga. Shrub.

* * *Tergéminæ* (from *ter*, thrice, and *geminus*, a twin; in reference to the divisions of the leaves). *Leaves with 1 pair of pinnæ, each pinna bearing 3 or 5 leaflets.*

81 I. RAMIFLÒRA; smooth; leaves with 1 pair of pinnæ, and each pinna furnished with 3 leaflets, which are elliptic and acuminated; spikes sessile, rising in clusters from the branches. ♄. S. Native of Guayaquil. Mimòsa ramiflòra, Ruiz et Pav. in herb. Lamb. Flowers apparently white.

Branch-flowered Inga. Tree 20 feet.

82 I. TERGE'MINA (Willd. spec. 4. p. 1008.) unarmed; pinnæ trifoliate; leaflets obliquely-oblong, obtuse, glaucous beneath; petioles glandless; fascicles of flowers axillary, solitary, pedunculate; legumes straight, with thickened margins. ♄. S. Native of Martinico. Mimòsa tergémina, Lin. spec. 1499. Jacq. amer. t. 177. f. 81.—Plum. ed. Burm. t. 10. f. 1.—I. Caripénsis, Willd. spec. 4. p. 1009. which is not different, according to Kunth, nov. gen. amer. 6. p. 298. Flowers purplish.

Three-paired-leafletted Inga. Clt. 1820. Tree 20 feet.

83 I. VAHLIA'NA (D. C. prod. 2. p. 438.) unarmed; pinnæ trifoliate; leaflets obliquely-lanceolate, attenuated, bluntish, and are as well as the branches glabrous, with a gland on the top of the common petiole, as well as on the tops of the partial ones; spikes of flowers somewhat opposite, elongated, rising from the leafless branches. ♄. S. Native of St. Martha. Mimòsa ligustrìna, Vahl. ecl. amer. 3. p. 34. t. 27. but not of Jacquin.

Vahl's Inga. Tree.

84 I. EMARGINA'TA (Humb. et Bonpl. in Willd. spec. 4. p. 1009.) unarmed; pinnæ trifoliate; leaflets somewhat dimidiately obovate, obtuse, sometimes somewhat emarginate, and rather cordate at the base; petioles glandless; fascicles of flowers pedunculate, disposed in a somewhat panicled raceme. ♄. S. Native of Mexico, near Acapulco, on the sea-shore. Kunth,

mim. 54. t. 17. nov. gen. amer. 6. p. 296. Flowers of a rose-purple colour. Stamens 14-20. Legume unknown.

Emarginate-leafletted Inga. Fl. Feb. June. Clt. 1825. Sh. 4 to 6 feet.

85 I. CORIA'CEA (Humb. et Bonpl. in Willd. spec. 4. p. 1009. but not of Desv.) unarmed; pinnæ trifoliate; leaflets somewhat dimidiately oblong-lanceolate, acutish, intermediate one the largest; petioles glandless; fascicles of flowers usually twin, axillary, pedunculate. ♄. S. Native of South America. Legume linear, straight, flat, 3 inches long.

Coriaceous-leafletted Inga. Shrub.

86 I. CATARA'CTÆ (H. B. et Kunth, nov. gen. amer. 6. p. 297.) shrub climbing, unarmed; pinnæ bifoliate; leaflets obliquely lanceolate-oblong, acuminated, dimidiately rounded at the base, membranous, glabrous; peduncles axillary, twin; legumes circinnate. ♄. ◡. S. Native on the banks of the Orinoco, near Atures, at the cataracts of Javarivono. Flowers unknown. Legumes linear, compressed, smooth, each containing 4-9 lenticular seeds.

Cataract Inga. Shrub cl.

87 I. LONGIFO'LIA (Humb. et Bonpl. in Willd. spec. 4. p. 1009.) shrub climbing, unarmed; pinnæ trifoliate; leaflets oblong-lanceolate, equal-sided, acuminated, attenuated at the base, membranous, glabrous, with a gland between the terminal leaflets; flowers in spikes; legumes puberulous. ♄. ◡. S. Native of South America, near Cavico, on the banks of the Chamaya. H. B. et Kunth, nov. gen. amer. 6. p. 298.

Long-leafletted Inga. Shrub cl.

88 I. FALCIFÓRMIS (D. C. prod. 2. p. 438.) unarmed; pinnæ trifoliate; leaflets oblong-lanceolate, acuminated, attenuated at the base, narrowest on the inner side, with a gland between the pinnæ and one between the terminal leaflets; legume very flat, linear, falcate, obtuse. ♄. S. Native of St. Martha. Plant quite glabrous. Leaflets 4-6 inches long, and 1 inch broad. Legumes longer than the leaflets, containing about 14 seeds.

Falciform-podded Inga. Tree.

89 I. GLOMERA'TA (D. C. prod. 2. p. 438.) unarmed; pinnæ trifoliate; leaflets dimidiately oblong-lanceolate, attenuated at the base, acuminated at the apex, with a gland between the pinnæ, and one also between the terminal leaflets; flowers disposed in glomerate fascicles, which are axillary, lateral, and sessile. ♄. S. Native of Cayenne. Stamens monadelphous beyond the corolla. Flowers apparently white. Leaves glabrous.

Glomerate-flowered Inga. Tree.

90 I. LATIFÒLIA (Willd. spec. 4. p. 1020.) unarmed; pinnæ trifoliate, but usually bearing 5 leaflets; leaflets dimidiate at the base, ovate-oblong, acuminated, lower ones alternate, upper ones opposite, with a gland between the pinnæ and between the opposite leaflets; flowers disposed in pedunculate, lateral, and axillary fascicles. ♄. S. Native of the Caribbee islands, and the warmer parts of Mexico. Mimòsa latifòlia, Lin. spec. 1499.—Plum. ed. Burm. t. 9. Flowers rose-coloured. Legume unknown.

Broad-leaved Inga. Fl. Mar. April. Clt. 1768. Tree.

91 I. UMBRÒSA (Wall. pl. rar. asiat. 2. p. 23. t. 124.) spines stipular, straight; leaves with 1 pair of pinnæ, each pinna bearing 3 broad leaflets, the lower one the smallest; leaflets oblong, obtuse, oblique at the base, acute; petioles wingless, bearing a small, flat gland at the apex; heads of flowers pedunculate, axillary, solitary, glabrous, globose. ♄. S. Native, of Silhet. Flowers white, fragrant.

Shady Inga. Tree 40 to 60 feet.

* * * *Conjugàto-pinnàtæ* (from *conjugatus* and *pinnatus*; in reference to the disposition of the leaflets). *Leaves with one pair of pinnæ, each pinna bearing from 2 to many pairs of opposite leaflets.*

92 I. CIRCINNA'LIS (Willd. spec. 4. p. 1023.) spines stipular, straight; pinnæ bearing 2-3 pairs of ovate, mucronate leaflets, with a gland in the fork of the petiole; heads of flowers pedunculate, axillary, and disposed in a kind of raceme at the tops of the branches. ♄. S. Native of St. Domingo and of the Bahama Islands. Catesb. car. 2. t. 97. Mimòsa circinnàlis, Lin. spec. 1490. Plum. ed. Burm. t. 5. Leaflets usually ending in a spine-like mucrone. Legume long, cochleate, filled with pulp inside. Seeds flat, red and black mixed.

Circinnate-podded Inga. Clt. 1726. Tree 10 to 15 feet.

93 I. CA'NDIDA (H. B. et Kunth, nov. gen. amer. 6. p. 299.) prickles conically-subulate, straight; pinnæ bearing 2-3 pairs of obliquely obovate leaflets, which are rounded at both ends, rather coriaceous, and somewhat mucronate, glabrous; heads of flowers axillary, solitary, globose; legumes circinnate. ♄. S. Native near Guayaquil. Flowers white.

White-flowered Inga. Shrub 6 to 12 feet.

94 I. EXCE'LSA (Kunth, mim. 57. t. 18. nov. gen. amer. 6. p. 299.) spines stipular, straight; leaves conjugately or doubly pinnate, the outer pinnæ bearing 4 leaflets, and the lower ones only 2 leaflets; leaflets obovate, oblique at the base, with a gland between the pinnæ and one between each pair of leaflets; heads of flowers axillary, pedunculate. ♄. S. Native of New Granada, on the banks of the river Magdalena, near Tomependa. Flowers white. Legume circinnate.

Tall Inga. Tree 60 to 70 feet.

95 I. UMBELLA'TA (Willd. spec. 4. p. 1027.) spines stipular, straight; leaves conjugately or doubly pinnate, each pinna bearing 8-10 pairs of leaflets, with glands between the pairs of leaflets; heads of flowers axillary, umbellate. ♄. S. Native of the East Indies. Mimòsa umbellàta, Vahl. symb. 2. p. 105. Legume spiral, when young pubescent.

Umbellate-flowered Inga. Tree.

96 I. PURPU'REA (Willd. spec. 4. p. 1021.) unarmed; pinnæ bearing from 3-7 pairs of oblong, obtuse leaflets, which are unequal at the base; petioles glandless; heads of flowers pedunculate, axillary. ♄. S. Native of Martinique and of Cumana. Mimòsa purpùrea, Lin. spec. 1500. Andr. bot. rep. 372. Ker. bot. reg. 129.—Plum. ed. Burm. t. 10. f. 2. Flowers purple. Legume linear, obtuse, tapering at the base, straight, with thickened margins. I. obtusifòlia of Willd. spec. 4. p. 1022. is not distinct according to Kunth, nov. gen. amer. 6. p. 301.

Purple Inga. Fl. Mar. April. Clt. 1733. Shrub 3 to 6 ft.

97 I. TAXIFO'LIA (Kunth, mim. p. 64. t. 20. nov. gen. amer. 6. p. 301.) unarmed; pinnæ bearing 13-20 pairs of oblong, obliquely cordate, glabrous leaflets; petioles glandless, pubescent; heads axillary, solitary, few-flowered, on short peduncles. ♄. S. Native on the Andes of Quito. Flowers red. Legumes unknown.

Yew-leaved Inga. Shrub 6 feet.

98 I. COCHLEA'TA (Willd. spec. 4. p. 1020.) unarmed; pinnæ 2, each bearing 3 pairs of elliptic, acuminated, shining leaflets, with an obscure gland between each pair; umbels of flowers pedunculate, solitary, or twin. ♄. S. Native of Para, in Brazil. Legume cochleate, with the outer margin repand.

Cochleate-podded Inga. Shrub 6 to 10 feet.

99 I. XYLOCA'RPA (D. C. prod. 2. p. 439.) unarmed; pinnæ 2, each bearing 3-4 pairs of ovate-elliptic, acutish leaflets, with a gland between the pinnæ and between each pair of leaflets; heads of flowers usually twin, pedunculate, globose; legume woody, falcate, mealy inside. ♄. S. Native of Coromandel. Flowers white. Corolla smooth, 5-toothed. Stamens 10. Mimòsa xylocàrpa, Roxb. cor. 1. p. 68. t. 100. Acàcia xylocàrpa, Willd. spec. 4. p. 1055. Leaflets broad.

Woody-fruited Inga. Clt. 1816. Tree 60 feet.

100 I. CAULIFLO'RA (Willd. spec. 4. p. 1021.) unarmed; pinnæ 2, each bearing 3 pairs of oblong, unequal leaflets, with a gland

between each pair; flowers lateral, in umbels. ♄. S. Native of Para, in Brazil. Allied to *I. latifòlia.*

Stem-flowered Inga. Tree 40 feet.

101 I. BIGE'MINA (Willd. spec. 4. p. 1807.) unarmed; pinnæ 2, each bearing 2-3 pairs of oblong-lanceolate, acuminated leaflets; petiole glabrous, with a gland in the fork and one between each pair of leaflets; racemes panicled, terminal; legume twisted. ♄. S. Native of the East Indies. Mimòsa bigémina, Lin. spec. 1409. Vahl. symb. 2. p. 103.—Rheed. mal. 6. t. 12.

Two-paired-leafletted Inga. Tree 40 feet.

102 I. JIRÍNGA (Jacq. mal. misc. 1. no. 1. p. 14. under *Mimòsa*) unarmed; pinnæ 2, each bearing 3 pairs of quite smooth leaflets; panicles fascicled, axillary; heads few-flowered; legumes large, articulately twisted, black. ♄. S. Native of the East Indies, Pulo-Pinang, Malacca, &c. Mimòsa Djirínga, Roxb. hort. beng. p. 93. Flowers white. *Jiringa* is the Malay name of the tree.

Jiringa Inga. Tree.

103 I. MOLLÍSSIMA (Humb. et Bonpl. in Willd. spec. 4. p. 1007.) unarmed; pinnæ 2, each bearing 4 pairs of obliquely obovate leaflets, which are clothed on both surfaces with very soft silky villi; petioles glandless, and are as well as the branches clothed with pubescence; heads of flowers pedunculate, axillary, solitary. ♄. S. Native of South America. Kunth, mim. p. 61. t. 19. H. B. et Kunth, nov. gen. amer. 6. p. 300. Legume straight, linear, obtuse, beset with hairy tomentum, with thickened margins. Stamens white.

Very soft Inga. Tree 20 feet.

104 I. FASCICULA'TA (Willd. spec, 4. p. 1022.) unarmed; pinnæ 2, each bearing 8-10 pairs of cultrate, 2-nerved leaflets; heads of flowers pedunculate, axillary, solitary. ♄. S. Native of Para, in Brazil. Legume linear, flat, acute, attenuated at the base, with a thickened glabrous margin.

Fascicled-flowered Inga. Tree 20 feet.

105 I. CANE'SCENS (Schlecht. et Cham. in Linnæa. 5. p. 593.) shrubby, unarmed, and clothed on every part with soft canescent hairs; leaves with 1 pair of pinnæ, each pinna bearing 2 pairs of leaflets, lower pair the smallest, all obliquely elliptic, obtuse, and mucronulate; heads of flowers axillary, on long peduncles. ♄. S. Native of Mexico, between Marantial and Puente del Rey. A much-branched shrub. Terminal leaflets 9 lines long. Tube of stamens exserted beyond the corolla.

Canescent Inga. Shrub 6 feet.

106 I. TRIFLÒRA; unarmed; pinnæ 2, each bearing 3-4 pairs of obovate, roundish, nerved, coriaceous, glabrous, shining, box-like leaflets, which are rusty beneath and oblique at the base; panicles of flowers axillary; the heads few-flowered. ♄. S. Native of Guayaquil. Mimòsa triflòra, Ruiz. et Pav. in herb. Lamb.

Three-flowered Inga. Shrub 6 feet.

107 I. ADIANTIFO'LIA (Kunth, mim. p. 66. t. 21. nov. gen. amer. 6. p. 501.) unarmed; upper leaves conjugately pinnate, lower ones bipinnate, each pinna bearing from 11-13 pairs of obliquely-linear, oblong, glabrous leaflets, which are cuneated at the base; heads of flowers axillary, pedunculate, solitary, or twin. ♄. S. Native of South America, on the shady banks of the river Atabapo, in the province of Guiana. I. díscolor, Willd. 4. p. 1023. Corolla greenish. Stamens white. Legumes unknown.

Adiantum-leaved Inga. Tree 20 to 30 feet.

§ 3. *Samàneæ* (*Saman* is the South American name of *A. Sàman*). *Leaves doubly pinnate, that is, bipinnate.*

* *Paucifoliolæ* (from *paucus*, few, and *foliolum*, a leaflet). *Spines none. Leaves with from 2-9 pairs of pinnæ, each pinna bearing from 2-20 pairs of leaflets.*

108 I. FI'LIPES (Vent. choix. t. 38.) leaves with 2 pairs of pinnæ, each pinna bearing from 3-4 pairs of obovate, glabrous leaflets, with a gland between each pair of pinnæ; heads of flowers axillary, on very long peduncles, rather pendulous. ♄. S. Native of St. Domingo. Flowers red. Legume linear, pendulous, acute, torulose at the seeds.

Thread-petioled Inga. Shrub 6 feet.

109 I. NANDINÆFÒLIA (D. C. prod. 2. p. 440.) leaves with 2 or 3 pairs of pinnæ, each bearing 2-3 pairs of oval leaflets, which are attenuated at both ends, with an obscure gland between each pair of pinnæ; heads of flowers usually twin, on long peduncles. ♄. S. Native of Brazil. The leaves are black when dried. Legume linear and incurved.

Nandina-leaved Inga. Shrub.

110 I. MONILIFÓRMIS (D. C. prod. 2. p. 440.) leaves with 2 pairs of pinnæ, each bearing 6-7 pairs of oval, obtuse, glabrous leaflets, with a depressed gland between each pair of pinnæ; petioles and peduncles rather pubescent; umbels of flowers axillary, on long peduncles; flowers on long pedicels; legume moniliform. ♄. S. Native of the island of Timor. Corolla tubular, and is as well as calyx glabrous. Stamens numerous.

Moniliform-podded Inga. Tree or shrub.

111 I. SAPONA'RIA (Willd. spec. 4. p. 1008.) leaves with 2 pairs of distant pinnæ, each bearing 2 pairs of oval, acutish leaflets, with a large, elongated gland at the base of the common petiole; heads of flowers axillary and terminal, disposed in loose, panicled corymbs. ♄. S. Native of the Moluccas, and of Cochin-china, in woods. Mimòsa saponària, Lour. coch. p. 653.—Rumph. amb. 4. t. 66. The bark yields excellent soap, which is used by the inhabitants of Cochin-china.

Soap Inga. Shrub.

112 I. BRACHYSTA'CHYA (D. C. prod. 2. p. 440.) leaves with 3 pairs of pinnæ, each bearing 3-4 pairs of oval, rather obovate, obtuse, glabrous, shining leaflets, with a gland between each of the pairs of pinnæ, and also between the upper pair of the leaflets; petioles, branches, peduncles, and flowers clothed with velvety pubescence; spikes of flowers ovate. ♄. S. Native of Brazil. Peduncles rising 2-3-together from the axils of the leaves. Leaflets reticulately veined beneath.

Short-spiked Inga. Tree or shrub.

113 I. SA'SSA (Willd. spec. 4. p. 1027.) leaves with 3-4 pairs of pinnæ, each bearing 12 pairs of oblong-ovate leaflets; flowers umbellately panicled; staminiferous tube exserted beyond the corolla. ♄. S. Native of Abyssinia. Sássa, Bruce. trav. 5. t. 4 and 5. Flowers of two forms, some with a short staminiferous column, and some with a long one, as in the next species.

Sassa Inga. Tree.

114 I. ZY'GIA (D. C. legum. mem. xii. t. 65. prod. 2. p. 440.) leaves with 3-4 pairs of pinnæ, each bearing 3-4 pairs of somewhat rhomboid-ovate leaflets, with a gland at the base of the common petiole; flowers umbellately panicled; stamens monadelphous, with the tube much exserted beyond the corolla. ♄. S. Native of the West Indies. Staminiferous tube twisted when the flowers are in æstivation. Legumes unknown. From the structure of the stamens the present plant, along with *I. Sássa*, *I. virgultòsa*, and *I. Bourgòni*, will probably form a distinct genus or a section, which may be called *Zýgia*, as in P. Browne, jam. t. 22. f. 3.

Yoke Inga. Tree.

115 I. MERTENSIOIDES (Nees. et Mart. act. bonn. 12. p. 35. t. 5.) leaves with 2-3 pairs of pinnæ, each bearing 12-15 pairs of sessile leaflets; common petiole hairy; spikes of flowers globose, pedunculate, disposed in terminal corymbs at the tops of the branches. ♄. S. Native of Brazil, in fields. Acàcia aspleniòides, Nees. in bot. zeit. 4. p. 203. bras. reis. 2. p. 192.

Corolla 4 rarely 5-cleft. Stamens red. Legume 2-3-seeded. Allied to *I. adiantifòlia.*

Mertensia-like Inga. Shrub 2 to 4 feet.

116 I. como'sa (Willd. spec. 4. p. 1026.) leaves with 3 pairs of pinnæ, each bearing 9-10 pairs of ovate leaflets, which are retuse at the base; flowers disposed in panicled corymbs; petioles, branches, and flowers glabrous. ♄. S. Native of Jamaica, on rocks. Mimòsa comòsa, Swartz, fl. ind. occ. 980. Leaves usually twin. There are holes instead of glands on the partial petioles, which are edged with hairs. Ovary pubescent. Legume glabrous. Flowers white.

Tufted Inga. Clt. 1818. Tree 20 to 30 feet.

117 I. trapezifòlia (D. C. prod. 2. p. 441.) leaves with 2-4 pairs of pinnæ, each bearing 5-9 pairs of rhomboid-ovate leaflets, which are glabrous and shining above, but clothed with pubescence beneath, as well as petioles, branches, peduncles, and flowers; glands between the lower [illegible], and with some along the upper side of the partial petioles beneath the upper pairs of leaflets; heads of flowers pedunculate, solitary, axillary. ♄. S. Native of Cayenne. Mimòsa trapezifòlia, Vahl. ecl. amer. 3. p. 36. t. 28. Legume glabrous, twisted.

Trapezoid-leaved Inga. Tree.

118 I. cyclocárpa (Willd. spec. 4. p. 1026.) leaves with usually 9 pairs of pinnæ, each bearing 20-30 pairs of leaflets, outer ones largest, with a gland in the middle of the petiole; spikes of flowers globose, pedunculate, axillary; legumes cochleate. ♄. S. Native of Caraccas. Mimòsa cyclocárpa, Jacq. fragm. t. 34. f. 1. Flowers white. The pulp in the legume is saponaceous.

Circle-podded Inga. Tree 60 feet.

119 I. cine'rea (Humb. et Bonpl. in Willd. spec. 4. p. 1024. et H. B. et Kunth, nov. gen. amer. 6. p. 304.) leaves with 5 pairs of pinnæ, each bearing 6 pairs of obliquely ovate leaflets, which are glabrous above and pubescent beneath, with a gland between each pair of pinnæ and one between each pair of leaflets; heads of flowers pedunculate, globose; stamens 20-22. ♄. S. Native of Caraccas. Branchlets pubescent. Mimòsa pubígera, Poir. suppl. 1. p. 47. Stamens red. This species, with the following, will perhaps form a distinct genus.

Grey Inga. Tree 30 to 40 feet.

120 I. saluta'ris (H. B. et Kunth, nov. gen. amer. 6. p. 304.) leaves with 4 pairs of pinnæ, each bearing 6-7 pairs of somewhat rhomboid-ovate leaflets, which are glabrous above but clothed with soft pubescence beneath, with a gland between each pair of pinnæ, and also between each pair of leaflets; heads of flowers globose; stamens about 40; legumes rather torulose. ♄. S. Native of New Granada, between Turbaco and Carthagena. Stamens red.

Salutary Inga. Tree 20 to 30 feet.

121 I. Sa'man (Willd. spec. 4. p. 1024.) leaves with 4-6 pairs of pinnæ, outer pairs of pinnæ bearing 6 pairs of leaflets, inner pair bearing 2 or 3 pairs; leaflets ovate-oblong, obtuse, glabrous above but pubescent beneath, as also the petioles and branchlets, with a gland between each pair of pinnæ, as well as one between each pair of leaflets; heads of flowers pedunculate, axillary, lower ones solitary, the upper ones rising 3-6-together. ♄. S. Native of Caraccas and Jamaica. Mimòsa Sàman, Jacq. fragm. t. 9. Legume linear, 7-8 inches long, flat on both sides, and channelled on both sutures. Branchlets striated, when young they are clothed with velvety tomentum, as well as the leaves.

Saman Inga. Tree 60 feet.

122 I. pedicella'ris (D. C. prod. 2. p. 441.) leaves with 6-7 pairs of pinnæ, each bearing about 20 pairs of oblong-linear, obtuse leaflets, which are glabrous above and pubescent beneath, as well as the peduncles, petioles, branches, and flowers, with a thick gland between the upper pair of pinnæ, and a small one between the upper pair of leaflets; heads of flowers usually twin, axillary; flowers pedicellate. ♄. S. Native of Cayenne. Legume oblong, straight, 2½ inches long and an inch broad, chinky on the inside after the seeds have fallen.

Pedicellate-flowered Inga. Tree 20 to 40 feet.

123 I. pteroca'rpa (D. C. prod. 2. p. 441.) leaves with 8-9 pairs of pinnæ, each bearing about 12 pairs of oval, very blunt, glabrous leaflets; petioles velvety, glandless; legumes compressed, winged, nearly lanceolate, glabrous. ♄. S. Native of the island of Timor. Flowers unknown.

Winged-fruited Inga. Tree.

124 I. hirsu'ta; densely clothed in every part with white hairs; leaves with 3-4 pairs of pinnæ, each pinna bearing many pairs of small leaflets, which are densely clothed with white hairs beneath, but glabrous above; heads of flowers solitary, axillary, on long peduncles; flowers silky. ♄. S. Native of New Spain. Mimòsa hirsùta, Ruiz et Pav. in herb. Lamb. Stamens red, much exserted.

Hairy Inga. Tree.

* * *Spinòsæ* (*spinòsus*, full of spines). *Spines stipular. Leaves bipinnate, with from 4-7 pairs of pinnæ, each pinna bearing from 10-20 pairs of leaflets.*

125 I. leptophy'lla (Lag. gen. et spec. 16. no. 203.) spines stipular, recurved; leaves with 4-7 pairs of pinnæ, each pinna bearing 10-18 pairs of leaflets; heads of flowers globose, pedunculate; legumes lanceolate, nearly falcate. ♄. S. Native of South America. Mimòsa leptophy̆lla, Cav. Flowers all hermaphrodite. Perhaps a species of *Acàcia.*

Slender-leaved Inga. Shrub 4 to 6 feet.

126 I. Ma'rthæ (Spreng. in herb. Balb. syst. 3. p. 132.) spines lateral, straight, solitary; leaves with 6-8 pairs of pinnæ, each pinna bearing from 15-25 pairs of linear leaflets; petioles pubescent, bearing a gland at the base, and one between each of the 2 ultimate pairs of pinnæ; heads of flowers axillary and lateral, on short peduncles, somewhat umbellately globose. ♄. S. Native of St. Martha. Young branches rising from scaly stipulaceous buds. Stipulas oblong. Spines usually absent. Corolla glabrous, 5-cleft. Stamens numerous. Legume rather falcate, compressed, 4 inches long, bearing gum on the inside.

St. Martha Inga. Tree.

127 I.? Corcondia'na (D. C. prod. 2. p. 441.) spines lateral, solitary, straight; leaves with 2 pairs of pinnæ, each pinna bearing 5-6 pairs of oblong, glabrous, obtuse leaflets, ultimate ones obovate, with a small gland between each pair of pinnæ; heads of flowers axillary, pedunculate, somewhat umbellately-globose. ♄. S. Native of Coromandel. Mimòsa Corcondiàna, Roxb. hort. beng. p. 40. Branchlets grey, glabrous. Petioles pubescent. Flowers glabrous, 5-cleft. Stamens numerous, much exserted. Legumes unknown.

Corcondian Inga. Tree.

128 I. alternifòlia; smooth; leaves bipinnate, with many pairs of pinnæ, each pinna bearing many alternate, glaucous, coriaceous leaflets; spines stipular, straight; peduncles solitary, axillary; heads of flowers globular; legumes smooth, twisted in the form of a shell. ♄. S. Native of Mexico. Mimòsa circinnàtus, Sesse et Moc. in herb. Lamb.

Alternate-leafletted Inga. Shrub 2 to 3 feet.

* * * *Multifoliolàtæ* (from *multus*, many, and *foliolum*, a leaflet; in reference to the leaves bearing many pairs of pinnæ, as well as leaflets). *Unarmed trees. Leaves bipinnate, with from 10-30 pairs of pinnæ, each pinna bearing above 20 pairs of leaflets.*

129 I. pe'ndula (Willd. spec. 4. p. 1025.) leaves with about 20 pairs of pinnæ, each pinna bearing numerous pairs of linear ciliated leaflets; petiole pubescent, bearing a gland above its

base; spikes of flowers globose, on long compressed peduncles, pendulous. ♄. S. Native of Para, in Brazil. Legume unknown. Perhaps a species of *Párkia*.

Pendulous-spiked Inga. Tree 30 feet.

130 I. FILI'CINA (Willd. spec. 4. p. 1025.) leaves with 10 pairs of pinnæ, each pinna bearing numerous pairs of linear, obtuse, mucronulate, shining leaflets; petioles and peduncles clothed with rusty pubescence; spikes of flowers oblong, on long peduncles, drooping. ♄. S. Native of Para, in Brazil. Perhaps a species of *Párkia*.

Fern-like-leaved Inga. Tree.

131 I. FÆCULI'FERA (Hamilt. prod. fl. ind. occ. p. 61.) unarmed; leaves with usually 7 pairs of pinnæ, each pinna bearing 45-50 pairs of narrow, linear, acute leaflets, which are cordate and auricled at the base; rachis and petioles pubescent; heads of flowers oblong, on long peduncles; legume pedicellate, twin. ♄. S. Native of St. Domingo, where it is called *Pois doux*. Legume 8-10 inches long, marginated, filled with sweet yellow edible pulp inside.

Fæcula-bearing Inga. Tree 20 to 30 feet.

§ 4. *Annesléya* (in honour of George Annesley, Lord Mountnorris). *Leaves bipinnate, with 6-50 pairs of pinnæ, each pinna bearing many pairs of linear leaflets. Anthers 2-celled; the pollen in 4 globular masses. This division will certainly form a distinct genus.*

132 I. GLANDULÒSA (Steud. nom. p. 431.) leaves with 17 pairs of pinnæ, each pinna bearing 8 pairs of linear acute leaflets, which are glabrous, as well as the corollas, with a sessile gland seated between each pair of leaflets; spikes of flowers axillary, solitary, erect, longer than the leaves. ♄. S. Native of Cayenne. Mimòsa glandulòsa, Vahl. ecl. amer. 3. p. 38. but not of Smith nor Michx. Corolla 5-cleft. Stamens numerous, monadelphous. Legumes unknown.

Glandular Inga. Shrub 6 to 10 feet.

133 I. PENNA'TULA (Schlecht. et Cham. in Linneæ. 5. p. 593.) clothed with white mealy tomentum; branches flexuous, angular, striated, pubescent; leaves with 40-50 pairs of pinnæ, each pinna bearing many pairs of small, oblong, obtuse, ciliated and densely imbricated leaflets, with a large gland beneath the lower pair of pinnæ on the petiole; prickles stipular, connate, straight, spreading, conically-subulate; heads of flowers axillary, on short peduncles; legume in an immature state fleshy; seeds immersed in pulp. ♄. S. Native of Mexico, near Hacienda de la Laguna, and also near Jalapa.

Feathered-leaved Inga. Shrub.

134 I. ANÓMALA (Kunth, mim. 70. t. 22. nov. gen. amer. 6. p. 303.) leaves with 15-17 pairs of rather unequal pinnæ, each pinna bearing many pairs of linear leaflets, which are obtuse at both ends and glabrous, but adpressedly ciliated on the margins; petioles glandless, and are, as well as the branches, peduncles, and flowers puberulous; heads usually twin, few-flowered, disposed in a terminal raceme. ♄. S. Native of Mexico, near Pascuaro, and on mount Jorullo. Mimòsa grandiflòra, Lher. sert. ang. t. 30. Acàcia grandiflòra, Willd. spec. 4. p. 1074. Coll. hort. rip. 2. t. 9. Legume linear, acute, glabrous, attenuated at the base, having the margins thickened. Flowers of a pleasing red colour, sessile on the apex of the peduncle. Anthers 2-celled; the pollen in 4 globular masses.

Var. β, *pedicellàta* (Moc. et Sesse, fl. mex. icon. ined. D. C. prod. 2. p. 442.) flowers distinctly pedicellate at the apex of the peduncles; pedicels longer than the calyx. ♄. S. Native of Mexico. Hern. mex. p. 104. f. 1-2.

Anomalous Inga. Fl. May, Aug. Clt. 1729. Sh. 6 to 10 feet.

135 I. HOUSTÒNI (D. C. prod. 2. p. 442.) leaves with 5-7 pairs of pinnæ, the upper ones longer than the rest, each pinna bearing many pairs of linear leaflets, which are somewhat obliquely-truncate at both extremities, and pubescent beneath; petioles glandless, and are, as well as the peduncles and flowers, clothed with rufous tomentum; heads usually twin, few-flowered, disposed in a terminal raceme. ♄. S. Native of Mexico, about Vera Cruz. Gledítschia inérmis, Lin. spec. 1509. Mimòsa Houstòni, Lher. sert. t. 30. Acàcia Houstòni, Willd. spec. 4. p. 1062. Ker. bot. reg. 98. Mill. fig. t. 5. Mimòsa hirsùta, Vahl. Flowers white. Anthers like those of *I. anómala*. Legume linear, flat, very hairy.

Houston's Inga. Fl. May, Aug. Clt. 1729. Sh. 6 to 10 ft.

136 I.? TIMORIA'NA (D. C. prod. 2. p. 442.) leaves with usually about 30 pairs of pinnæ, each pinna bearing numerous pairs of linear leaflets, which are obliquely truncate at both ends, and pubescent beneath; petioles glandless, and are, as well as branchlets, velvety. ♄. S. Native of the island of Timor. Leaflets about 50 pairs. Flowers unknown. The legume is described [illegible] being on a long pedicel within the calyx, oblong, compressed, flat, [illegible], and glabrous, but as it was only on the same sheet of paper with the specimen, and separated from it, it is doubtful whether it belonged to the plant or not.

Timor Inga. Tree 60 feet.

Cult. *I'nga* is a fine genus of trees and shrubs, bearing delicate compound leaves, and beautiful flowers; for which some of the species are much admired. They are all increased by young cuttings, which should be taken off at a joint, and placed in a pot of sand, placing a bell-glass over them, then the pot to be plunged in heat.

CCXXVI. PA'RKIA (in memory of Mungo Park, the celebrated African traveller). R. Brown, in Denham et Clapp. trav. append. p. 29.—I'nga species of D. C.—Mimòsa species of Willd.

LIN. SYST. *Monadélphia, Decándria.* Calyx tubular, bilabiate, the mouth imbricate in æstivation. Petals 5, nearly equal, the upper one a little broader than the rest, connivently imbricated in æstivation. Stamens 10, hypogynous, monadelphous. Legume many-seeded, 2-valved, separated into 1-seeded divisions, filled with farinaceous pulp.—African and East Indian unarmed trees, with bipinnate leaves with many pairs of pinnæ, and each of the pinna bearing many pairs of leaflets, with minute stipulas, axillary pedunculate spikes of vermilion flowers, which are seated on a club-shaped or orbicular receptacle, the lower ones usually male.

1 P. AFRICA'NA (R. Brown, l. c.) leaves with usually 20 pairs of pinnæ, each pinna bearing about 30 pairs of obtuse pubescent leaflets, with a gland at the base of the petiole, and with a small umbilicate gland between 2 or 3 of the upper pairs of leaflets; heads of flowers biglobular. ♄. S. Native of Africa, in various places, particularly on the western coast, in the kingdoms of Benin and Waree; and also of North Africa, in Soudan, where it is called *Douro*. I'nga biglobòsa, Beauv. fl. d'ow. 2. p. 53. t. 90. D. C. prod. 2. p. 442. Mimòsa biglobòsa, Jacq. amer. t. 176. f. 87. Mimòsa taxifòlia, Pers. ench. 2. p. 266. In Soudan the seeds are roasted as we roast coffee, then bruised, and allowed to ferment in water; when they begin to become putrid they are well washed and pounded, the powder made into cakes, somewhat in the manner of our chocolate; they form an excellent sauce for all kinds of food. The farinaceous matter surrounding the seeds is made into a pleasant drink, and they also make it into a kind of sweetmeat.

African Nitta-tree. Fl. Feb. Clt. 1822. Tree 30 to 40 ft.

2 P. UNIGLOBO'SA (G. Don, in Loud. hort. brit. p. 277.) leaves bipinnate, pubescent, with many pairs of pinnæ, each pinna bearing many pairs of leaflets; heads of flowers globular, on very long peduncles. ♄. S. Native of Sierra Leone, where it is

called *Locust-tree.* Heads of flowers pendulous. Flowers of a vermilion colour. The pulp within the pods is sweet and farinaceous, and is eaten by the natives of Africa. This is probably the *Nitta* mentioned by Mr. Mungo Park.

One-globed-flowered Nitta-tree. Fl. Feb. Clt. 1822. Tr. 30 ft.

3 P. ROXBU'RGHII; leaves with usually 20-24 pairs of pinnæ, each pinna bearing 50-65 pairs of linear, obtuse, rather falciform leaflets, with a gland between 2 or 3 of the upper pairs of pinnæ; rachis pubescent; heads of flowers club-shaped. ♄. S. Native of Silhet, in the East Indies. I'nga biglobòsa, Roxb. Flowers vermilion.

Roxburgh's Nitta Tree. Tree 30 to 40 feet.

Cult. See *I'nga* for culture and propagation, p. 396.

CCXXVII. SCHRA'NKIA (in honour of Francis Von Paula Schrank, a celebrated German botanist, author of numerous botanical works). Willd. spec. 4. p. [illegible] D. C. prod. 2. p. 443.

LIN. SYST. *Polygàmia Monœ'cia.* Flowers polygamous. Petals 5, joined into a [illegible]cleft corolla. Stamens 8-10, free. Legume muricately echinated, tetragonal, and as if it were 4-valved in consequence [illegible] the valves being divisible into 2 parts longitudinally. Seeds numerous, oblong.—Herbs, with tuberous roots, and angular stems. Petioles and legumes beset with hooked prickles. Leaves bipinnate, sensible to the touch, as those of the sensitive plants. Flowers rose-coloured, collected into globose heads.

1 S. ACULEA'TA (Willd. spec. 4. p. 1041.) stem tetragonal; leaves with 2-3 pairs of pinnæ, each pinna bearing numerous pairs of leaflets; legumes acute, a little longer than the peduncles; heads of flowers solitary. ♃. S. Native of Mexico, about Vera Cruz. Mimòsa quadriválvis, Lin. spec. 1508. Mill. fig. pl. 182. f. 1. Banks, rel. Houst. t. 25. Flowers red. Roots creeping.

Prickly Schrankia. Fl. July, Aug. Clt. 1733. Pl. 1 to 2 ft.

2 S. LEPTOCA'RPA (D. C. legum. mem. xii. prod. 2. p. 443.) [illegible] tetragonal; leaves with 2-3 pairs of pinnæ, each pinna bearing many pairs of leaflets; legumes ending in a long acumen, [illegible] times the length of the peduncles; heads of flowers solitary or twin. ♃. S. Native of St. Domingo. Prickles of the stem and petioles hooked, but those on the legume are subulate and straight. Flowers red.

Slender-fruited Schrankia. Pl. 1 to 2 feet.

3 S. HAMA'TA (Humb. et Bonpl. in Willd. spec. 4. p. 1042.) stem pentagonal; leaves with 4 pairs of pinnæ, each pinna bearing many pairs of leaflets, which are unequal at the base; legumes ending in a beak-like acumen; heads of flowers on very short peduncles. ♃. S. Native of South America, on the banks of the river Magdalena near Mompox. H. B. et Kunth, nov. gen. amer. 6. p. 260. Flowers red.

Hooked-prickled Schrankia. Pl. 1 to 2 feet.

4 S. DISTA'CHYA (Moc. et Sesse, fl. mex. icon. ined. D. C. prod. 2. p. 443.) stems pentagonal; leaves with 6 pairs of pinnæ, each pinna bearing many pairs of leaflets; legumes acute at both ends, 3 times the length of the peduncles; heads of flowers twin. ♃. S. Native of New Spain. Flowers red.

Two-spiked Schrankia. Pl. 1 to 2 feet.

5 S. UNCINA'TA (Willd. spec. 2. p. 443.) stem pentagonal; leaves with 6 pairs of pinnæ, each pinna bearing many pairs of leaflets; legumes ending in a beak-like acumen at the apex, twice the length of the peduncles; heads of flowers solitary or twin. ♃. F. Native of North America, from Virginia to Florida. Mimòsa horrídula, Michx. fl. bor. amer. 2. p. 154. Vent. choix. t. 28. Mimòsa I'nstia, Walt. car. p. 252. Flowers red.

Uncinate-prickled Schrankia. Fl. July, Aug. Clt. 1789. Pl. 1 to 2 feet.

Cult. All the species of this genus are worth cultivating on account of their leaves, which fall at the slightest touch, as those of the sensitive plants. They grow best in a mixture of loam, peat, and sand, and may be propagated by young cuttings planted in sand, with a bell-glass placed over them in heat, or they may be increased by separating the tubers of the roots.

CCXXVIII. DARLINGTO'NIA (in honour of Dr. Darlington, an American botanist). D. C. in ann. sc. nat. jan. 1825. 4. p. 97. legum. mem. xii. no. 6. prod. 2. p. 443.

LIN. SYST. *Pentândria, Monogýnia.* Flowers hermaphrodite. Petals 5, distinct. Stamens 5. Legume 2-valved, dry, continuous, lanceolate, few-seeded.—Smooth, unarmed, perennial herbs, natives of North America, with bipinnate leaves, having numerous pairs of pinnæ and leaflets. Heads of flowers axillary, solitary, pedunculate. Flowers white. Legumes crowded, short, 4-8 lines long.

1 D. BRACHY'LOBA (D. C. legum. mem. xii. t. 66.) plant herbaceous, unarmed, glabrous; leaves with 6-8 pairs of pinnæ, each pinna bearing 16-24 pairs of linear leaflets, with a gland seated between the lower pair of pinnæ; heads of flowers solitary, axillary, pedunculate; legumes straightish, lanceolate. ♃. F. Native of meadows in the region of Illinois and Kentucky. Acàcia brachýloba, Willd. spec. 4. p. 1071. Mimòsa Illinoénsis, Michx. fl. bor. amer. 2. p. 254. Legume glabrous, 6-7 lines long, and 2½ broad. Flowers white.

Short-podded Darlingtonia. Fl. Jul. Oct. Clt. 1803. Pl. 1½ ft.

2 D. GLANDULÒSA (D. C. l. c.) plant herbaceous, glabrous, unarmed; leaves with 12-14 pairs of pinnæ, each pinna bearing 20-30 pairs of linear leaflets, with a gland situated on the petiole between each of the pairs of pinnæ; heads of flowers solitary, pedunculate, axillary; legumes falcate. ♃. F. Native of the plains along the banks of the rivers Tenessee and Mississippi. Mimòsa glandulòsa, Michx. fl. bor. amer. 2. p. 254. Vent. choix. t. 27. but not of Smith. Acàcia glandulòsa, Willd. spec. 4. p. 1071. Mimòsa contortuplicàta, Zucc. obs. cent. 1. no. 100. Flowers white.

Glandular Darlingtonia. Fl. Sept. Oct. Clt. 1806. Pl. 1½ ft.

3 D. INTERME'DIA (Torrey in ann. lyc. 2. p. 191.) unarmed, herbaceous, and glabrous; leaves with 8-9 pairs of pinnæ, each pinna bearing many pairs of oblong-linear leaflets, with a gland seated on the petiole between the lower pair of pinnæ; heads of flowers solitary, axillary, pedunculate; legumes falcate. ♃. F. Native of North America, on the Canadian river. Flowers white.

Intermediate Darlingtonia. Pl. 1 foot.

Cult. Peat and sand, mixed with some vegetable mould is the best soil for the species of *Darlingtònia.* They should be grown in pots, and placed among the Alpine plants, and they may be increased by dividing at the root, or by young cuttings planted in sand, with a bell-glass placed over them.

CCXXIX. DESMA'NTHUS (from δεσμη, *desme,* a bundle, and ανθος, *anthus,* a flower; in reference to the flowers, which are collected into bundles or spikes). Willd. spec. 4. p. 1044. Kunth, mim. p. 115. D. C. prod. 2. p. 443.

LIN. SYST. *Polygàmia, Monœ'cia.* Flowers polygamous. Calyx 5-toothed. Petals 5, distinct, oblong-spatulate or joined, but usually wanting in the neuter flowers. Stamens 10, rarely 5, with the filaments in the lower flowers of the spike sterile, membranous, and dilated or filiform. Legume dry, continuous, 2-valved. —Herbs or shrubs, with bipinnate leaves, and linear leaflets. Spikes of flowers axillary, pedunculate, ovate or cylindrical. Flowers white, but with the fertile filaments usually yellow. Perhaps it would have been better to have divided the present genus into three separate genera instead of sections.

SECT. I. NEPTU'NIA (so called on account of the species contained in this section being inhabitants of lakes and ponds). Lour. coch. p. 654. D. C. legum. mem. xii. prod. 2. p. 444. Legume oblong, 4-6-seeded, broadest at the base. Sterile filaments all petaloid.—Prostrate, usually rooting, aquatic herbs, furnished with bipinnate leaves, which are sensible to the touch, as those of the sensitive plants, and axillary solitary peduncles. Leaves with 2-3 pairs of pinnæ, each pinna bearing 10-12 pairs of leaflets.

1 D. LACU'STRIS (Willd. spec. 4. p. 1044.) stems creeping, terete; leaves with 3 pairs of pinnæ, each pinna bearing many pairs of leaflets; peduncles bracteate; spikes of flowers ovate. ♃. W. S. Native of South America, near Mompox, floating in stagnant water, as well as in the river Magdalena. Mimòsa lacústris, Humb. et Bonpl. pl. equin. 1. t. 16. Mimòsa aquática, Pers. ench. no. 58. Sterile stamens white tipped with yellow.

Lake Desmanthus. Fl. July. Clt. 1818. Pl. fl.

2 D. NA'TANS (Willd. l. c.) stems terete, creeping, inflated in parts; leaves with 2-3 pairs of pinnæ, each pinna bearing many pairs of leaflets; spikes of flowers ovate; peduncles naked, or only furnished with one bractea. ⊙. W. S. Native of the East Indies and Cochin-china, floating in stagnant water. Mimòsa nàtans, Roxb. cor. 2. t. 119. Andr. bot. rep. 629. Neptùnia oleràcea, Lour. coch. p. 804. Mimòsa prostràta, Lam. dict. 1. p. 10.—Pluk. alm. t. 307. f. 4.—Rheed. mal. t. 20. Sterile stamens yellow.

Floating Desmanthus. Fl. July, Sept. Clt. 1800. Pl. fl.

3 D. STOLÓNIFER (D. C. prod. 2. p. 444.) stems terete, creeping; leaves with 2-3 pairs of pinnæ, each pinna bearing many pairs of leaflets; spikes of flowers nearly globose; peduncles long, naked, or furnished with one bractea in the middle. ♃. W. H. Native of Senegal, floating in stagnant water. The plant throws out large branched roots. Stamens long, petaloid. Mimòsa stolonífera, Perr. in litt. Mimòsa aquática, Bacle in litt.

Stolon-bearing Desmanthus. Pl. fl.

4 D. POLYPHY'LLUS (D. C. prod. 2. p. 444.) stem erect? angular; leaves with 4 pairs of pinnæ, each pinna bearing many pairs of leaflets; peduncles furnished with 2 bracteas each; spikes of flowers ovate. ♃. W. S. Native country unknown. Leaflets 30-40 pairs. Legume oval-oblong, tapering into a stipe at the base, 5-seeded.

Many-leafletted Desmanthus. Pl. fl.

5 D. TRÍQUETRUS (Willd. spec. 4. p. 1045.) stems prostrate, compressed, triquetrous at the base; leaves with 2-3 pairs of pinnæ, each pinna bearing 12 pairs of leaflets; spikes of flowers globose; peduncles furnished with 2 deciduous bracteas. ♃. W. S. Native of the East Indies. Mimòsa tríquetra, Vahl. symb. 3. p. 101. Mimòsa nàtans, Lin. fil. suppl. 439.

Triquetrous-stemmed Desmanthus. Fl. July. Clt. 1820. Pl. fl.

6 D. PLE'NUS (Willd. spec. l. c.) stems prostrate, compressed; leaves with 2-4 pairs of pinnæ, each pinna bearing 12 pairs of leaflets; peduncles bracteate. ⊙. W. S. Native of Mexico, about Vera Cruz, in water. Mimòsa plèna, Lin. spec. 1502. Mill. fig. t. 182. f. 2. Banks, rel. Houst. t. 23. Bracteas 2 on each peduncle, broad, ovate-lanceolate, acuminated. Flowers white and yellow.

Full Desmanthus. Fl. July, Sept. Clt. 1733. Pl. fl.

SECT. II. DESMA'NTHEA (an alteration from the generic name). D. C. legum. mem. xii. prod. 2. p. 444. Legumes linear, 10-15-seeded. Sterile stamens almost filiform. Neuter flowers usually apetalous.—Shrubs or subshrubs, with leaves which are not sensible to the touch as those of the last section. Leaves bipinnate, with from 2-5 pairs of pinnæ, each pinna bearing from 12-15 pairs of leaflets.

7 D. DEPRE'SSUS (Humb. et Bonpl. in Willd. spec. 4. p. 1510.) stems suffruticose, prostrate; leaves with 2 pairs of pinnæ; petiole bearing one gland at the apex; spikes capitate, few-flowered; flowers decandrous; legume narrow, linear. ♄. S. Native of Peru, near Moche, and of Guadaloupe. Kunth, mim. p. 115. t. 35. nov. gen. amer. 6. p. 262. Mimòsa depréssa, Poir. suppl. 1. p. 58. Flowers white.

Depressed Desmanthus. Shrub prostrate.

8 D. DIFFU'SUS (Willd. l. c.) stems suffruticose, prostrate; leaves with 4-5 pairs of pinnæ; spikes capitate, few-flowered; flowers pentandrous; legumes narrow, linear. ♄. S. Native of New Andalusia, in shady places near Cumana. H. B. et Kunth, nov. gen. amer. 6. p. 262. Mimòsa Pernambucàna, Lin. spec. 1503.—Pluk. phyt. t. 307. f. 3. Very nearly allied to the following species. Flowers white.

Diffuse Desmanthus. Fl. July, Aug. Clt. 1731. Sh. pros.

9 D. LEPTOPHY'LLUS (H. B. et Kunth, nov. gen. amer. 6. p. 264.) stems [illegible] leaves with 6-7 pairs of pinnæ, each pinna bearing 16-20 pairs of [illegible] acute, ciliated leaflets, with a gland seated on the petiole between the lower pair of pinnæ; heads few-flowered; flowers decandrous; legumes linear, elongated. ♄. S. Native of Cumana, near [illegible]lones. Flowers white.

Slender-leaved Desmanthus. Shrub 1½ foot.

10 D. VIRGA'TUS (Willd. spec. 4. p. 1047. exclusive of the synonymes of Pluk. and Rheed.) stems suffruticose, erect, angular; leaves with 3-4 pairs of pinnæ, with a gland situated between the lower pair; peduncles naked; spikes few-flowered, capitate; flowers decandrous; legume narrow, linear, [illegible] 30-seeded. ♄. S. Native of the East Indies. Mimòsa [illegible] Lin. spec. 1502. Jacq. hort. vind. t. 80. Sims, bot. mag. [illegible] Flowers white. Anthers yellow.

Twiggy Desmanthus. Fl. June, Aug. Clt. 1774. [illegible] 1 to 2 feet.

11 D. STRI'CTUS (Bertol. vir. bon. 1824. p. 49.) ste[illegible]ticose, erect, angular; leaves with 2-3 pairs of pinn[illegible] gland seated on the petiole beneath the lower pair; [illegible] naked; spikes capitate, few-flowered; flowers decand[illegible] gume narrow, linear, 15-20-seeded. ♄. S. Nativ[illegible] West Indies. Mimòsa angustisiliqua, Lam. dict. 1. [illegible] Flowers white. Very like D. virgàtus according to Be[illegible] hort. crem. 1816. p. 49. of which it is perhaps only a varie[illegible]

Straight-stemmed Desmanthus. Fl. June, Aug. Clt. 1[illegible] Shrub 1 to 2 feet.

12 D. PUNCTA'TUS (Willd. l. c.) stem suffruticose, erect; leave[illegible] with 4-5 pairs of pinnæ, with a gland situated on the petiole beneath the lower pair; spikes of flowers ovate; peduncles furnished with deciduous bracteas at the base; flowers decandrous; legume linear-oblong, rather oblique at the base, hardly 5 times longer than broad. ♄. S. Native of Jamaica, St. Domingo, and Guadaloupe. Mimòsa punctàta, Lin. spec. 1502.—Comm. hort. 1. t. 31. Flowers white. The legume has the form of those species contained in the section *Neptùnia*, but it contains from 12-15 seeds as in those of the present section.

Dotted Desmanthus. Fl. June, July. Clt. 1686. Shrub 2 to 3 feet.

13 D. TENE'LLUS (D. C. prod. 2. p. 445.) stems rather diffuse; leaves with 3-4 pairs of pinnæ, having a gland situated on the petiole beneath the lower pair; peduncles naked, shorter than the petioles; legume linear, 10-12-seeded, hardly 5 times longer than the breadth. ♄. S. Native of the East Indies. Legume 3-9 lines long, and 2 lines broad.

Weak Desmanthus. Shrub 1 foot.

SECT. III. DICHRO'STACHYS (from δις, *dis*, two, χρωμα, *chroma*, colour, and σταχυς, *stachys*, a spike; in reference to the two colours of the spikes of flowers, from the white and yellow stamens).

D. C. legum. mem. xii. prod. 2. p. 445. Legume linear, twisted or somewhat falcate? Sterile filaments linear, and elongated; anthers of the fertile ones bearing a pedicellate gland at the apex of each. Petals 5, distinct or joined?—Shrubs, having the branches usually spinescent, with bipinnate pubescent leaves, bearing from 5-10 pairs of pinnæ, and each pinna bearing many pairs of leaflets, furnished with glands between the pairs of pinnæ, especially between the lower ones. Flowers disposed in oblong-cylindrical 2-coloured spikes, in consequence of the sterile stamens being white or variously coloured, and the fertile ones yellow.

14 D. dive'rgens (Willd. spec. 4. p. 1048.) leaves with 8 pairs of pinnæ, each pinna bearing 10-15 pairs of ciliated leaflets; spikes of flowers twin, pendulous, cylindrically obovate; legumes twisted. ♄. S. Native of Abyssinia. Bruce, trav. 5. t. 61.

Diverging Desmanthus. Fl. June, July. Clt. 1816. Shrub 3 to 6 feet.

15 D. lepto'stachys (D. C. legum. mem. xii. prod. 2. p. 445.) leaves with 8 pairs of pinnæ, each pinna bearing 20-30 pairs of ciliated leaflets, furnished with a stipitate gland between each pair of pinnæ; petioles and peduncles hairy; spikes of flowers usually twin, cylindrical, shorter than the leaves. ♄. S. Native of Senegal and Sierra Leone. Sieb. pl. exsic. seneg. 47. Very nearly allied to the preceding species, but differs from the plant figured by Bruce, in the leaflets being more numerous, and in the spikes of flowers being more slender, and not pendulous, and, lastly, in the sterile filaments being filiform.

Slender-spiked Desmanthus. Fl. July. Clt. 1825. Shrub [illegible] to 5 feet.

16 D. calli'stachys (D. C. prod. 2. p. 445.) leaves with 5 pairs of pinnæ, each pinna bearing about 20 pairs of leaflets; petioles and peduncles hairy; glands on the petiole sessile; spikes solitary, cylindrical, erect. ♄. S. Native country unknown. Spikes of flowers rose-coloured at the bottom, but yellow at the top. Sterile filaments linear. Anthers furnished with a black gland each. The specimens of this plant were collected in the gardens of Teneriffe.

Beautiful-spiked Desmanthus. Fl. June, July. Clt. 1824. Shrub 2 to 4 feet.

17 D. tricho'stachys (D. C. legum. mem. xii. t. 67.) leaves with 10 pairs of pinnæ, each pinna bearing 20 pairs of ciliated leaflets; petioles and peduncles puberulous; glands on the petioles pedicellate; spikes cylindrical, erect, interrupted at the base, rather longer than the leaves. ♄. S. Native of Senegal. Mimòsa bícolor, Bacle in litt. 1820. Mimòsa vària, Perr. in litt. 1825. Branches unarmed according to the specimen. Spikes 2 inches long. Sterile filaments very long, and hair-formed.

Hair-spiked Desmanthus. Shrub 3 to 4 feet.

18 D. cine'reus (Willd. spec. 4. p. 1048.) leaves with 8-10 pairs of pinnæ, each pinna bearing about 12-15 pairs of ciliated leaflets; petioles pubescent; spikes of flowers solitary, nodding, rather shorter than the leaves; corolla gamopetalous, 5-toothed; legume linear, falcate, somewhat transversely loculate inside. ♄. S. Native of the East Indies. Mimòsa cinèrea, Lin. spec. 1505. Roxb. cor. 2. t. 174.—Burm. zeyl. t. 2. Spikes rose-coloured at the bottom and yellow at the apex. Branches white, when young pubescent.

Cinereous Desmanthus. Fl. June, July. Clt. 1739. Shrub 6 to 7 feet.

19 D. nu'tans (D. C. prod. 2. p. 446.) branches spiny, when young clothed with hairy tomentum; leaves with 10 pairs of pinnæ, each pinna bearing 20-25 pairs of ciliated leaflets; petioles villous; spikes pedunculate, rather shorter than the leaves, nodding; flowers decandrous; the filaments in the lower ones castrate and petaloid. ♄. S. Native of Senegal. Mimòsa nùtans, Pers. ench. 2. p. 115. This is perhaps the same as *D. leptóstachys*, but differs in the spines being straight, spreading, simple, hairy, but at length becoming glabrous.

Nodding-spiked Desmanthus. Shrub 3 to 4 feet.

Cult. A mixture of peat, loam, and sand suits the species of this genus, and young cuttings root readily if planted in a pot of sand, with a bell-glass placed over them. The kinds belonging to section 1. *Neptùnia*, being aquatics with sensitive leaves, should be grown in tubs or large pans, with 4 or 5 inches of mould in the bottom, and filled up with water. The tubs or pans should be placed in a warm situation in a stove, or in a hot-bed in summer, where the plants will thrive and produce seeds.

CCXXX. ADENANTHE'RA (from αδην, *aden*, a gland, and ανθηρα, *anthera*, an anther; in reference to the anthers, which are terminated by a deciduous, pedicellate gland each). Lin. gen. no. 526. Lam. ill. t. 334. D. C. prod. 2. p. 446.

Lin. syst. *Decándria, Monogýnia.* Flowers hermaphrodite. Calyx 5-toothed. Petals 5, lanceolate, sessile. Stamens 10. Anthers terminated by a pedicellate, deciduous gland each. Legume compressed, linear, membranous, transversely many-celled inside, somewhat swollen above the seeds, destitute of pulp.---Trees or shrubs, with bipinnate leaves and racemose spikes of flowers. This genus is related to *Cássia*, according to Bronn. diss. p. 130. but differs in the petals being valvate in æstivation.

1 A. Pavoni'na (Lin. spec. 553.) leaflets oval, obtuse, glabrous on both surfaces; legumes rather falcate. ♄. S. Native of the East Indies. Jacq. coll. 4. p. 212. t. 23. - Rumph. amb. 3. t. 109. Flowers white and yellow mixed. Legume falcate, 10-12-seeded. Seeds highly polished, of a vivid scarlet colour, with a circular streak in the middle on each side. This is one of the largest trees in the East Indies, and its timber is much valued on account of its solidity. The natives use the powder of the leaves in their ceremonies. The seeds, besides being eaten by the common people, are of great use to jewellers and goldsmiths, on account of their equality, for weights, each of them weighing 4 grains; they also make a cement by beating them up with borax.

Peacock Adenanthera. Fl. May, Aug. Clt. 1759. Tr. 100 ft.

2 A. falca'ta (Lin. spec. 550.) leaflets oval, acutish, tomentose beneath; legume straight. ♄. S. Native of the Moluccas. Rumph. amb. 3. t. 111. Petals 4, yellowish. Seeds blackish.

Falcate Adenanthera. Clt. 1812. Tree 60 feet.

† *Species not sufficiently known.*

3 A.? Bonplandia'na (H. B. et Kunth, nov. gen. amer. 6. p. 311.) leaflets oblong, puberulous beneath; spikes of flowers twin, nearly terminal. ♄. S. Native of Caraccas, in shady humid woods, near Higuerote and Guriepe. Legume unknown. Perhaps a species of *Prosòpis*. Corolla green.

Bonpland's Adenanthera. Tree 25 feet.

4 A.? circinna'lis (D. C. prod. 2. p. 446.) leaflets ovate, acute, tomentose beneath? legumes circinnately incurved. ♄. S. Native of the Moluccas. Clypeària rùbra, Rumph. amb. 3. t. 112.

Circinnate-podded Adenanthera. Tree 30 feet.

Cult. See *Inga* for culture and propagation, p. 396.

CCXXXI. PROSO'PIS (from προσωπον, *prosopon*, a mask; a name given by Dioscorides to *A'rctium láppa*). Lin. mant. 68. Kunth, mim. 106. D. C. prod. 2. p. 446.

Lin. syst. *Polygàmia, Monœ'cia.* Flowers polygamous. Calyx 5-toothed. Petals 5, free. Stamens 10, with the filaments hardly joined at the base. Legume continuous, filled with pulp inside, linear, rather compressed, swollen above the seeds, and at length separable into 1-seeded divisions.—Unarmed or prickly trees or shrubs, with bipinnate leaves, having from 1-4 pairs of pinnæ, each pinna bearing many pairs of oblong-linear leaflets, and pedunculate elongated axillary spikes of flowers. Flowers rather distant on the spikes, greenish, whitish, or yellow. The pulp in the pods of all the species is eaten by the natives in the various countries of their growth. The pericarp almost entirely consists of tannin.

Sect. I. Adeno'pis (from ἀδὴν ἀδένος, *aden adenos*, a gland; in reference to the anthers, which are terminated by a deciduous gland each, as in the genus *Adenanthèra*). D. C. prod. 2. p. 446. Anthers tipped by a deciduous gland each. Indian trees, furnished with a few scattered prickles.

1 P. spici'gera (Lin. mant. 68.) prickles scattered; leaves with 1-2 pairs of pinnæ, each pinna bearing 7-10 pairs of oblong-linear, obtuse leaflets. ♄. S. Native of the coast of Coromandel. Roxb. cor. 1. t. 63.—Burm. ind. t. 25. f. 3. Flowers yellow. Legume linear, terete, attenuated at both ends, pendulous, filled with mealy pulp, which the natives of the coast of Coromandel eat; it has a sweetish agreeable taste, and may be compared to that of the Spanish *Algaroba*, or locust-tree, *Ceratònia síliqua*.

Var. β, adenanthèra (D. C. prod. 2. p. 446.) prickles scattered, compressed at the base; leaves with 1-2 pairs of pinnæ, each pinna bearing 10-11 pairs of linear, acute leaflets. ♄. S. Native of the coast of Coromandel. Adenanthèra aculeàta, Roxb. hort. beng. 90. Both this and the species are called *Tshamie* by the Telingas, and *Vanni-marum* by the Tamuls.

Spike-bearing Algaroba. Clt. 1812. Tree 40 to 50 feet.

Sect. II. Algaro'ba (*Algaroba* is the name in South America for several of the species). D. C. prod. 2. p. 446. Anthers without glands.—American trees, which are either destitute of spines, or when present they are axillary.

2 P. hórrida (Kunth, mim. p. 106. t. 33. nov. gen. amer. 6. p. 306.) spines stipular, twin, very long; leaves with 2-3 pairs of pinnæ, each pinna bearing 10-12 pairs of oblong leaflets, which are pubescent on both surfaces; rachis of leaves bearing 2 or 3 glands. ♄. S. Native at the bottom of the Andes, on the eastern side, and in the sand on the sea-shore along the Pacific ocean, where it is called *Algaroba* by the natives, who eat the pulp contained in the pods. Flowers white. Legume torulose, 17-24-seeded.

Horrid Algaroba. Tree 20 feet.

3 P. glandulo'sa (Torrey, in ann. lyc. 2. p. 192. t. 2.) spines thick, cylindrically conical; leaves with 1 pair of pinnæ, each pinna bearing 6-7 distant pairs of linear, rather falcate, obtuse, glabrous, rather coriaceous leaflets, with glands between the pair of pinnæ, as well as between the pairs of leaflets; legumes straight, torulose, pulpy inside; spikes of flowers cylindrical. ♄. F. Native of North America, on the Canadian river.

Glandular Algaroba. Tree.

4 P. ine'rmis (H. B. et Kunth, nov. gen. amer. 6. p. 307.) unarmed; leaves with 3 pairs of pinnæ, each pinna bearing 6-13 pairs of linear oblong leaflets, which are finely pubescent beneath; rachis of leaves bearing 2-3 small, cup-shaped glands. ♄. S. Native of Peru. Flowers greenish white.

Unarmed Algaroba. Tree 60 feet.

5 P. du'lcis (Kunth, mim. p. 110. t. 34. nov. gen. amer. 6. p. 307.) spines stipular, or almost wanting or deciduous; leaves with 1-2 pairs of pinnæ, each pinna bearing 18-25 pairs of glabrous leaflets, but which are a little ciliated at the apex; rachis of leaves bearing 1-2 small, convex glands. ♄. S. Native of New Spain. Acàcia lævigàta, Willd. spec. 4. p. 1059. and A. edùlis, Willd. enum. p. 1056.? Corolla green. Filaments white. Legume torulose, containing 13-15 seeds. The pulp contained in the pods is very sweet, and is eaten by the inhabitants of the countries where the trees grow.

Sweet-podded Algaroba. Clt. 1818. Tree 40 to 50 feet.

6 P. microphy'lla (H. B. et Kunth, nov. gen. amer. 6. p. 308.) spines stipular, subulate; leaves with 2-4 pairs of pinnæ, each pinna bearing from 11-18 pairs of minute, oblong, pubescent, canescent leaflets; rachis of leaves bearing 2 glands. ♄. S. Native of Mexico, between Valladolid and Tolucco. This is perhaps a species of *I'nga*, according to Kunth.

Small-leafletted Algaroba. Tree 20 feet.

7 P. du'bia (H. B. et Kunth, nov. gen. amer. 6. p. 309.) unarmed; leaves with 12 pairs of pinnæ, each pinna bearing 11-21 pairs of linear-oblong, acute, glabrous leaflets; rachis of leaves biglandular. ♄. S. Native of New Granada, near Turbaco. Le[illegible] [illegible]what spirally convolute.

Doubtful Algaroba. Shrub [illegible].

8 P. pa'llida (Kunth, mim. p. [illegible] nov. gen. amer. 6. p. 30[illegible]) spinose or unarmed; leaves with [illegible] pairs of pinnæ, each pinna bearing 11-12 pairs of linear, obtuse, pubescent leaflets; rachis of leaves bearing 2-3 concave glands; spikes of flowers solitary, filiform, exceeding the leaves. ♄. S. Native of South America, on hills about Bracamora, near Passo de [illegible]atara.

Pale Algaroba. Tree.

9 P. siliqua'strum (D. C. prod. 2. p. 447.) spines stipular, twin, straight; leaves with 2-3 pairs of pinnæ, each pinna bearing numerous pairs of linear, obtuse leaflets; legumes compressed, falcate. ♄. S. Native of Chili, where it is called *Algar[illegible]a de Chile*, and where the inhabitants eat the pulp contained in the pods. Acàcia siliquástrum, Lag. nov. gen. et spec. 16. no. 205. Flowers white?

Silique-podded or Chili Algaroba. Tree 30 to 40 feet.

10 P. flexuòsa (D. C. prod. 2. p. 447.) spines stipular; leaves with only 1 pair of pinnæ, each pinna bearing usually about 8 pairs of glabrous, linear, obtuse leaflets, which are narrowest at the base; legume rather terete, torulose. ♄. G. Native of Chili. Acàcia flexuòsa, Lag. nov. gen. et spec. 16. no. 205. Very like the preceding species.

Flexuous Algaroba. Tree.

11 P. Cumane'nsis (Kunth, mim. 106. nov. gen. amer. 6. p. 310.) unarmed; leaves with 1 pair of pinnæ, each pinna bearing many pairs of linear leaflets, which are obtuse at both ends, and glabrous as well as the petioles, with a sessile, oblong, obtuse gland, seated on the petiole between the pair of pinnæ; spikes filiform; flowers opposite. ♄. S. Native of Cumana. Acàcia Cumanénsis, Willd. spec. 4. p. 1058. Legumes unknown. Leaflets 11 pairs on each pinna, ex Willd., but in Bonpland's specimen there are 22 pairs on each of the pinna.

Cumana Algaroba. Clt. 1822. Tree 20 feet.

12 P. bracteola'ta (D. C. prod. 2. p. 447.) spines stipular, straight; leaves with 2 pairs of pinnæ, each pinna bearing from 16-18 pairs of linear leaflets, which are obtuse at both ends, and are as well as petioles glabrous, with a sessile gland on the petiole between the pairs of pinnæ; spikes filiform, bearing subulate erect bracteoles beneath the flowers. ♄. S. Native of St. Martha. Habit as well as flowers like that of the preceding species, from which it is hardly distinct.

Bracteolate-flowered Algaroba. Tree.

13 P. Dominge'nsis (D. C. prod. 2. p. 447.) spines stipular, straight, small; leaves with 1 pair of pinnæ, each pinna bearing from 16-18 pairs of linear leaflets, which are obtuse at both ends and glabrous as well as the petioles, with a sessile gland between the pair of pinnæ; spikes filiform; legumes compressed, constricted between the seeds. ♄. S. Native of St. Domingo, where it is called *Bohahunda*, and therefore perhaps

the note in Coll. hort. rip. p. 2. no. 3. is referrible to this species.

St. Domingo Algaroba. Clt. 1818. Tree.

14 P. juliflòra (D. C. prod. 2. p. 447.) spines stipular, straight, small; leaves with 1-2 pairs of pinnæ, each pinna bearing from 18-20 pairs of linear leaflets, which are acutish at both ends, and are glabrous as well as petioles, with a sessile gland seated on the petiole between the pairs of pinnæ; spikes cylindrical, sessile; legume much compressed. ♄. S. Native of the south of Jamaica, in dry places. Mimòsa juliflòra, Swartz, prod. p. 85. Mimòsa piliflòra, Swartz, fl. ind. occ. 2. p. 986. Spikes of flowers almost like the aments of *Sàlix frágilis.* Flowers yellowish. Legume filled with a fleshy substance between the seeds, which is eatable. Leaflets 6-8 lines long. Acàcia falcàta, Desf. cat. hort. par. ed. 2. p. 207. is probably not distinct from this tree.

July-flower Algaroba. Clt. 1800. Tree.

† *Species insufficiently known.*

15 P. torqua'ta (D. C. prod. 2. p. 448.) spines twin, stipular; leaves with 1-2 pairs of pinnæ, each pinna bearing many pairs of linear leaflets; with a gland between the pairs of pinnæ on the petiole; spikes of flowers cylindrical, on short peduncles; legume torquate and constricted between the seeds, and filled with mealy pulp inside. ♄. S. Native of South America. Acàcia torquàta, Lag. nov. gen. et spec. 16. no. 206. Stamens 10, free.

Collared-podded Algaroba. Tree.

16 P. affi'nis (Spreng. syst. 2. p. 326.) spines straight; leaves with only one pair of pinnæ, each pinna bearing many pairs of remotish, quite glabrous leaflets; petioles without glands; branches tubercled; spikes filiform, twin. ♄. S. Native of Monte Video.

Allied Algaroba. Tree.

Cult. See *I'nga* for culture and propagation, p. 396.

CCXXXII. LAGONY'CHIUM (from λαγως, *lagos*, a hare, and ονυχιον, *onychion*, a little nail; in reference to the spines on the shrub). Bieb. suppl. 288. D. C. prod. 2. p. 418.

Lin. syst. *Decándria, Monogýnia.* Flowers hermaphrodite, many of which are abortive. Calyx 5-toothed. Petals 5, free. Stamens 10, hypogynous, free. Anthers without glands. Style twisted at the apex. Legume stipitate, indehiscent, ovate-cylindrical, somewhat didymous, rather incurved, never torulose, filled with pulp inside.—A small shrub, with scattered, prickles, bipinnate leaves, bearing 3-5 pairs of pinnæ, and each pinna bearing 10 pairs of leaflets, which are pubescent beneath. This is a doubtful genus, which is perhaps not distinct from *Acàcia.*

1 L. Stephania'num (Bieb. l. c.). ♄. H. Native of the arid plains between the Caucasus and the Caspian sea, and of Persia, between Mossul and Bagdad. Acàcia Stephaniàna, Bieb. fl. taur. 2. p. 449. Mimòsa micrántha, Vahl. in herb. Michx.—Buxb. cent. 3. t. 48. bad.—Breyn. cent. 1. t. 56. f. 4.

Stephan's Lagonychium. Fl. Jul. Aug. Clt. 1816. Sh. 1 to 2 ft.

Cult. This shrub should be planted in a warm situation in the open border, and sheltered by a mat in severe weather in winter. It may be increased by seeds or layers, and very young cuttings will root if taken off at a joint, and planted in sand, with a hand-glass placed over them.

CCXXXIII. ACA'CIA (from *ac*, a point, in Celtic, or from ακαζω, *akazo*, to sharpen; many of the species are furnished with spines). Neck. elem. no. 1297. Willd. spec. 4. p. 1049. Kunth, mim. p. 74. D. C. prod. 2. p. 448.

Lin. syst. *Polygàmia, Monœ'cia.* Flowers polygamous (f. 53. c. f. 54. b.). Calyx 4-5-toothed (f. 54. a.). Petals 4-5, sometimes free (f. 53. a.), and sometimes joined together into a 4-5-cleft corolla. Stamens variable in number from 10 to 200 in each flower. Legume continuous, dry, 2-valved.—Shrubs or trees, very variable in habit and leaves. Spines stipular, scattered, or wanting. Flowers yellow, white, rarely red, disposed in globular heads or spikes, decandrous, or polyandrous, eleutherandrous or monadelphous. This is a very polymorphous genus, which may hereafter be divided into several genera, when the characters of the species are better known. The barks of many of the species abound to such a degree in tanning principle as to have become an object of commercial importance.

Sect. I. Phyllodíneæ (from φυλλον, *phyllon*, a leaf; leaves simple). Leaves of two forms, those in seedling plants are bipinnate, but in the adult plants the leaflets are abortive, and there only remains the dilated petiole, which is called a phyllodium. Acàciæ aphýllæ, Wendl. diss. 1820. Flowers in all yellow. The species are mostly natives of New Holland.

§ 1. *Capitàtæ* (from *capitatus*, headed; disposition of flowers). *Flowers collected into globular heads; heads solitary on the peduncles.*

* *Stipulas spinose.*

1 A. ala'ta (R. Br. in hort. kew. ed. 2. vol. 5. p. 464.) stipulas spinose, permanent; stem bifariously winged; phyllodia decurrent, 1-nerved, ending in a spine at the apex, and with the upper margin furnished with a glandular tooth; heads of flowers solitary or twin. ♄. G. Native of New Holland, on the western coast. Ker. bot. reg. 396. Wendl. diss. no. 1. t. 1. Coll. hort. rip. 1. t. 17. Reich. mag. gart. t. 88. Flowers yellow.

Winged-stemmed Acacia. Fl. April, July. Clt. 1803. Sh. 6 to 10 feet.

2 A. dolabrifórmis (Wendl. l. c. no. 38.) stipulas deciduous or wanting; branches rather angular; phyllodia linear, somewhat falcate, rather decurrent at the base, obliquely and emarginately truncate at the apex, with the lower lobe ending in a pungent mucrone. ♄. G. Native of New Holland. Flowers yellow.

Dolabriform-leaved Acacia. Fl. April, July. Clt. 1818. Shrub 4 to 6 feet.

3 A. deci'piens (R. Br. l. c. p. 465.) stipulas spinescent, deciduous; phyllodia triangular and somewhat trapezoid, with the nerve approximating the lower side, and drawn out into a spine at the apex, the superior margin furnished with one acute gland-bearing tooth; heads many-flowered, usually solitary. ♄. G. Native of New Holland, on the south-west coast. Adiántum truncàtum, Burm. fl. ind. t. 66. f. 4. Mimòsa decípiens, Kœn. ann. bot. 1. p. 366. t. 8. Sims, bot. mag. 1745. A. dolabrifórmis, Coll. hort. ripul. p. 1. but not of Wendl. Peduncles longer than the phyllodia. Branches glabrous. Flowers yellow.

Var. β, trapezoìdea (D. C. prod. 2. p. 449.) stipulas deciduous; phyllodia irregularly trapezoid, with the nerve approximating the lower margin, and drawn out into a spine at the apex, but the upper margin is furnished with 2 obtuse, gland-bearing teeth; young heads of flowers axillary, sessile, and usually solitary. ♄. S. Native of New Holland, on the eastern coast. Branches angular, glabrous. Perhaps a proper species.

Deceiving Acacia. Fl. Mar. Ju. Clt. 1818. Sh. 3 to 6 ft.

4 A. deltoi'dea (Cunningh. mss.) stipulas acicular, spinescent, twin; phyllodia dolabriform, smooth, ending in a spine-like mucrone, many-nerved, convex on the upper side, and nearly straight on the lower; branches slightly angular, pubescent; heads of flowers solitary, on peduncles, which are longer than the phyllodia. ♄. S. Native of New Holland, within the tropic.

Deltoid-leaved Acacia. Clt. 1824. Shrub 3 to 6 feet.

5 A. biflòra (R. Br. hort. kew. 5. p. 463.) stipulas spines

permanent; phyllodia triangular, with 1 nerve, which approximates the lower side, and is drawn out into a spine at the apex, the superior margin furnished with 1 gland-bearing tooth; heads solitary, on short peduncles, 2-flowered. ♄. G. Native of New Holland, on the western coast. Wendl. diss. no. 3. t. 2. Branches pubescent. Corolla 4-cleft.

Two-flowered Acacia. Fl. Mar. Jul. Clt. 1803. Sh. 2 to 4 ft.

6 A. HASTULA'TA (Smith, in Rees' cycl. suppl.) stipulas spinescent, permanent; phyllodia glabrous, rhomboid, ending in a spinose acumen, with 1 nerve in the centre, and the superior margin furnished with 1 gland-bearing, obtuse tooth; branchlets hispid; heads solitary, 3-4-flowered. ♄. G. Native of New Holland, at King George's Sound. Stipulas bristle-formed, erect.

Hastulate-leaved Acacia. Fl. April, June. Clt. 1824. Sh. 3 to 6 feet.

7 A. NERVÒSA (D. C. legum. mem. xii. prod. 2. p. 449.) stipulas spinescent, permanent; phyllodia oval-oblong, acuminated at both ends, ending in a spine, with 1 nerve in the middle, and with nerve-formed, entire margins; heads pedunculate, usually twin, 5-8-flowered. ♄. G. Native of New Holland.

Nerved-leaved Acacia. Fl. April, Ju. Clt. 1824. Sh. 3 to 6 ft.

8 A. ORNITHO'PHORA (Sweet, fl. austr. 24.) stipulas spinescent, permanent, a little shorter than the phyllodia; phyllodia obliquely oblong-lanceolate, 1-nerved, rather pilose, ending in a hooked beak at the apex, and furnished on the upper margin with a gland-bearing tooth; branches hairy; heads of flowers pedunculate, solitary, or twin, numerous. ♄. G. Native of New Holland. The outline of the leaves gives the form of the body and head of a bird.

Bird-bearing Acacia. Fl. Apr. Ju. Clt. 1824. Sh. 4 to 8 ft.

9 A. PARADÒXA (D. C. cat. hort. monsp. p. 74.) stipulas spinescent, permanent; phyllodia obliquely oblong-lanceolate, quite entire, undulated, 1-nerved; branches clammy, glabrous; heads of flowers solitary. ♄. G. Native of New Holland, on the eastern coast. A. undulàta, Willd. enum. suppl. p. 68. Wendl. diss. no. 4. t. 3.

Paradoxical Acacia. Fl. Apr. June. Shrub 3 to 6 feet.

10 A. ARMA'TA (R. Br. in hort. kew. 5. p. 463.) stipulas spinescent, permanent; phyllodia obliquely ovate-oblong, quite entire, 1-nerved; branches hairy; heads of flowers solitary; legumes velvety. ♄. G. Native of New Holland, on the southern coast. Sims, bot. mag. 1653. Bonpl. nav. t. 55.

Armed Acacia. Fl. Apr. June. Clt. 1803. Sh. 6 to 10 ft.

11 A. GENISTIFÒLIA (Link. enum. 2. p. 448.) stipulas spinescent, very minute; phyllodia linear, ending in a subulate pungent point, approximate; branches glabrous, angular; heads of flowers solitary. ♄. G. Native of New Holland.

Genista-leaved Acacia. Fl. Mar. Aug. Clt. 1825. Sh. 3 to 6 ft.

12 A. JUNIPE'RINA (Willd. spec. 4. p. 1049.) stipulas setaceous, spinescent, permanent; phyllodia linear-subulate, ending in a pungent mucrone; branches terete, pubescent; heads of flowers solitary. ♄. G. Native of New Holland, on the eastern coast. Lodd. bot. cab. 398. Mimòsa junipérina, Vent. malm. t. 64. Mimòsa ulicifòlia, Wendl. coll. 2. t. 6. A. verticillàta, Sieb. pl. exsic. nov. holl. no. 419. Calyx 5-parted. Petals 5.

Juniper-like Acacia. Fl. Mar. Ju. Clt. 1790. Sh. 4 to 8 ft.

13 A. ASPARAGOÌDES (Cunning. in Field's new south wales, p. 343.) stipulas permanent; phyllodia linear, sulcate, stiff, mucronate, alternate, and crowded, somewhat dilated near the base, where it bears a glandular tooth; heads of flowers axillary, solitary; branches glabrous, diffuse. ♄. G. Native of New South Wales, on the Blue Mountains. Intermediate between *A. aciculàris* and *A. junipérina.*

Asparagus-like Acacia. Fl. March, June. Clt. 1818. Sh. diffuse.

14 A. BRO'WNII (Steud. nom. phan. 1. p. 2.) stipulas setosely-spinescent, small, deciduous; phyllodia linear-subulate, ending in a pungent mucrone, distant, spreading; branches terete, glabrous; heads of flowers solitary, unarmed; peduncles a little shorter than the phyllodia. ♄. G. Native of New Holland, in King's Island. A. aciculàris, R. Br. in hort. kew. 5. p. 450. but not of Willd. A. junipérina, Sieb. pl. exsic. nov. holl. no. 463. The phyllodia are much more distant from each other than those of *A. junipérina.*

Brown's Acacia. Fl. Mar. Aug. Clt. 1796. Sh. 4 to 8 ft.

15 A. ECHINA'TA (D. C. prod. 2. p. 449.) stipulas setaceous, spinescent, permanent; phyllodia linear-subulate, ending in a pungent mucrone; branches terete, hairy-pubescent; heads of flowers solitary; bracteas ending in a spine-like bristle, each longer than the corolla. ♄. G. Native of New Holland. A. junipérina, Sieb. pl. exsic. nov. holl. no. 447. Very like *A. junipérina,* but differing from it in the young heads of the flowers being echinated from the spine-like exserted bracteas.

Echinate-headed Acacia. Fl. Mar. July. Clt. 1824. Sh. 3 to 6 feet.

16 A. PUGIONIFÓRMIS (Wendl. diss. no. 2. t. 9. exclusive of the synonyme of R. Brown,) stipulas very acute, small, and almost permanent; phyllodia linear-terete, smooth, obtuse, obliquely mucronate; branches terete, glabrous; heads of flowers solitary; peduncles 3-times shorter than the phyllodia. ♄. G. Native of New Holland, on the eastern coast.

Dagger-formed-leaved Acacia. Fl. March, July. Clt. 1818. Shrub 4 to 6 feet.

* * *Stipulas not spinescent, but are either very small or wanting, and usually deciduous.*

17 A. DIFFU'SA (Ker. bot. reg. 634.) stipulas small, caducous; phyllodia linear, 1-nerved, ending in an oblique acumen, with the spinula continuous along the lower margin; branches diffusely procumbent, glabrous, angular; heads of flowers usually twin. ♄. G. Native of New South Wales, on the Blue Mountains, Sims, bot. mag. 2417. A. prostràta, Lodd. bot. cab. 631. A. daviesioides, Cunningh. mss.

Diffuse Acacia. Fl. Apr. June. Clt. 1818. Shrub diffuse.

18 A. SULCA'TA (R. Br. in hort. kew. 5. p. 460.) stipulas small, concave, deciduous; phyllodia linear-terete, sulcate, mucronate; branches nearly terete, glabrous; heads of flowers usually twin. ♄. G. Native of New Holland, on the western coast. Wendl. diss. no. 27. t. 10. Calyx 5-parted. Petals 5, ex Wendl. Bracteas concave, permanent. Legume flexuous.

Furrowed-leaved Acacia. Fl. May, Aug. Clt. 1803. Sh. 2 to 6 feet.

19 A. SALIGNA (Wendl. diss. no. 16.) stipulas almost wanting; phyllodia linear, attenuated at both ends, quite entire, almost nerveless; branches angular, glabrous; heads of flowers solitary, on short peduncles; legumes contracted between the seeds, loment-formed. ♄. G. Native of New Holland, at Cape Van Diemen and about Port Jackson. Mimòsa saligna, Labill. nov. holl. 2. p. 86. t. 235. There is a variety with broader phyllodia, and another with very narrow ones.

Willowy Acacia. Fl. Mar. Ju. Clt. 1818. Sh. 6 to 10 ft.

20 A. EMARGINA'TA (Wendl. diss. no. 17.) stipulas wanting; phyllodia linear-spatulate, attenuated at the base, emarginate at the apex, and mucronate; heads of flowers twin; peduncles longer than the heads. ♄. G. Native of New Holland. Perhaps a variety of the following species, the calyx being sinuately 5-toothed in both.

Emarginate-leaved Acacia. Fl. Mar. July. Clt. 1824. Sh. 6 to 10 feet.

21 A. STRÍCTA (Willd. spec. 4. p. 1052.) stipulas wanting;

phyllodia linear, attenuated at the base, but rounded and mucronate at the apex, 1-nerved in the middle; heads of flowers twin; peduncles shorter than the heads. ♄. G. Native of New Holland, on the eastern coast. Mimòsa stricta, Andr. bot. rep. t. 53. Sims, bot. mag. 1121. Mimòsa suaveòlens, Desf.

Straight Acàcia. Fl. Feb. May. Clt. 1790. Sh. 3 to 6 ft.

22 A. lepròsa (Sieb. pl. exsic. nov. holl. no. 2455.) stipulas almost wanting; phyllodia linear-lanceolate, leprously dotted, 1-nerved, attenuated at the base, and terminating in a callous, incurved mucrone; branches angularly-furrowed; heads of flowers 2-3-together, axillary; peduncles clothed with hoary pubescence, shorter than the heads. ♄. G. Native of New Holland. Very like *A. dodoneæfòlia*.

Leprous Acacia. Fl. Mar. June. Clt. 1817. Sh. 4 to 8 ft.

23 A. dodoneæfòlia (Willd. enum. suppl. p. 68.) stipulas wanting; phyllodia linear-lanceolate, rather falcate, attenuated at the base, 1-nerved in the middle, and terminated by an incurved callous mucrone; branches angular, and are as well as the phyllodia clammy; heads of flowers twin; peduncles longer than the heads. ♄. G. Native of New Holland, on the eastern coast. Mimòsa dodoneæfòlia, Pers. ench. 2. p. 261. A. viscòsa, Wendl. diss. no. 19. t. 7. Calyx 5-toothed.

Dodonæa-leaved Acacia. Fl. Mar. Ju. Clt. 1816. Sh. 4 to 8 ft.

24 A. multine'rvia (D. C. legum. mem. xii. prod. 2. p. 450.) stipulas wanting; phyllodia linear-lanceolate, attenuated at the base, many-nerved, furnished with a gland-like tooth on the upper margin; heads of flowers solitary or twin, on short peduncles. ♄. G. Native of New Holland, on the eastern coast. Young branches angular, adult ones terete.

Many-nerved-leaved Acacia. Fl. Mar. June. Clt. 1824. Shrub 5 to 6 feet.

25 A. eglandulòsa (D. C. legum. mem. xii. prod. 2. p. 450.) stipulas wanting; phyllodia linear-lanceolate, attenuated at the base, entire on both sides, and glandless, many-nerved at the base; heads of flowers solitary; peduncles rather longer than the heads. ♄. G. Native of New Holland.

Glandless-leaved Acacia. Fl. Mar. June. Clt. 1824. Sh. 4 to 6 feet.

26 A. lani'gera (Cunning. in Field's new south wales, p. 345.) shrub villous; phyllodia lanceolate, acute, stiff, nerved, falcate, ending in a pungent mucrone; heads of flowers twin, axillary; upper part of branches and legume very woolly. ♄. G. Native of New Holland, frequent on rocky barren ranges in the interior of the country. Hook. bot. mag. 2922.

Wool-bearing Acacia. Fl. Mar. May. Clt. 1824. Sh. 6 to 8 ft.

27 A. rìgens (Cunningh. mss. in Loud. hort. brit. p. 406.) stipulas almost wanting or deciduous; phyllodia filiform, compressed, ending in an oblique, callous mucrone at the apex, 3-nerved at the base, and furnished with a gland-bearing tooth on the upper margin at the base; branches straight, angular, pubescent; heads axillary, solitary; peduncles clothed with rufous scales, much shorter than the phyllodia. ♄. G. Native of New Holland. Phyllodia 3-4 inches long.

Stiff Acacia. Fl. Mar. June. Clt. 1824. Shrub 4 to 6 feet.

28 A. linea'ta (Cunningh. mss.) stipulas wanting or deciduous; phyllodia linear, ending in an oblique, callous mucrone at the apex, glandless, 1-nerved, the nerve parallel with the superior margin, and contiguous to it; phyllodia as well as the branches hairy; heads of flowers usually twin; peduncles filiform, longer than the phyllodia. ♄. G. Native of New Holland. Phyllodia ½ an inch long.

Lined-leaved Acacia. Fl. Mar. May. Clt. 1824. Sh. 4 to 6 ft.

29 A. hispi'dula (Willd. spec. 4. p. 1054.) stipulas small, deciduous; phyllodia oblong, 1-nerved, with both the nerve and margins denticulately hispid; heads of flowers solitary. ♄. G. Native of New Holland, on the eastern coast. Lodd. bot. cab. 836. Mimòsa hispídula, Smith, new holl. t. 16. Calyx 4-toothed. Petals 4. Legume oval-oblong, 2-seeded.

Hispid Acacia. Fl. April, May. Clt. 1794. Sh. 2 to 4 ft.

30 A. cochlea'ris (Wendl. diss. no. 7.) stipulas almost wanting; phyllodia linear-lanceolate, many-nerved at the base, rather pilose, quite entire, mucronate; heads solitary. ♄. G. Native of New Holland, in Van Leuwin's Land. Mimòsa cochleàris, Lab. nov. holl. 2. p. 85. t. 234. Calyx 5-parted. Legume linear-oblong, straightish, 4-8-seeded, somewhat contracted between the seeds.

Spoon-leaved Acacia. Fl. April, Ju. Clt. 1818. Sh. 4 to 6 ft.

31 A. coria'cea (D. C. legum. mem. xii. prod. 2. p. 451.) stipulas wanting; phyllodia very long and linear, quite entire, nerveless, thick, and coriaceous, when young they are clothed with adpressed, velvety down, but in the adult state they are glabrous; heads of flowers solitary; branches terete. ♄. G. Native of New Holland, on the eastern coast. Legume linear, curved into a circle, when young clothed with cinereous down. The down on the leaves is at first yellowish, but at length becomes cinereous.

Coriaceous-leaved Acacia. Fl. May, June. Clt. 1824. Sh. 4 to 6 feet.

32 A. a'nceps (D. C. legum. mem. xii. prod. 2. p. 451.) stipulas wanting; phyllodia obovate-oblong, tapering to the base, obtuse at the apex, quite entire, and with 1 nerve in the middle; heads of flowers solitary; branches angularly 2-edged. ♄. G. Native of New Holland, on the east coast.

Two-edged-branched Acacia. Fl. April, June. Clt. 1820. Shrub 4 to 6 feet.

33 A. Ma'ngium (Willd. spec. 4. p. 1053.) stipulas almost wanting; phyllodia ovate, acute, attenuated at the base; longitudinal nerve parallel to the lower margin of the leaf, and sending out oblique nerves on the upper side; heads of flowers usually solitary; branches triquetrously-angular. ♄. S. Native of the Moluccas, where it is called *Mangi Gocnong*. Mángium montànum, Rumph. amb. 3. p. 123. t. 81.

Mangium Acacia. Clt. 1820. Tree 10 to 20 feet.

34 A. laurifòlia (Willd. spec. 4. p. 1053.) stipulas almost wanting; phyllodia obliquely ovate-oblong, 7-8-nerved, emarginate at the apex, and oblique at the base; heads of flowers globose, usually solitary; branches hardly angular; legumes falcate. ♄. G. Native of the Friendly Islands and the Hebrides, as well as of New Caledonia. Labill. nov. cal. p. 68. t. 68. Mimòsa simplicifòlia, Lin. suppl. 436. Mimòsa Mángium, Forst. prod. no. 395. Legume moniliform.

Laurel-leaved Acacia. Clt. 1775. Tree 20 to 25 feet.

35 A. trinerva'ta (Sieb. l. c. no. 445.) stipulas almost wanting; phyllodia linear, mucronate, smoothish, with 3 nerves running the whole length without any gland on the side, twice the length of the peduncles; heads of flowers sometimes solitary, sometimes disposed in short racemes on long pedicels. ♄. G. Native of New Holland. Phyllodia nearly like those of the preceding species, but 1½ inch long, and ending in a long oblique mucrone. Branches and phyllodia rather pilose at the top. This is an ambiguous species, apparently joining the present division of the genus to the following.

Three-nerved Acacia. Fl. Apr. Ju. Clt. 1820. Sh. 4 to 6 ft.

36 A. elonga'ta (Sieb. pl. exsic. nov. holl. no. 443.) stipulas almost wanting; phyllodia linear-falcate, 3-nerved, ending in a callous mucrone, bearing 1 gland on the upper margin at the base; branches angular, glabrous, as well as the phyllodia; heads of flowers solitary, twin, or tern; peduncles canescent, much shorter than the phyllodia. ♄. G. Native of New South Wales. A. hebecéphala, Cunningh. mss. in Lodd. hort. brit. p. 406. Branches angular, drooping. Phyllodia 3 inches long and 1 line broad. Corolla 5-cleft.

Elongated-leaved Acacia. Fl. March, May. Clt. 1817. Sh. 6 to 10 feet.

37 A. vernici'flua (Cunning. in Field's new south wales, p. 344.) phyllodia linear-lanceolate, 2-nerved, falcate, attenuated at the base; heads of flowers globose, axillary, twin; young branches viscid. ♄. G. Native of New Holland, on rocky hills near Cox's River, &c.

Varnish-flowing Acacia. Fl. March, May. Clt. 1817. Sh. 4 to 6 feet.

38 A. calamifòlia (Sweet, in Colv. cat. ed. 2. and bot. reg. 839.) stipulas almost wanting; phyllodia filiform, compressed, spreading, ending in an incurved mucrone at the apex, glabrous as well as the branches; peduncles solitary, much shorter than the phyllodia. ♄. G. Native of New Holland, in the interior of the country. A. uncinàta, Lodd. bot. cab. t. 909. Sieb. pl. exsic. no. 522. The legume is said to be articulated, arched, and compressed.

Reed-leaved Acacia. Fl. May, June. Clt. 1823. Sh. 3 to 4 ft.

39 A. quadrilatera'lis (D. C. prod. 2. p. 451.) stipulas almost wanting; phyllodia filiform, tetragonal, straight, ending in a straight mucrone, without any gland on the side, glabrous as well as the branches, and with a slight nerve on both the lower and upper side; heads of flowers sometimes solitary and sometimes racemose. ♄. G. Native of New Holland. A. calamifòlia, Sieb. pl. exsic. nov. holl. no. 442. A. àrida, Cunningh. mss. This appears to be an intermediate species between the first division of the genus *Capitàtæ*, and the second division *Capitàto-racemòsæ*. Very like *A. calamifòlia.*

Four-sided-leaved Acacia. Fl. April, June. Clt. 1820. Sh. 3 to 4 feet.

40 A. Cunningha'mi; leaves linear, falcate, mucronate, 2-3-nerved, scattered, twice the length of the peduncles; heads of flowers axillary, solitary; legume very narrow, elongated. ♄. G. Native of New Holland, at Spring-wood. A. taxifòlia; Cunning. in Field's new south wales, p. 344. Lodd. bot. cab. 1225. but not of Willd.

Cunningham's Acacia. Fl. Apr. Ju. Clt. 1823. Sh. 10 to 12 ft.

41 A. undulæfòlia (Cunning. mss. Loud. hort. brit. p. 407.) stipulas almost wanting; phyllodia obliquely ovate, undulated, and marginated, 1-nerved, glabrous, ending in a hooked or twisted point, bearing an obsolete gland on the upper margin at the base; branches terete, hairy; heads of flowers axillary, solitary; peduncles beset with adpressed pili, longer than the phyllodia. ♄. G. Native of New South Wales. Lodd. bot. cab. 1544. Phyllodia an inch long. The heads of flowers being so numerous, appear like a raceme at the tops of the branches.

Waved-leaved Acacia. Fl. Apr. Ju. Clt. 1824. Sh. 3 to 4 ft.

42 A. cy'clops (Cunning. mss. Loud. hort. brit. 407.) stipulas almost wanting; phyllodia oblong-lanceolate, obtuse, ending in an oblique callous mucrone, but attenuated at the base, 3-7-nerved, having one gland in front on the upper margin; heads of flowers solitary, axillary, few; peduncles shorter than the phyllodia. ♄. G. Native of New Holland, on the south-west coast.

Circle-eye-seeded Acacia. Fl. April, June. Clt. 1824. Sh. 4 to 6 feet.

43 A. brunioìdes (Cunning. mss.) phyllodia disposed in something like whorles, they are crowded and very short, compressed, subulate, and mucronate; branches rather hairy; heads of flowers solitary; peduncles twice the length of the phyllodia. ♄. G. Native of New South Wales. Phyllodia 2 lines long.

Brunia-like Acacia. Shrub 2 to 4 feet.

44 A. graveolens (Cunning. mss. Loud. hort. brit. 407. Lodd. bot. cab. 1460.) stipulas almost wanting; phyllodia lanceolate, tapering at both ends, shining, 2-nerved, furnished with a gland on the upper margin at the base, and are, as well as the young branches, clammy; heads of flowers usually twin, axillary; peduncles much shorter than the phyllodia; branches erect. ♄. G. Native of New South Wales. Heads of flowers somewhat secund.

Strong-scented Acacia. Fl. April, June. Clt. 1820. Shrub 6 to 10 feet.

45 A. runcifórmis (Cunningh. mss.) young branches slightly pubescent; phyllodia rather clammy, linear-lanceolate, somewhat falcate, ending in a stiff hooked mucrone, having one longitudinal nerve, which is parallel to the superior margin, and contiguous to it; heads of flowers axillary, usually twin, on short peduncles. ♄. G. Native of New South Wales. Phyllodia half an inch long, bearing one gland on the upper margin at the base. Very like A. ornithóphora of Sweet.

Hedge-bill-formed-leaved Acacia. Shrub 5 to 6 feet.

§ 2. *Capitàto-racemòsæ. Flowers collected into globose heads, the heads disposed in racemes along the axillary peduncles. Stipulas of all nearly obsolete, or when present they are unarmed.*

46 A. falca'ta (Willd. spec. 4. p. 1053.) phyllodia oblong, falcate, tapering much at the base, acute, 1-nerved, and feather-veined, glandless; the longitudinal nerve parallel to the upper margin, and contiguous to it; heads of flowers racemose, rarely solitary. ♄. G. Native of New Holland, on the eastern coast. Wendl. diss. no. 11. t. 14. A. oblíqua, Desv. journ. bot. 1814. p. 67. Mimòsa falcàta, Pers. ench. 2. p. 261. Calyx 5-parted. There are two varieties of this species; one with very acute leaves, and the heads of flowers in racemes, and another with bluntish leaves, and the heads of flowers usually solitary.

Falcate-leaved Acacia. Fl. May, June. Clt. 1790. Shrub 4 to 8 feet.

47 A. falcifórmis (D. C. prod. 2. p. 452.) phyllodia oblong, falcate, much attenuated at the base, but bluntish at the apex, with a longitudinal nerve in the middle, as well as being finely feather-nerved, bearing one gland in front on the upper margin. ♄. G. Native of New Holland. Sieb. pl. exsic. nov. holl. no. 616. Phyllodia 5-6 inches long, and 8-9 lines broad. Heads of flowers racemose. Legume stipitate, flat, rather glaucous, 2 inches long, and 8-10 lines broad.

Falciform-leaved Acacia. Fl. April, June. Clt. 1818. Shrub 4 to 8 feet.

48 A. spiro'lobus (Labill. cal. p. 69. t. 69.) unarmed; phyllodia lanceolate, falcate, obtuse, 3-nerved, tapering to both ends; heads of flowers twin, in racemes; legumes cochleately-orbicular. ♄. G. Native of New Caledonia. Racemes shorter than the phyllodia.

Spire-podded Acacia. Shrub 8 feet.

49 A. pennine'rvis (Sieb. pl. exsic. nov. holl. no. 458.) phyllodia oblong, acuminated at both ends, straight, with one longitudinal nerve in the middle, having feathered veins running from it, and furnished with one gland in front at the base. ♄. G. Native of New Holland. A. imprèssa, Cunningh. mss. Lindl. bot. reg. 1115. Lodd. bot. cab. 1319. Hook. bot. mag. 2754. Phyllodia 2-3 inches long, and 5-6 lines broad, pale. The feathered veins rise from the base of the phyllodia, both in this and the preceding species, growing obliquely from the gland. Heads of flowers about the size of a pea, racemose.

Feather-nerved-leaved Acacia. Fl. April, June. Clt. 1824. Shrub 4 to 6 feet.

50 A. pe'ndula (Cunningh. mss. Loud. hort. brit. 490.) aspect greyish; phyllodia linear-lanceolate, rather arcuate, attenuated at both ends, ending in a somewhat hooked mucrone, having one gland in front at the base, and 2-3 longitudinal nerves; heads of flowers racemose; branches slender, pendulous. ♄. G.

Native of New South Wales. Phyllodia 3 inches long, and 3 lines broad. Habit of *Sàlix Babylónica* or *Weeping-willow*.

Drooping-branched Acacia. Fl. April. Clt. 1824. Shrub 6 to 10 feet.

51 A. MELANÓXYLON (R. Br. in hort. kew. 5. p. 462.) phyllodia lanceolate-oblong, rather falcate, obtuse, quite entire, many nerved; heads of flowers very few, disposed in a kind of raceme. ♄. G. Native of New Holland, on the south coast, and of Van Diemen's Land. Sims, bot. mag. 1659. Wendl. diss. no. 14. t. 6. A. arcuàta, Sieb. pl. exsic. nov. holl. no. 459. Legume linear, arched, length of phyllodia. Umbilical funicle coloured, plicate, girding the seed.

Black-wooded Acacia. Fl. April, June. Clt. 1808. Shrub 6 to 10 feet.

52 A. HETEROPHY'LLA (Willd. spec. 4. p. 1054.) phyllodia linear, attenuated at both ends, rather falcate, many nerved; there are also sometimes bipinnate leaves at the tops of the branches; heads of flowers disposed in a kind of raceme. ♄. S. Native of the island of Bourbon. Mimòsa heterophylla, Lam. dict. 1. p. 14. exclusive of var. β. Heads 2 or 3 in each raceme.

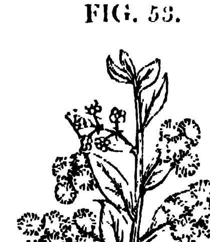
Variable-leaved Acacia. Clt. 1824. Tree.

53 A. AMŒNA (Wendl. diss. no. 8. t. 4.) phyllodia oblong, tapering much at the base, 1-nerved, bearing 1-3 glands in front on the upper margin; heads of flowers racemose; flowers 5-cleft. ♄. G. Native of New Holland. Very like the following species, but differs in the racemes being one-half shorter than the phyllodia. Petals 5, distinct. Ovary tomentose. The plant under this name in Sieb. pl. exsic. nov. holl. no. 452. differs from Wendland's in the phyllodia being scarcely margined, and only furnished with one gland in front on the upper margin, although perhaps the same.

Pleasing Acacia. Fl. April, June. Clt. 1820. Shrub 4 to 6 ft.

54 A. MYRTIFÒLIA (Willd. spec. 4. p. 1054.) phyllodia oblong-lanceolate, tapering much at the base, 1-nerved, and furnished with one gland in front on the upper margin; heads few-flowered, racemose; flowers 4-cleft. ♄. G. Native of New Holland, on the eastern coast. Sweet, austr. t. 49. Mimòsa myrtifòlia, Smith, new holl. t. 15. Curt. bot. mag. 302. Calyx sinuately 4-toothed. Petals connected at the base. Ovary glabrous. Perhaps not sufficiently distinct from A. lunàta of Lodd. bot. cab. 324.

FIG. 53.



Myrtle-leaved Acacia. Fl. Feb. May. Clt. 1789. Shrub 3 to 6 ft.

55 A. OLEIFÒLIA (Cunningh. mss. Loud. hort. brit. 407.) stipulas small, caducous; phyllodia ovate-oblong, oblique, marginated, falcate at the apex, mucronate, and are, as well as the branches, pubescent; heads solitary, axillary, length of the phyllodia. ♄. G. Native of New South Wales. A. uncinàta, Lindl. bot. reg. 1332.

Olive-leaved Acacia. Fl. June, July. Clt. 1824. Sh. 4 to 6 ft.

56 A. PODALYRIÆFÒLIA (Cunningh. mss. Loud. hort. brit. p. 407.) plant clothed with hoary powder; phyllodia elliptic, obtuse, rather undulated, 1-nerved, ending in an oblique mucrone; heads of flowers racemose, axillary, elongated. ♄. G. Native of New South Wales. Phyllodia 1 inch long, and ½ inch broad. Peduncles forming panicles at the tops of the branches.

Podalyria-leaved Acacia. Fl. March, May. Clt. 1824. Sh. 4 to 6 feet.

57 A. SCAPULIFÓRMIS (Cunningh. mss.) aspect white; phyllodia roundly triangular or obliquely obovate, mucronate at the apex, with an angle on the upper margin above the middle, wherein one gland is seated, having only one nerve, which is curved; heads of flowers disposed in axillary and terminal racemes, crowded. ♄. G. Native of New South Wales. A. papulifórmis, Loud. hort. brit. 407. Phyllodia ½ inch long, and 4 lines broad.

Scapula-formed-leaved Acacia. Shrub 4 to 6 feet.

58 A. VESTÌTA (Ker. bot. reg. t. 698.) phyllodia obliquely elliptic-lanceolate, 1-nerved, ending in an awn-like mucrone, and are, as well as the branches, hispid; heads of flowers loosely racemose along the peduncles, upper ones solitary. ♄. G. Native of New Holland, in the interior of the country. A. conspícua, Cunningh. mss. Racemes longer than the phyllodia. Petals 5.

Clothed Acacia. Fl. April, July. Clt. 1820. Sh. 4 to 6 feet.

59 A. MARGINA'TA (R. Br. in hort. kew. 5. p. 462.) phyllodia lanceolate, elongated, 1-nerved, bearing one gland on the upper margin in front; heads few-flowered, racemose; flowers 4-cleft. ♄. G. Native of New Holland, on the western coast. This species has much the appearance of *A. myrtifòlia*, but the ovary is tomentose. Wendl. diss. 1. t. 5. A.

Marginated-leaved Acacia. Fl. April, June. Clt. 1803. Sh. 3 to 6 feet.

60 A. FURFURA'CEA; glaucescent; leaves elliptic or ovate, glabrous, oblique, ending in an innocuous mucrone, bearing a gland on the upper margin; racemes erect, axillary; legumes covered with white furfuraceous powder. ♄. G. Native of New Holland, on hills on Gugee-gong river, 50 miles from Bathurst. A. dealbàta, Cunningh. in Field's new south wales, p. 345. but not of Link. A slender shrub.

Scurfy Acacia. Fl. April, June. Clt. 1824. Sh. 2 to 4 feet.

61 A. UMBRO'SA (Cunningh. mss. Loud. hort. brit. p. 407.) phyllodia obliquely ovate-lanceolate, tapering at both ends, smooth, 3-nerved, with the nerves to one side, acute at the apex, and ending in a hooked mucrone, and bearing a gland on the upper margin not far from the base; heads of flowers racemose; racemes shorter than the phyllodia. ♄. G. Native of New South Wales. Phyllodia 4 inches long, and 1 inch broad.

Shady Acacia. Fl. March, May. Clt. 1824. Sh. 4 to 6 feet.

62 A. ASTRÍNGENS (Cunningh. mss.) phyllodia glaucescent, broad, obliquely ovate-oblong, obtuse, somewhat arcuate, and marginated, feather-nerved, smooth, furnished with one gland on the upper margin at the base; heads of flowers racemose. ♄. G. Native of New South Wales. Phyllodia 3-4 inches long, and 1 inch broad.

Astringent Acacia. Shrub 6 to 10 feet.

63 A. PYRIFO'LIA (D. C. legum. mem. xii. prod. 2. p. 452.) stipulas hard, permanent; phyllodia broad, oval, ending in a pungent mucrone, furnished with a middle nerve, as well as with feathered and reticulated veins, quite entire, and are, as well as the branches, glaucescent; heads numerous, racemose; flowers 5-cleft. ♄. G. Native of New Holland, on the eastern coast.

Pear-leaved Acacia. Fl. April, June. Clt. 1824. Shrub 4 to 6 feet.

64 A. BINERVA'TA (D. C. prod. 2. p. 452.) phyllodia oblong, acuminated at both ends, and furnished with a gland on the upper margin at the base, and with 2 nerves, which run the whole length of the phyllodia; heads of flowers racemose; racemes shorter than the phyllodia. ♄. G. Native of New Holland. Sieb. pl. exsic. nov. holl. 504.

Two-nerved-leaved Acacia. Fl. April, June. Clt. 1824. Sh. 4 to 8 feet.

65 A. BIVENÒSA (D. C. legum. mem. xii. prod. 2. p. 452.) phyllodia oblong, obtuse, rather attenuated at the base, quite entire, glaucous, smoothish, furnished with 2 fine nerves at the

base; heads of flowers disposed in loose racemes; racemes rather longer than the phyllodia; flowers 5-cleft. ♄. G. Native of New Holland, on the eastern coast. Heads of flowers on long pedicels.

Two-veined-leaved Acacia. Fl. April, June. Clt. 1824. Sh. 2 to 3 feet.

66 A. cultrifórmis (Cunningh. mss.) branches smooth, angular; phyllodia cultriform, ending in an acute hooked mucrone, which leans to one side, and furnished with a gland on the middle of the upper margin, 1-nerved, the nerve nearly parallel with the lower margin; heads crowded, disposed in racemes, which are either axillary or terminal. ♄. G. Native of New South Wales. Phyllodia 8-10 lines long, and 4 lines broad.

Cultriform-leaved Acacia. Shrub 4 to 6 feet.

67 A. próminens (Cunningh. mss. Loud. hort. brit. 407.) phyllodia divaricate, retrorsely falcate, linear-lanceolate, acute, 1-nerved, ending in a hooked mucrone, with a rather prominent gland on the upper margin at the base; heads of flowers in terminal and axillary racemes. ♄. G. Native of New South Wales. Phyllodia 1½ inch long, and 1½ line broad.

Prominent Acacia. Fl. Feb. June. Clt. 1824. Sh. 4 to 6 feet.

68 A. fimbria'ta (Cunningh. mss.) phyllodia straight, linear, obtuse, mucronulate, 1-nerved in the middle, and furnished with one gland on the upper margin at the base; branches angular, the angles fringed, as well as the phyllodia; heads of flowers racemose, axillary. ♄. G. Native of New South Wales. Phyllodia 1½ inch long, and 2 lines broad.

Fringed Acacia. Shrub 4 to 6 feet.

69 A. luna'ta (Sieb. pl. exsic. nov. holl. no. 461.) phyllodia obliquely oblong, rather falcate, narrowed at the base, terminating in an oblique callous mucrone, convex beneath the middle on the margin, and furnished with a minute gland in the convex part, and are glabrous, as well as the branches; heads of flowers disposed in racemes, which are longer than the phyllodia. ♄. G. Native of New Holland. Phyllodia an inch long, and 3 lines broad, almost veinless, with a lateral nerve running along the straight side. ♄. G. Native of New Holland. Lindl. bot. reg. 1352. Lodd. bot. cab. 384. Sweet, fl. austr. t. 42.

Lunate-leaved Acacia. Fl. April, May. Clt. 1810. Shrub 2 to 4 feet.

70 A. brevifòlia (Lodd. bot. cab. 1235.) phyllodia elliptic, ending in a spine-like mucrone, 1-nerved, and feather-nerved, glaucous, glabrous, with a gland on one side; branches angular, smooth; heads of flowers racemose, longer than the phyllodia. ♄. G. Native of New South Wales.

Short-leaved Acacia. Fl. April, June. Clt. 1820. Shrub 3 to 4 feet.

71 A. obtusa'ta (Sieb. pl. exsic. nov. holl. no. 441.) phyllodia oblong-cuneated, obtuse, attenuated at the base, 1-nerved, entire, and glandless, coriaceous, and are, as well as the branches, glabrous; heads of flowers disposed in racemes, which are shorter than the phyllodia; flowers 5-cleft. ♄. G. Native of New Holland. Phyllodia 20 lines long, and 3-4 lines broad.

Blunted-leaved Acacia. Fl. Ap. Ju. Clt. 1824. Sh. 4 to 6 ft.

72 A. buxifòlia (Cunningh. in Field's new south wales, p. 344.) glabrous; phyllodia ovate, acute, bearing a gland on the upper margin; heads of flowers axillary, twice the length of the phyllodia. ♄. G. Native of New Holland, in pine ranges at Macquarie river. A. confèrta, Cunningh. mss.

Box-leaved Acacia. Fl. Feb. Ju. Clt. 1824. Sh. 4 to 6 feet.

73 A. crassiu'scula (Wendl. diss. no. 20. t. 8.) phyllodia linear, 1-nerved, thickish, quite entire, attenuated at the base, rounded at the apex, and ending in an inflexed mucrone; heads of flowers usually 3 in a raceme; flowers 5-cleft. ♄. G. Native of New Holland, on the east coast. Sieb. pl. exsic. nov. holl. no. 464.

Thickish-leaved Acacia. Fl. April, June. Clt. 1824. Shrub 4 to 6 feet.

74 A. suave'olens (Willd. spec. 4. p. 1050.) phyllodia linear, tapering a little at the base, acute, mucronulate, 1-nerved, quite entire; heads of flowers racemose; calyx 5-parted; ovary glabrous. ♄. G. Native of New Holland, on the east coast. Mimòsa suaveòlens, Smith in Lin. soc. trans. 1. p. 253. Labill. nov. holl. 2. t. 236. Lodd. bot. cab. 730. Legume oblong, glaucous from grey powder, 15 lines long, and 5 lines broad.

Var. β, platycárpa (D. C. prod. 2. p. 453.) legumes nearly twice the length of the breadth, especially 15 lines long, and 9 lines broad. Mimòsa ambígua, Salisb. prod. 325.

Sweet-scented Acacia. Fl. Feb. June. Clt. 1790. Sh. 4 to 8 ft.

75 A. angustifo'lia (Wendl. diss. no. 22.) phyllodia linear, tapering a little to the base, acute, mucronate, 1-nerved, quite entire; heads of flowers racemose; calyx 4-toothed; ovary tomentose. ♄. G. Native of New Holland, about Port Jackson. Lodd. bot. cab. 768. Mimòsa angustifòlia, Jacq. schœnbr. 3. t. [illegible]. A. odoràta, Desv. Very like the preceding species, but differs in the fructification.

Narrow-leaved Acacia. Fl. April, May. [illegible] 1816. Shrub 3 to 6 feet.

76 A. adu'nca (Cunningh. mss.) phyllodia straight, elongated, linear, attenuated at the base, but rounded at the apex, ending in a callous mucrone, which forms a right angle with the phyllodia, 1-nerved, and bearing a gland on the upper margin between the middle and the base; heads of flowers crowded, disposed in terminal and axillary racemes. ♄. G. Native of New South Wales.

Hooked Acacia. Shrub 3 to 6 feet.

77 A. linifo'lia (Willd. spec. 4. p. 1051.) phyllodia narrow, linear, mucronate. 1-nerved, quite entire; heads of flowers racemose; racemes length of the phyllodia; calyx sinuately 5-toothed; ovary glabrous. ♄. G. Native of New Holland, on the east coast. Mimòsa linifòlia, Vent. cels. t. 2. Andr. bot. rep. 394. Mimòsa lineàris, Wendl. hort. herrench. t. 18. Sims, bot. mag. t. 2168. Bonpl. nav. t. 19.

Flax-leaved Acacia. Fl. May, June. Clt. 1790. Sh. 3 to 4 ft.

78 A. abietìna (Willd. spec. 4. p. 1051.) phyllodia narrow, linear, mucronate, 1-nerved, quite entire; heads of flowers racemose; racemes longer than the phyllodia. ♄. G. Native of New Holland. Perhaps this is merely a variety of the preceding species.

Fir-like Acacia. Fl. April, June. Clt. 1823. Sh. 3 to 6 ft.

79 A. subula'ta (Bonpl. nav. t. 45.) phyllodia very long and linear, subulate and mucronate at the apex; heads of flowers racemose; racemes one-half shorter than the phyllodia; calyx 5-cleft; ovary tomentose. ♄. G. Native of New Holland. Wendl. diss. no. 25.

Subulate-leaved Acacia. Fl. April, June. Clt. 1824. Shrub 3 to 6 feet.

80 A. ru'bida (Cunningh. in Field's new south wales, p. 344.) phyllodia ovate-lanceolate, ending in an oblique innocuous mucrone at the apex, bearing a gland on the upper margin; racemes small, pedunculate, axillary, and terminal; the rib and margins of the leaves coloured with red. ♄. G. Native of New Holland, frequent on the edge of rills on the blue mountains.

Reddish Acacia. Fl. April, June. Clt. 1823. Sh. 4 to 6 feet.

§ 3. *Spicàtæ* (from *spicatus*, spiked; disposition of flowers). *Flowers disposed in cylindrical spikes. Stipulas usually wanting, or when present they are small and unarmed.*

81 A.? taxifo'lia (Willd. spec. 4. p. 1050.) phyllodia in whorles of threes, lanceolate; spikes axillary, solitary, rather ovate; flowers 4-cleft, tetrandrous. ♄. G. Native of Cochin-

china, on the mountains. Mimòsa stellàta, Lour. coch. p. 651. Mimòsa ternàta, Pers. ench. 2. p. 261.

Yew-leaved Acacia. Clt. 1825. Shrub 8 feet.

82 A. OXYCE'DRUS (Sieb. pl. exsic. nov. holl. no. 457.) stipulas spinose; phyllodia scattered or somewhat verticillate, lanceolate-linear, ending in a pungent point, 3-nerved, glabrous, with nerve-formed glandless margins; spikes axillary, solitary, elongated; flowers 4-cleft. ♄. G. Native of New South Wales. Sweet, fl. austr. 6. Hook. bot. mag. 2928. A. pugionifórmis, Cunning. mss. A. taxifòlia, Lodd. bot. cab. 1225. Branches and rachis of spikes clothed with velvety villi.

Sharp-cedar Acacia. Fl. Ap. Ju. Clt. 1823. Sh. 6 to 10 ft.

83 A. VERTICILLA'TA (Willd. spec. 4. p. 1049.) phyllodia linear, ending in a pungent mucrone, disposed somewhat verticillately; spikes axillary, solitary, oblong; flowers 5-cleft; young legumes pubescent. ♄. G. Native of New Holland, on the south coast, and of Van Diemen's Land. Phyllodia probably tern, the middle one the proper phyllodium, and the lateral ones are probably dilated stipulas, assuming the form of phyllodia.

Var. α, *glàbra* (D. C. prod. 2. p. 453.) branches and peduncles glabrous; phyllodia linear, subulate; legumes very narrow.

Var. β; *ang[illegible]a* (D. C. l. c.) branches and peduncles velvety; phyllodia linear-subulate; legumes very narrow. Mimòsa verticillàta, L'Her. sert. angl. 30. Curt. bot. mag. 110. Vent. malm. t. 63.

Var. γ, *latifòlia* (D. C. l. c. p. 454.) branches and peduncles velvety; phyllodia oblong-obovate or oblong-lanceolate; legumes roundish. Mimòsa ulicifòlia, Salisb. prod. 324. Mimòsa verticillàta, Wendl. coll. 1. t. 30.

Whorled-leaved Acacia. Fl. March, May. Clt. 1780. Shrub 6 to 10 feet.

84 A. RUSCIFO'LIA (Cunningh. mss.) phyllodia lanceolate, ending in a pungent mucrone, somewhat verticillately disposed; spikes axillary, solitary, cylindrical; branches stiff, deflexedly-divaricate. ♄. G. Native of New Holland. Nearly allied to *A. verticillàta*, but differs in the more rigid dwarf habit.

Butcher's-broom-leaved Acacia. Fl. March, May. Clt. 1824. Shrub 2 to 3 feet.

85 A. LINEA'RIS (Sims, bot. mag. t. 2156.) phyllodia narrow-linear, very long, 1-nerved, and quite entire; spikes axillary, numerous, usually branched; calyx sinuately 4-toothed. ♄. S. Native of New Holland. Legume narrow-linear, attenuated at both ends, when young pubescent. Petals 4, distinct.

Var. β, *longíssima* (Wendl. diss. no. 31. t. 11.) phyllodia longer, and more spreading, but not erect. ♄. G. Native of New Holland. Ker. bot. reg. 680. A. lineàris, Lodd. bot. cab. 595. is a plant intermediate between the species and the variety.

Linear-leaved Acacia. Fl. May, June. Clt. 1819. Shrub 3 to 6 feet.

86 A. MUCRONA'TA (Willd. enum. suppl. 68.) phyllodia linear-spatulate, 1-3-nerved, rounded and mucronate at the apex; spikes axillary, solitary or twin, simple; calyx sinuately 4-toothed. ♄. G. Native of New Holland. Wendl. diss. no. 32. t. 12. Sims, bot. mag. 2747. Petals 4, joined at the base. Ovary clothed with white tomentum.

Mucronate-leaved Acacia. Fl. May, June. Clt. 1818. Sh. 3 to 6 feet.

87 A. FLORIBU'NDA (Willd. spec. 4. p. 1051.) phyllodia linear-lanceolate, attenuated at both ends, quite entire, with 3-5 fine nerves; spikes axillary, solitary, simple; calyx sinuately 4-toothed. ♄. G. Native of New Holland, on the east coast. Mimòsa floribúnda, Vent. choix. t. 13. A. longifòlia, Sieb. pl. exsic. nov. holl. no. 440. Petals 4, joined at the base, reflexed at the apex. Ovary rather silky.

Bundle-flowered Acacia. Fl. May, June. Clt. 1796. Shrub 6 to 10 feet.

88 A. HOMOMA'LLA (Wendl. diss. no. 34. t. 13.) phyllodia linear-lanceolate, attenuated at both ends, falcate, 3-nerved, white on both surfaces, but pubescent at the base; spikes twin, but solitary on the peduncles, axillary; calyx 5-toothed. ♄. G. Native of New Holland. Petals 5, joined at the base.

Equal-woolled Acacia. Fl. Ap. Ju. Clt. 1822. Sh. 6 to 8 ft.

89 A. HOLOSERI'CEA (Cunningh. mss.) aspect silky-white: phyllodia oblong-lanceolate, obliquely-cuneated at the base, ending in a soft mucrone at the apex, 3-nerved, and furnished with one gland on the upper margin, spikes axillary, usually twin. ♄. S. Native of New Holland within the tropic. A. heteromálla, Sweet. A. leucophýlla, Sweet. Phyllodia 6 inches long, and 1 inch broad.

Whole-silky Acacia. Fl. May, July. Clt. 1818. Tr. 10 to 20 ft.

90 A. LONGIFÒLIA (Willd. spec. 4. p. 1052.) phyllodia lanceolate, attenuated at both ends, 2-3-nerved at the base, and quite entire, the rest many nerved; spikes axillary, twin, on short peduncles; calyx 4-cleft. ♄. G. Native of New Holland, on the east coast. Mimòsa longifòlia, Andr. bot. rep. 107. Vent. malm. 62. M. macrostàchya, Poir. suppl. 1. p. 61. A. floribúnda, Sieb. pl. exsic. nov. holl. no. 438 and 439. There are varieties of this species with acute and obtuse, narrower (Sims, bot. mag. 1827.) and broader (Sims, bot. mag. 2166.) phyllodia. Petals 4, joined at the base.

Long-leaved Acacia. Fl. March, May. Clt. 1792. Tree 10 to 20 feet.

91 A. DORATO'XYLON (Cunningh. in Field's new south wales, p. 345.) leaves lanceolate-linear, falcate, striated, attenuated at the base; spikes cylindrical, axillary, twin, nearly sessile. ♄. G. Native of New Holland, on pine ridges on the Macquarie river. This is the spearwood of certain tribes in the interior of the country.

Spear-wood Acacia. Fl. March, May. Clt. 1823. Tree 20 ft.

92 A. INTERTE'XTA (Sieb. pl. exsic. nov. holl. no. 453.) phyllodia long-lanceolate, bluntish, straight, attenuated at the base, bearing on the upper margin at the base an inconspicuous gland, 2-nerved, reticulated with anastomosing veins, and are, as well as the branches, glabrous; spikes twin; flowers 4-cleft. ♄. G. Native of New Holland. A. obtusifòlia, Cunningh. in Field's new south wales, p. 345. A. thegonocárpa, Cunningh. mss. in Loud. hort. brit. p. 407. no. 2470. Phyllodia 6 inches long, and half an inch broad. Spikes an inch long.

Interwoven-nerved Acacia. Fl. April, June. Clt. 1824. Shrub 4 to 6 feet.

93 A. GLAUCE'SCENS (Willd. hort. berol. t. 101.) phyllodia oblong, rather falcate, quite entire, many-nerved, 2 or 3 of the nerves very evident; spikes axillary, solitary, pedunculate; calyx 5-toothed. ♄. G. Native of New Holland. Petals 5, joined at the base, and spreading at the apex.

Glaucescent Acacia. Fl. Feb. Ju. Clt. 1790. Sh. 3 to 6 ft.

94 A. CINERA'SCENS (Sieb. pl. exsic. nov. holl. no. 448.) phyllodia oblong, somewhat falcate, acuminated at both ends, quite entire, many-nerved, 2 or 3 of the nerves very evident; spikes axillary, solitary, pedunculate; flowers 4-cleft. ♄. G. Native of New Holland. Branches angular, and are, as well as rachis of the spikes, clothed with short, velvety, white down. Very nearly allied to *A. Sophòræ*.

Greyish Acacia. Fl. March, May. Clt. 1824. Sh. 4 to 6 ft.

95 A. SOPHO'RÆ (R. Br. in hort. kew. 5. p. 462.) phyllodia obovate-oblong or lanceolate, quite entire, many-nerved, sometimes there are bipinnate leaves at the tops of the branches, young ones and branchlets rather velvety; spikes axillary, usually twin; calyx 4-cleft. ♄. G. Native of New Holland, on the south coast, and at Cape Van Diemen. Mimòsa sophòræ, Labill. nov. holl. 2. t. 237. Legume torose. Umbilical funicle plicate. Petals 4, distinct.

Sophora-podded Acacia. Fl. April, Ju. Clt. 1805. Tr. 20 ft.

Sect. II. Conjuga'to-pinna'tæ. Leaves with one pair of pinnæ, each pinna bearing few or many pairs of leaflets. This is an artificial section, composed of a heterogeneous mass of species, the most part of which are not well known.

96 A. amenta'cea (Moc. et Sesse, fl. mex. icon. ined. D. C. prod. 2. p. 455.) glabrous; spines stipular, straight; pinnæ bearing 2 pairs of oblong leaflets; petiole very short; spikes oblong-cylindrical, axillary, sessile. ♄. S. Native of New Spain. Spikes dense, resembling the aments of a salix. Legumes unknown. Flowers yellow.

Amentaceous Acacia. Tree.

97 A. laxiflo'ra (D. C. prod. 2. p. 455.) unarmed, glabrous; pinnæ bearing 3 pairs of petiolulate oval leaflets; petiole elongated; panicles axillary, loosely branched; heads 1-3-flowered. ♄. S. Native of the island of Timor. Flowers polyandrous. Leaflets 2-3 inches long, and 1½ inch broad. A very distinct species.

Loose-flowered Acacia. Tree.

98 A. coronillæfòlia (Desf. cat. hort. par. ed. 2. p. 207.) glabrous; spines stipular, straight; pinnæ bearing 5-9 pairs of linear, obtuse, rather glaucous leaflets; petiole very short, or hardly any, bearing a sessile gland between the pair of pinnæ. ♄. G. Native of the north of Africa, near Mogodor. Mimòsa Giráffæ, Brouss. in hort. monsp. Mimòsa coronillæfòlia, Pers. ench. no. 44. Heads of flowers ovate, pedunculate. It differs from the following species in the petioles being very short.

Coronilla-leaved Acacia. Clt. 1817. Tree.

99 A. gummífera (Willd. spec. 4. p. 1056.) glabrous; spines stipular, straight; pinnæ bearing 6 pairs of linear obtuse leaflets; petiole bearing a sessile gland between the pair of pinnæ; spikes oblong, axillary; legumes somewhat moniliform, clothed with white tomentum. ♄. G. Native of the north of Africa, near Mogodor. Sássa gummífera, Gmel. syst. Very like *A. Arábica*. Gum-arabic is obtained from this species as well as from many others.

Gum-bearing Acacia. Clt. 1823. Tree.

100 A. strombulífera (Willd. spec. 4. p. 1055.) glabrous; spines stipular, or nearly wanting; pinnæ bearing 4-6 pairs of alternate or opposite, linear, obtuse leaflets, without any gland between the pinnæ; legume terete, spirally twisted. ♄. S. Native of Peru, in woods, where it is vulgarly called *retortuna* from the shape of the pods. Mimòsa strombulífera, Lam. dict. 1. p. 15. Flowers unknown. Legume indehiscent, which character indicates a separate genus.

Strombus-bearing Acacia. Shrub 6 to 8 feet.

101 A. Magdale'næ (Bert. in herb. Balb. D. C. prod. 2. p. 455.) unarmed; stipulas lanceolate, striated, erect; pinnæ bearing 25 pairs of linear, obtuse, smoothish leaflets; petiole pubescent, glandless, much shorter than the pinnæ. ♄. S. Native of St. Martha. Flowers unknown. Legume 2 inches long, thickish, straight, and glabrous, with the valves thick and furrowed on the outside.

Magdalena Acacia. Tree.

102 A. pilòsa (Bert. in herb. Balb. ex D. C. prod. 2. p. 455.) spines nearly axillary, spreading, straight; stipulas lanceolate, striated, erect; pinnæ with 13 pairs of linear obtuse leaflets; petiole very short, glandless, and is, as well as the branches, pilose. ♄. S. Native of Jamaica. Flowers and legumes unknown. This is a very singular species from having stipular spines, and the stipulas existing at the same time.

Pilose Acacia. Clt. 1800. Tree.

103 A. reticula'ta (Willd. enum. 1051.) spines stipular, straight, length of the leaflets; leaves with one or more pairs of pinnæ, each pinna bearing 6-9 pairs of oblong-linear, obtuse, distant leaflets; petiole furnished with a gland at the apex, and terminated by a spine-like mucrone: spikes globose, pedunculate; legumes oval, compressed. ♄. G. Native of the Cape of Good Hope? Mimòsa reticulàta, Lin. mant. 129.—Pluk. alm. t. 123. f. 2. Flowers white.

Reticulated Acacia. Clt. 1816. Tree 10 to 12 feet.

104 A. pulche'lla (R. Br. in hort. kew. 5. p. 264.) smoothish; spines stipular, straight, slender; pinnæ bearing 5-7 pairs of oblong-obovate, obtuse leaflets; petiole short, bearing a pedicellate gland between the pair of pinnæ; heads of flowers solitary. ♄. G. Native of New Holland. Lodd. bot. cab. 212. Flowers yellow. Perhaps the same as *A. pulchélla* of Link, enum. 2. p. 444. but the spines are said to be scattered in it.

Neat Acacia. Fl. April, July. Clt. 1803. Sh. 3 to 5 ft.

105 A. hispidi'ssima (D. C. prod. 2. p. 455.) stem and branches very hispid; spines stipular, straight, slender; pinnæ bearing 5-7 pairs of [illegible] obtuse leaflets; petiole short, bearing a pedicellate gland between [illegible] pair of pinnæ; heads of flowers solitary. ♄. G. Native of New Holland, on the east coast. Very like the preceding species, but it differs from it in the stems, branches, and petioles being beset with long, white stiff hairs. Peduncles glabrous.

Very hispid Acacia. Fl. April, Jul. Clt. 1800. Sh. 3 to 6 ft.

106 A. hæmastòma (Bert. ined. D. C. legum. mem. xii. t. 68. prod. 2. p. 456.) stem glabrous; spines stipular, spreading, straight; pinnæ bearing 4-6 pairs of obovate-elliptic, obtuse, rather pilose leaflets; petiole short, glandless; heads of flowers solitary or twin, somewhat racemose. ♄. S. Native of St. Domingo. Mimòsa spartioìdes, Vahl. ined. in herb. Juss. Peduncles, corolla, and legumes hairy. Stamens purple, 15, or only 13 or 14 from abortion. Legume linear, bluntish, attenuated at the base, straightish. Leaflets 2 lines long. Very like *I'nga purpùrea*, of which it is probably a congener, but differs in there being no pulp in the pods.

Bloody-mouthed Acacia. Shrub 3 to 6 feet.

107 A. deti'nens (Burch, trav. 1. p. 310. cat. no. 1628.) spines stipular, recurved, very short; leaflets obovate; petioles pubescent; flowers capitate; legume oval, flat, membranous, few-seeded. ♄. G. Native of the Cape of Good Hope, where it forms impenetrable masses.

Detaining Acacia. Fl. April, Jul. Clt. 1824. Sh. 3 to 6 ft.

108 A. viridira'mis (Burch. trav. 1. p. 300. cat. no. 1586.) spines stipular, very short, recurved; pinnæ bearing 6-8 pairs of small, oval, approximate leaflets. ♄. G. Native of the Cape of Good Hope, in a place called Carel Krieger's Grave. Branches green, flexuous. Buds white from wool.

Green-branched Acacia. Clt. 1816. Shrub 4 to 5 feet.

109 A. cinera'ria (Willd. spec. 4. p. 1057.) prickles scattered, hooked; pinnæ bearing 8-9 pairs of oblong-linear, equal leaflets. ♄. S. Native of the East Indies. Mimòsa cinerària, Lin. spec. 1500.—Pluk. alm. t. 2. f. 1.

Greyish Acacia. Tree.

110 A. eria'ntha (Desv. journ. bot. 1814. 1. p. 68.) spinose; pinnæ bearing usually about 6 pairs of nearly elliptic, pubescent leaflets; flowers capitate; calyxes quite glabrous, but the corolla is clothed on the outside with silky pili. ♄. S. Native of the East Indies.

Woolly-flowered Acacia. Tree.

111 A. cassioìdes (Willd. enum. 1051.) spines stipular, setaceous; pinnæ bearing 4-6 pairs of lanceolate leaflets, which are acute at both ends, the outer ones the largest. ♄. S. Native country, flowers, and fruit unknown.

Cassia-like Acacia. Clt. 1820. Tree 20 feet.

112 A. di'ptera (Willd. enum. 1051.) spines stipular, very short, subulate; pinnæ bearing 20-24 pairs of linear, obtuse, glabrous leaflets. ♄. S. Native of South America. Flowers

and legumes unknown. Perhaps a species of *Prosòpis*, according to H. B. et Kunth, nov. gen. amer. 6. p. 281.

Two-winged Acacia. Clt. 1818. Tree.

113 A.? SALINA'RUM (D. C. prod. 2. p. 456.) spines solitary, straight, rising from the sides of the buds; pinnæ bearing 19-20 pairs of linear, obtuse leaflets, which are glabrous as well as branches and corollas, with a gland at the top of the petiole, and one between each pair of leaflets; spikes solitary, pedunculate. ♄. S. Native of Jamaica, in salt marshes. Mimòsa salinàrum, Vahl. ecl. amer. 3. p. 35. Stamens 10. Ovary hairy.

Salt-marsh Acacia. Tree.

114 A. STRIGO'SA (Spreng. syst. 3. p. 137.) leaves with 1 pair of pinnæ, each pinna bearing 2 pairs of oblique leaflets, which are pilose beneath; heads of flowers globose; legume strigose. ♄. S. Native of Peru. Mimòsa strigòsa, Pers. ench. 2. p. 263.

Strigose Acacia. Shrub.

115 A. SELLO'I (Spreng. syst. 3. p. 137.) leaves almost sessile, with 1 pair of pinnæ, each pinna bearing about [illegible] pairs of linear, shining leaflets; heads of flowers pedunculate, usually solitary; legumes straight, lanceolate, with thickened margins. ♄. S. Native of Brazil.

Sello's Acacia. Tree.

116 A. FLA'CCIDA (Spreng. syst. 3. p. 137.) branches and petioles elongated and filiform, flaccid, glabrous; stipulas linear; leaves with 1 pair of pinnæ, each pinna bearing 6 pairs of obliquely oblong, nerved, pubescent leaflets; heads of flowers pedunculate. ♄. S. Native of Brazil.

Flaccid-branched Acacia. Shrub.

117 A. INCA'NA (Spreng. syst. 3. p. 137.) branches clothed with flocky down; leaves with 1 pair of pinnæ, each pinna bearing about 20 pairs of oblong, obtuse, nerveless leaflets, which are hoary and lepidoted beneath; heads of flowers twin, pedunculate. ♄. S. Native of Brazil.

Hoary Acacia. Shrub.

118 A. SETÒSA (Spreng. syst. 3. p. 137.) branches hairy; leaves with 1 pair of pinnæ, each pinna bearing many pairs of linear leaflets, which are ciliated with strigæ on the margins. ♄. S. Native of Brazil.

Setose Acacia. Shrub.

SECT. III. SPICIFLORÆ (from *spica*, a spike, and *flos*, a flower; in reference to the disposition of the flower in spikes). Leaves bipinnate, with few or many pairs of pinnæ, each pinna bearing many pairs of leaflets. Flowers disposed in spikes.

* *Unarmed trees or shrubs.*

119 A. CAUDA'TA (D. C. prod. 2. p. 456.) unarmed; leaves with 2-3 pairs of pinnæ, each pinna bearing 7-8 pairs of linear-oblong, very blunt, somewhat emarginate, quite glabrous leaflets, which are oblique at the base, the outer ones largest; petioles glandless; spikes twin, disposed in a terminal raceme. ♄. S. Native of Cayenne. Mimòsa caudàta, Vahl. ecl. amer. 3. p. 35. Petals 5. Stamens 10. Legume unknown.

Tailed Acacia. Tree.

120 A. CYCLOSPE'RMA (D. C. prod. 2. p. 456.) unarmed; leaves with 3 pairs of pinnæ, each pinna bearing 3-4 pairs of ovate-oblong, rather coriaceous leaflets, which are cuneated at the base, and are glabrous as well as the petioles, with a depressed gland between each of the pairs of pinnæ, and also between each of the pairs of leaflets; spikes supra-axillary, solitary; seeds flat, orbicular. ♄. G. Native of New Caledonia. Flowers 5-cleft. Legume 4-5 inches long, compressed.

Circle-seeded Acacia. Tree.

121 A. GRANULO'SA (Labill. cal. p. 67. t. 66.) unarmed; leaves with 5 pairs of pinnæ, each pinna bearing 12 pairs of alternate, obliquely ovate-oblong, obtuse leaflets; spikes axillary, solitary; stamens monadelphous; branches granular. ♄. G. Native of New Caledonia. Legumes moniliform, 6-7-seeded.

Granular-branched Acacia. Shrub 4 to 6 feet.

122 A. FU'LGENS (Labill. cal. p. 68. t. 67.) unarmed; leaves with 2-3 pairs of pinnæ, each pinna bearing 3 pairs of broad, elliptic, obtuse leaflets, which are attenuated at both ends; spikes of flowers length of leaves. ♄. G. Native of New Caledonia.

Shining Acacia. Shrub 12 feet.

123 A. DISTA'CHYA (Moc. et Sesse, fl. mex. icon. ined. D. C. prod. 2. p. 456.) unarmed; leaves with 4 pairs of pinnæ, each pinna bearing 3-4 pairs of oval, obtuse leaflets, which are rather villous as well as the petioles; spikes axillary, twin. ♄. S. Native of New Spain. Partial petioles jointed at the base. Corolla 5-parted. Stamens 9? monadelphous at the base. Legume unknown.

Two-spiked Acacia. Tree.

124 A. THIBAUDIA'NA (D. C. prod. 2. p. 456.) unarmed; leaves with 4 pairs of pinnæ, each pinna bearing 7-9 pairs of ovate, somewhat rhomboid leaflets, which are rather oblique at the base, and villous beneath, as well as the petioles, which bear a sessile gland each; legumes compressed, contracted between the seeds. ♄. S. Native of South America, but in what place is unknown. Sophòra oblíqua, Pers. ench. 1. p. 452.

Thibaud's Acacia. Tree.

125 A. ROHRIA'NA (D. C. prod. 2. p. 457.) unarmed; leaves with 4 pairs of pinnæ, each pinna bearing about 10-11 pairs of somewhat trapeziform, obtuse, glabrous leaflets, which are beset with yellow villi on the ribs, with a gland between each of the pairs of leaflets; spikes solitary, pedunculate, axillary, length of leaves. ♄. S. Native of South America. Mimòsa nígricans, Vahl. ecl. amer. 3. p. 37. t. 29. but not of Labill. Plant becoming black on drying.

Rhor's Acacia. Tree.

126 A. NUDIFLO'RA (Willd. spec. 4. p. 1058.) unarmed; leaves with 4-6 pairs of pinnæ, each pinna bearing 12-15 pairs of elliptic, obtuse leaflets, with a depressed gland between each of the pairs of pinnæ; spikes of flowers axillary and lateral, filiform. ♄. S. Native of Porto Rico. Leaves downy beneath as well as the petioles, when young. Legume linear, flat, glabrous.

Naked-flowered Acacia. Tree 20 feet.

127 A. MURICA'TA (Willd. spec. 4. p. 1058.) unarmed; leaves with 5 pairs of pinnæ, each pinna bearing 12-15 pairs of ovate, retuse, rather emarginate leaflets, with a depressed gland between each of the pairs of pinnæ; spikes cylindrical, subulate, aggregate at the tops of the branches; branches warted. ♄. S. Native of the West Indies. Mimòsa muricàta, Lin. spec. 1501. —Plum. ed. Burm. t. 11. Flowers white.

Muricate-branched Acacia. Tree.

128 A. ROSTRA'TA (Humb. et Bonpl. in Willd. spec. 4. p. 1060.) unarmed; leaves with 6 pairs of pinnæ, each pinna bearing numerous pairs of linear, glabrous leaflets; petioles pilose, bearing an urceolar gland at the base; spikes axillary. ♄. S. Native of South America. Mimòsa ignàvi, H. B. et Kunth, nov. gen. amer. 6. p. 259. Flowers unknown. Legume linear, beaked at the apex.

Beaked-podded Acacia. Tree.

129 A. CALLO'SA (Spreng. syst. 3. p. 138.) branches beset with callous warts: petioles pubescent, bearing a gland at the base; leaves with 7 pairs of pinnæ, each pinna bearing many pairs of linear, shining leaflets; spikes disposed in panicles. ♄. S. Native of Brazil.

Callous-warted Acacia. Tree or shrub.

130 A. ARENO'SA (Willd. l. c.) unarmed; leaves with 6 pairs of pinnæ; each pinna bearing 16 pairs of linear, acute, ciliated leaflets; petioles pubescent, bearing a gland between each of

the pairs of pinnæ; spikes twin, filiform. ♄. S. Native of Caraccas, on the sandy banks of rivers.

Sand Acacia. Clt. 1818. Tree 10 to 12 feet.

131 A. lophanthoìdes (D. C. prod. 2. p. 457.) unarmed; leaves with 8-9 pairs of pinnæ, each pinna bearing 12 pairs of oval-oblong, obtuse leaflets; petioles glandless, and are as well as the branchlets pubescent; racemes usually twin, short, axillary; calyxes glabrous. ♄. S. Native of Jamaica. Flowers and habit of the following species. Legumes unknown.

Lophantha-like Acacia. Clt. 1820. Tree.

132 A. lopha'ntha (Willd. spec. 4. p. 1070.) unarmed; leaves with 8-10 pairs of pinnæ, each pinna bearing 25-30 pairs of linear, bluntish leaflets; petioles and calyxes clothed with velvety down, with a gland at the base of the common petiole, and one between each of the two extreme pairs of leaflets; racemes ovate-oblong, axillary, twin. ♄. G. Native of New Holland. Sims, bot. mag. 2108. Mimòsa distàchya, Vent. cels. t. 20. but not of Cav. Mimòsa élegans, Andr. bot. rep. t. 563. A. lophántha, Lodd. bot. cab. 716. This and the preceding species would almost constitute a proper section from the flowers. Perhaps *A. insignis* of Hoffmans. verz. 1824. p. 159. is not distinct from the present species. Flowers yellow.

Crest-flowered Acacia. Fl. May, Jul. Clt. 1803. Sh. 6 to 10 ft.

133 A. Guiane'nsis (Willd. spec. 4. p. 1061.) unarmed; leaves with 10 pairs of pinnæ, each pinna bearing 10 pairs of elliptic, obtuse, glabrous leaflets; petiole rather velvety, furnished with a convex gland at the base; spikes filiform, solitary, axillary. ♄. S. Native of Guiana and Cayenne. Legume lanceolate, flat. Mimòsa Guianénsis, Aubl. guian. 2. t. 357. Flowers small, glabrous, white.

Guiana Acacia. Clt. 1803. Tree 40 feet.

134 A. psilosta'chya (D. C. prod. 2. p. 457.) unarmed; leaves with 7-10 pairs of pinnæ, each pinna bearing 15-20 pairs of oblong-linear, obtuse, glabrous leaflets, which are truncate at the base, with an adpressed gland at the base of the petiole, and one between the extreme pair of pinnæ; spikes filiform, slender, solitary, axillary. ♄. S. Native of French Guiana. Flowers small, as in the preceding, but pubescent.

Smooth-spiked Acacia. Tree.

135 A. Acapulce'nsis (Kunth, mim. 78. t. 24. nov. gen. amer. 6. p. 267.) unarmed; leaves with 8-9 pairs of pinnæ, each pinna bearing 35-45 pairs of oblong-linear, glabrous leaflets, with a gland between 2 or 3 of the extreme pairs of pinnæ, and one at the base of the petiole; spikes cylindrical, axillary, solitary, twin, or tern. ♄. S. Native of Mexico, about Acapulco, in the sand by the sea-side. Flowers white. Stamens numerous, monadelphous. Legumes unknown.

Acapulco Acacia. Clt. 1825. Tree.

136 A. elephanthorhi'za (Burch. cat. geogr. no. 2410.) unarmed; leaves with 10-12 pairs of pinnæ, each pinna bearing 25 pairs of linear, glabrous leaflets; petioles glandless; branches and flowers glabrous; spikes axillary, cylindrical, solitary. ♄. G. Native of the Cape of Good Hope. Petals 15. Stamens 10. Perhaps a species of *Prosòpis*.

Elephant-root Acacia. Clt. 1818. Shrub.

137 A. scleróxyla (Tussac. fl. antil. t. 21.) unarmed; leaves with 10-15 pairs of pinnæ, each pinna bearing an indefinite number of leaflets, with an urceolar gland below the lower pair of pinnæ; spikes filiform, solitary; branches warted. ♄. S. Native of the French West India Islands, where it is called *Tendre à caillou batard*, with many other species.

Hard-wooded Acacia. Tree 60 feet.

138 A. pulche'rrima (Willd. spec. 4. p. 1061.) unarmed; leaves with 13 pairs of pinnæ; each pinna bearing numerous pairs of oblong-linear, obtuse leaflets, which are pubescent beneath as well as the petioles, and with a convex gland at the base of the petiole; spikes of flowers axillary, twin, filiform. ♄. S. Native of Para, in Brazil. Flowers pilose, 5-cleft.

Fairest Acacia. Clt. 1823. Tree 50 feet.

139 A. dumeto'rum (D. C. prod. 2. p. 458.) stem furnished with a few prickles; branches sulcate, pubescent; leaves bipinnate, each pinna bearing many pairs of minute, linear-elliptic leaflets, which are glandularly dotted beneath; spikes axillary, twin, slender; corolla profoundly 5-cleft; stamens free; ovary villous. ♄. S. Native of Brazil, in the province of Minas Novas. Mimòsa dumetòrum, St. Hil. pl. rem. bras. 1. p. 1. Legume unknown.

Bush Acacia. Shrub 1 to 2 feet.

140 A. adstríngens (Mart. reis. bras. ex Schlecht. Linnæa. 5. p. 41.) unarmed; leaves with 4-5 pairs of pinnæ, each pinna bearing 4-5 pairs of broad-ovate, glaucescent leaflets, which are unequal at the base, obtuse, and glabrous, with a gland between the superior pair of pinnæ; petioles and young branches clothed with chestnut-coloured tomentum; spikes cylindrical, axillary, with the rachis and calyxes tomentose. ♄. S. Native of Brazil. Legume oblong, compressed.

Astringent Acacia. Shrub 2 to 3 feet.

141 A. macro'loba (Willd. spec. 4. p. 1060.) unarmed; leaves with 16 pairs of pinnæ, each pinna bearing many pairs of linear, falcate, acuminated leaflets, which are angular at the base; petioles with 2 hairy lines on the upper side; spikes filiform, solitary, axillary. ♄. S. Native of Para, in Brazil.

Long-podded Acacia. Tree 40 to 50 feet.

142 A. Sprenge'lii; branches glandless; petioles hairy; leaves with 6 pairs of pinnæ, each pinna bearing 15 pairs of oblong, obtuse, pubescent leaflets; spikes short, twin. ♄. Native of Jamaica. A. Berteriàna, Spreng. syst. 3. p. 138. but not of Spreng. in herb. Balb. D. C.

Sprengel's Acacia. Tree.

143 A. aspidioìdes (Meyer. prim. esseq. 165.) unarmed; leaves with 15-18 pairs of pinnæ, each pinna bearing many pairs of linear, glabrous leaflets, and bearing on the under side at the base a transverse gland each; petioles glandless, pubescent; spikes cylindrical, disposed in terminal racemes. ♄. S. Native of Guiana, in the island of Arowabisch, in humid places. Petals 5, white, hardly connected at the base. Stamens 10. Legume curved.

Aspidium-like Acacia. Tree 30 to 40 feet.

144 A. dealba'ta (Link. enum. 2. p. 445.) unarmed; leaves with 15 pairs of pinnæ, each bearing many pairs of minute, equal, pubescent leaflets, with a perforated gland seated between one of the pairs of pinnæ; racemes lateral. ♄. S. Native country and legumes unknown.

Whitened Acacia. Tree.

145 A. Wallichia'na (D. C. prod. 2. p. 458.) unarmed; branches and leaves pubescent; leaves with 10-12 pairs of pinnæ, each pinna bearing about 50 pairs of approximate, linear leaflets; petiole bearing a gland beneath the pinnæ, and one between each of the pairs of pinnæ; spikes cylindrical, elongated; legumes flat, lanceolate; quite glabrous, 6-10-seeded. ♄. S. Native of the East Indies. Stamens 20-25.

Wallich's Acacia. Clt. 1820. Tree 30 feet.

* * *Prickly or spiny trees or shrubs.*

146 A. ferrugínea (D. C. prod. 2. p. 458.) spines stipular, straightish, conical, broadest at the base; leaves with 3-4 pairs of pinnæ, each pinna bearing 10-12 pairs of linear, bluntish, glabrous, glaucous leaflets; petiole furnished with a large, depressed gland; spikes of flowers cylindrical, slender, disposed in a panicle; legumes oval, hard, compressed, 1-2-seeded, indehiscent. ♄. S. Native of Coromandel. Mimòsa ferrugínea, Roxb. hort. beng. p. 41. Stamens 20-25. Allied to *A. Súndra* and *A. Cátechu.*

Rusty Acacia. Clt. 1818. Tree 12 to 20 feet.

147 A. Su'ndra (D. C. prod. 2. p. 458.) spines stipular, hooked, decurrent at the base; leaves with about 20 pairs of pinnæ, and each pinna bearing about the same number of leaflets, which are linear, obtuse, and glabrous, with a gland at the base of the petiole, and one between each of the 3 outer pairs of pinnæ; spikes axillary, usually solitary, cylindrical; legumes flat, compressed, 2-3-seeded, acuminated at both ends. ♄. S. Native of the coast of Coromandel, in woods and on the mountains. Mimòsa Súndra, Roxb. cor. 3. t. 225. Acàcia Chúndra, Willd. spec. 4. p. 1078. Flowers yellow. Stamens 20-25. Allied to *A. Cátechu.* Wood hard, chocolate-coloured. The tree is called *Sundra* by the Telingas.

Sundra Acacia. Clt. 1789. Tree 12 to 15 feet.

148 A. Ca'techu (Willd. spec. 4. p. 1079.) prickles stipular, when young straightish, but at length becoming hooked; leaves with 10 pairs of pinnæ, each pinna bearing [illegible] pairs of linear pubescent leaflets, with 1 depressed gland at the base of the petiole, and 2 or 3 between the extreme pairs of pinnæ; spikes cylindrical, solitary, twin, or tern, axillary. ♄. S. Native of the East Indies. Mimòsa Cátechu, Lin. fil. suppl. 439. Roxb. cor. 2. t. 175. Flowers yellow, 5-cleft, with about 20 stamens. Legume lanceolate, flat, 3-6-seeded. This is a small tree, about a foot in diameter, covered with brown bark. The drug known by the name *Catechu* (from *cate*, a tree, and *chu*, juice) is the product of this tree. In Bengal the extract of *catechu*, which was formerly termed, with peculiar impropriety, *Japan earth*, is principally prepared from the external coloured part of the wood, decoction, evaporation, and exsiccation in summer. But *Catechu* is also prepared in India from other species of *Acàcia*, and even from the wood, bark, and fruits of other genera, as the *Naúclea Gámbir.* In Mysore it is chiefly prepared from the nuts of *Arèca Cátechu.* *Catechu* has the appearance of a dried extract of various forms, rounded masses, or cut into squares or lozenges. It is perfectly opaque, and has always an earthy fracture. The Bombay *catechu* is of an uniform texture, and of a red-brown hue, its specific gravity being generally about 1-39. The extract from Bengal is more friable and less consistent. Its colour is like that of chocolate externally, but when broken its fracture presents streaks of chocolate and of red brown. Its specific gravity is 1-28. Their tastes are precisely similar, being astringent, but leaving in the mouth a sensation of sweetness. They do not deliquesce by exposure to the air, and are not fusible. Sir H. Davy states that *catechu* contains one-half of tannin, 35 per cent. of extractive, 6 to 8 of mucilage, and 5 to 7 of impurities. Chemists have not succeeded in presenting the astringent principle in a state of purity. In medicine *catechu* is one of the most convenient and powerful astringents we possess, and may be exhibited in every case where astringents are indicated. It is particularly serviceable in diarrhœa, in hoarseness from relaxation of the fauces, ulcers, and aphthæ in the mouth, and in excoriations, with lymphatic exudation.

Catechu Acacia. Clt. 1790. Tree 20 to 40 feet.

149 A. subtilifòlia (H. B. et Kunth, nov. gen. amer. 6. p. 268.) spines stipular, nearly erect; leaves with 5-10 pairs of pinnæ, each pinna bearing about 30-45 pairs of linear leaflets, which are puberulous beneath; petioles bearing 1 gland in the middle and one at the top of the rachis; spikes cylindrical, solitary; legumes oblong, unarmed. ♄. S. Native of New Granada, on the banks of the river Chota. Stamens 10, free.

Subtile-leaved Acacia. Tree.

150 A. fascicula'ta (Kunth, mim. 75. t. 23. nov. gen. amer. 6. p. 267.) prickles scattered, or twin, straight; leaves with 15 pairs of pinnæ, each pinna bearing 9-14 pairs of obliquely oblong leaflets; petioles glandless, rather prickly, and are as well as the branchlets pubescent; spikes cylindrical, fasciculately panicled. ♄. S. Native of Mexico, near Guanaxuato. Flowers white, 5-cleft, octandrous or decandrous. Legume unknown.

Fascicled-spiked Acacia. Tree.

151 A. viridiflòra (Kunth, mim. 81. t. 25. nov. gen. amer. 6. p. 269.) prickles recurved; leaves with 6-15 pairs of pinnæ, each pinna bearing 15-35 pairs of linear-oblong leaflets, which are puberulous beneath as well as the petioles, which are furnished with 1 gland at the base, and 2 or 3 along the rachis; spikes cylindrical, solitary. ♄. S. Native of South America, in the province of Bracamora, near St. Felipe. Flowers greenish-white, 5-cleft. Stamens 10, free. Legume unknown.

Green-flowered Acacia. Clt. 1823. Shrub 4 to 6 feet.

152 A. Ca'ffra (Willd. spec. 4. p. 1078.) prickles stipular, twin, incurved; leaves with 5-10 pairs of pinnæ, each pinna bearing 20-30 pairs of lanceolate-linear, obtuse, glabrous leaflets, with a depressed gland at the base of the petiole; spikes cylindrical, axillary. ♄. G. Native of the Cape of Good Hope. Mimòsa Cáffra, Thunb. prod. 92. fl. cap. 433. Legumes linear-lanceolate.

Caffrarian Acacia. Clt. 1800. Tree 12 to 20 feet.

153 A. polyaca'ntha (Willd. spec. 4. p. 1079.) prickles stipular, dilated; leaves with 10 pairs of pinnæ, each pinna bearing 30-40 pairs of linear, obtuse, ciliated leaflets, with a gland both at the base and apex of the common petiole, which is prickly beneath; spikes cylindrical, twin, axillary. ♄. S. Native of the East Indies. Mimòsa spinosissima, Poir. suppl. 1. p. 78.

Many-spined Acacia. Tree.

154 A. stella'ta (Willd. spec. 4. p. 1078.) prickles stipular, recurved; leaves with 10 pairs of pinnæ, each pinna bearing 13 pairs of oblong leaflets, which are obtuse at both ends; petioles bearing 2 or 3 recurved prickles at the origin of each pinna; racemes of flowers compound. ♄. G. Native of Arabia Felix, on Mount Kurma. Mimòsa stellàta, Forsk. descript. 177. Vahl. symb. 1. p. 81. Petals 5. Stamens 10. Legume compressed, lanceolate, membranous.

Starry Acacia. Tree.

155 A. velutìna (D. C. prod. 2. p. 459.) prickles petiolar, scattered, hooked; leaves with 11 pairs of pinnæ, each pinna bearing 25-35 pairs of oblong, linear leaflets, which are pubescent as well as the petioles, peduncles, and flowers; petiole furnished with a gland at the base, and one between each of the two extreme pairs of pinnæ. ♄. S. Native of Brazil. Corolla 5-furrowed, pubescent. Stamens numerous. Legume unknown.

Velvety Acacia. Tree.

156 A. ataxaca'ntha (D. C. prod. 2. p. 459.) prickles hooked, scattered in a loose manner along the branches and petioles; leaves with 6-8 pairs of pinnæ, each pinna bearing 20-30 pairs of linear, ciliated leaflets, with an oblong gland on the petiole, both between the lower and upper pair of pinnæ; stipulas lanceolate, dilated on the outside at the base; spikes twin, axillary, cylindrical. ♄. S. Native on the banks of the rivers Senegal and Gambia. Stamens 20-25. Legumes unknown.

Unorderly-spined Acacia. Shrub 6 to 8 feet.

157 A. macrosta'chya (Reichb. in Sieb. pl. exsic. seneg. no. 44.) prickles hooked, scattered without any order along the branches; stipulas foliaceous, large, rather reniform, acute; leaves with 20 pairs of pinnæ, each pinna bearing 20-30 pairs of linear, villous, and ciliated leaflets; spikes of flowers elongated, and are as well as the petioles and branches velvety. ♄. S. Native of Senegal and Gambia, where we have seen it and the preceding species growing in plenty about Bathurst, near the mouth of the river. Spikes of flowers clothed with hoary tomentum, 3 inches long. Flowers glabrous, 5-cleft.

Long-spiked Acacia. Shrub 8 to 10 feet.

158 A. Se'negal (Willd. spec. 4. p. 1077. exclusive of figure cited,) prickles stipular, straight, short; leaves with 5-8 pairs of pinnæ, each pinna bearing 15-18 pairs of oblong-linear obtuse leaflets, which are glabrous, as well as the petioles and branches, with a sessile gland between each of the pairs of pinnæ on the petiole; spikes axillary, solitary, slender. ♄. S. Native of Arabia, and the interior of Africa. Mimòsa Sénegal, Lin. spec. 1506. Flowers small, glabrous, distant. Branches white. Prickles sometimes wanting. Axillary branches abortive, and becoming spines. The spines at the base of the leaves are said to be three by Linnæus. Gum-senegal is the produce of this tree; it is usually sold in the shops as gum-arabic; its medicinal uses are the same, and it is procured in the same way from the trees. It was not until the beginning of the 17th century that the Dutch made gum-senegal known in Europe. After the French got possession of that river they directed their attention to it as an important object of commerce, and ascertained by experiments made in the latter half of the 17th century that gum-senegal was superior to the best gum-arabic. M. Adanson examined all the gum trees of West Africa with great care. They amount to 40 in number, but the three great forests which supply the Senegal market consist chiefly of two kinds, one which produces a white gum called vereck, and another called nebueb, which yields a red gum.

Senegal Acacia. Clt. 1823. Tree 20 feet.

159 A. a'lbida (Delil. fl. ægypt. 143. t. 52. f. 3.) prickles stipular, straight; leaves with 3-4 pairs of pinnæ, each pinna bearing 9-10 pairs of oblong-linear, obtuse, rather mucronate, glaucous leaflets, which are glabrous, as well as the branches, with a sessile gland between each of the pairs of pinnæ; spikes cylindrical, exceeding the leaves. ♄. G. Native of Upper Egypt, near Syene. [illegible] unknown.

97 A. psilosta'chya (D. C. prod. 2. p. 457.) unarmed; leaves with 7-10 [illegible] of [illegible]-leaved Acacia. Tree 20 feet.

160 A. monaca'ntha (Willd. enum. 1056.) prickles stipular, infra-axillary, solitary, recurved; leaves with usually 8 pairs of pinnæ, each pinna bearing 17-20 pairs of oblong leaflets; spikes cylindrical, panicled, axillary. ♄. S. Native of Brazil.

One-spiked Acacia. Clt. 1818. Tree.

161 A. Da'lea (Desv. journ. bot. 1814. vol. 1. p. 69.) spines straight, elongated, solitary, pubescent, stipular; leaves bipinnate, pubescent; spikes 3-together, axillary, on short peduncles. ♄. S. Native of the East Indies. Flowers rose-coloured.

Dalea-like Acacia. Tree.

162 A. Spi'ni (Balb. in Spin. cat. supp. 1823. p. 8. Col. hort. ripul. append. t. 5.) prickles stipular, infra-axillary, solitary, hooked; leaves with 3-4 pairs of pinnæ, each pinna bearing 3-5 pairs of elliptic leaflets, the lower ones the smallest; spikes cylindrical, solitary or twin, axillary. ♄. S. Native country unknown. Flowers greenish yellow. Legumes coarctate between the seeds, prickly on the sutures.

Spini's Acacia. Shrub 5 to 8 feet.

163 A. corni'gera (Willd. spec. 4. p. 1080.) prickles or spines stipular, connate at the base, compressed, large; leaves with 6 pairs of pinnæ, each pinna bearing about 20 pairs of glabrous leaflets; gland petiolar; spikes axillary, cylindrical. ♄. S. Mimòsa cornígera, Lin. spec. ed. 1. p. 520. Flowers pale yellow. The two large connate spines resemble the horns of an ox.

Var. α, *Americàna* (D. C. prod. 460.) spines brown. ♄. S. Native of Mexico, Cuba, and in the woods of Carthagena.—Pluk. phyt. t. 122. f. 1.—Comm. hort. 1. t. 107. Jacq. amer. 266. The legume is filled with pulp according to Jacquin, and it is therefore probably a species of *I'nga* or *Prosòpis*.

Var. β, *I'ndica* (D. C. l. c.) spines yellow. ♄. S. Native of the East Indies.—Seba, thes. 1. t. 70. f. 13.

Horn-bearing Acacia or Cuckold-tree. Clt. 1692. Tree 10 to 14 feet.

164 A. tenuiflo'ra (Willd. spec. 4. p. 1088.) prickles scattered, incurved; leaves with 5 pairs of pinnæ, each pinna bearing many pairs of ciliated leaflets; petioles pubescent, rather prickly; spikes filiform, length of the leaves. ♄. S. Native of Caraccas. Legumes membranous, sub-lanceolate, 3-5-seeded.

Fine-flowered Acacia. Tree.

165 A. mode'sta (Wall. pl. rar. asiat. 2. p. 27. t. 130.) arboreous; branches flexuous; spines axillary, subulate; leaves with 2-3 pairs of pinnæ, each pinna bearing 4 pairs of oblong, obtuse, glabrous, glaucous leaflets; petioles pilose, bearing 1 gland in the middle; spikes axillary and terminal, usually solitary, cylindrical, nodding, on short peduncles; flowers hermaphrodite; filaments distinct, twice the length of the corolla; legume stipitate, linear-oblong, flat, glabrous, rather membranous, 6-seeded, acute at both ends. ♄. S. Native of Hindostan. Flowers white, fragrant. Spines twin, stipular.

Modest Aca[illegible] April. Shrub 8 to 12 feet.

166 A. latro'num (Willd. spec. 4. p. 1077.) spines stipular, twin, connate; leaves with 4 pairs of pinnæ, each pinna bearing many pairs of small leaflets; spikes usually twin, elongated, axillary; legume semi-lunate. ♄. S. Native of the East Indies. Mimòsa latrònum, Lin. fil. suppl. 438. Spines milk-coloured, straight. Flowers white. This species of *Acàcia* form impenetrable thickets from their interwoven branches and terrible spines in the mountainous parts of India, and are the secure retreat of the smaller animals and rogues. Lin. suppl.

Rogue's Acacia. Clt. 1820. Shrub 4 to 6 feet.

167 A. A'zak (Willd. l. c.) spines stipular, 3-together? straight; leaves with 3 pairs of pinnæ, each pinna bearing 5 pairs of leaflets, with a gland on the petiole between the lower pair of pinnæ. ♄. G. Native of Arabia Felix. Mimosa A'zak, Forsk. descr. 176. Vahl. symb. 2. p. 104. Flowers and fruit unknown. *Azak* is the Arabian name of the tree.

Azak Acacia. Shrub.

168 A.? cadu'ca (Humb. et Bonpl. in Willd. spec. 4. p. 1089.) prickles scattered, rather hooked; leaves with 4-6 pairs of pinnæ, each pinna bearing 5-10 pairs of oblique, oval, obtuse leaflets, which are pubescent beneath, without any gland on the petioles; spikes ovate, pedunculate, axillary, solitary or twin; stamens 8-10; legumes ciliated, with prickles. ♄. S. Native of Peru, near Gualtaquillo on the banks of the river Cachiyacu. Kunth, nov. gen. amer. 6. p. 266. Legume hardly known.

Caducous Acacia. Tree.

169 A. prosopoi'des (Moc. et Sesse, fl. mex. icon. ined. D. C. prod. 2. p. 460.) prickles few, scattered, hooked at the apex; leaves with 2-3 pairs of pinnæ, and each pinna bearing 2-3 pairs of oval, oblong, obtuse, glabrous leaflets; spikes usually twin. ♄. S. Native of New Spain. Corolla 5-cleft, reddish. Stamens 10. Legume unknown.

Prosopis-like Acacia. Tree.

170 A. adiantoi'des (Spreng. syst. 3. p. 146.) prickles short, few, straight; petioles tomentose; leaves with 4 pairs of pinnæ, each pinna bearing usually 8 pairs of alternate, dimidiately-oblong, obtuse, shining leaflets; spikes axillary, sessile. ♄. S. Native of Brazil, Sello.

Adiantum-like Acacia. Tree.

171 A. hosti'lis (Mart. reis. bras. ex Schlecht. Linnæa. 5. p. 43.) shrubby, branches elongated, spreading; prickles scattered, straight; leaves bipinnate, clothed with clammy pubescence, with 4-6 pairs of pinnæ, each pinna bearing 20 pairs of linear leaflets; stipular prickles and those between the stipulas straight; spikes solitary; legumes membranous, linear-oblong, 2-3-seeded, pubescent. ♄. S. Native of Brazil.

Hostile Acacia. Shrub.

Sect. IV. Globiflo'ræ (from *globus*, a globe, and *flos*, a flower; in reference to the flowers being collected into globose heads on the tops of the peduncles). Leaves bipinnate, with few or many pairs of pinnæ, each pinna bearing few or many pairs of leaflets. Flowers collected into globose heads at the tops of the peduncles.

* *Prickles all stipular and straight. Legumes unarmed. Stamens 20 or more.*

§ 1. *Aculeàtæ* (from *aculeatus*, prickly; plants furnished with stipular prickles).

172 A. ni'tida (Willd. spec. 4. p. 1086.) spines twin; leaves with 2 pairs of pinnæ, each pinna bearing 5 pairs of oblong leaflets, which are narrowest at the base, and shining above, with a gland between each of the pairs of pinnæ; petioles pubescent; heads of flowers pedunculate, twin. ♄. S. Native of the East Indies. Mimòsa nítida, Vahl. symb. 2. p. 803. Flowers polyandrous. Legume unknown.

Shining-leaved Acacia. Tree.

173 A. Seya'l (Delil. fl. ægypt. 142. t. 52. f. 2.) spines twin, straight, about the length of the leaves; leaves with 2 pairs of pinnæ, each pinna bearing 8-12 pairs of oblong-linear glabrous leaflets; legumes compressed, linear, falcate, acute, glabrous. ♄. G. Native of Egypt, where it is called *Sejal*. Mimòsa Sejàl, Forsk. descr. p. 177. In a specimen received by De Candolle from Sieber the branches are brown, the prickles stipular, shorter than the leaves, and sometimes wanting; the heads of flowers are globose and yellow, and the legume is striated with nerves. It is perhaps the same as the plant of Delile.

Sejal Acacia. Shrub.

174 A. ho'rrida (Willd. spec. 4. p. 1082.) spines twin, about equal in length to the leaves, and are glabrous, as well as the leaves and branches; leaves with 2-3 pairs of pinnæ, each pinna bearing 9-12 pairs of oblong obtuse leaflets, with the rib biglandular; heads of flowers pedunculate, axillary, usually aggregate. ♄. G. Native of the south of Africa and of Arabia. Mimòsa hórrida, Lin. spec. 1505. Mimòsa leucacántha, Jacq. schœnbr. t. 393. Mimòsa ebúrnea, Lam. dict. 1. p. 18. A. Capénsis, Burch. trav. 189. with a figure. Mimòsa Orfóta, Forsk. descr. 177. Mimòsa Capénsis, Burm. fl. cap. prod. 27.—Pluk. phyt. 121. f. 4. with white spikes. Young branches almost unarmed. Flowers yellow, polyandrous. Legume unknown. There is a variety of this species bearing 1-3 glands on the petiole, either beneath or between the pairs of pinnæ. Spines in pairs, white, purple at the top.

Horrid Acacia. Clt. 1823. Shrub.

175 A. ebu'rnea (Willd. spec. 4. p. 1081.) spines twin, connate, and are, as well as the branches and leaves, glabrous; leaves with 4-8 pairs of pinnæ, each pinna bearing 6-12 pairs of oblong small leaflets, with a gland situated on the petiole between the lower pair of pinnæ; heads of flowers pedunculate, crowded, axillary. ♄. S. Native of the East Indies, in woods. Roxb. cor. 2. t. 199. Flowers yellow, polyandrous. Legume linear, a little twisted, 8-10-seeded. Spines white, 1-2 inches long.

Ivory-thorned Acacia. Clt. 1792. Shrub 5 to 6 feet.

176 A. tortuo'sa (Willd. spec. 4. p. 1083.) spines twin, connate, and are, as well as the branches and petioles, pubescent; leaves with 2-6 pairs of pinnæ, each pinna bearing 12-16 pairs of leaflets, with a gland between the lower pair of pinnæ, and sometimes between the extreme pair; heads of flowers solitary, axillary; legumes compressed, thickish, pubescent, rather corniculate. ♄. S. Native of Jamaica, in sandy fields, and of the island of St. Thomas. Mimòsa tortuòsa, Lin. spec. 1505. Swartz, obs. 391. but not of Burm. Spines ½ inch long, white, downy at the base. Legumes with fleshy juicy valves. Heads of flowers yellow.

Twisted Acacia. Clt. 1824. Shrub 4 to 6 feet.

177 A. Burmannia'na (D. C. prod. 2. p. 461.) spines twin, glabrous; branches angular, smoothish; petioles pubescent; leaves with 6 pairs of pinnæ, each pinna bearing 15-20 pairs of leaflets; gland small, petiolar; heads of flowers solitary, on long axillary peduncles. ♄. S. Native of the East Indies. Mimòsa tortuòsa, Burm. fl. ind. p. 224. Heads of flowers larger than those of *M. tortuòsa*. Legume unknown.

Var. β; peduncles 3-together, axillary. ♄. S. Native of the East Indies. Mimòsa cæ'sia, Burm. fl. ind. 224. but not of Lin. A. Ceylánica sarmentosa flore luteo globoso, Burm. zeyl. p. 3.

Burmann's Acacia. Clt. 1818. Shrub 4 to 6 feet.

178 A. ve'ra (Willd. spec. 4. p. 1085.) spines twin; branches and leaves glabrous; leaves with 2 pairs of pinnæ, each pinna bearing 8-10 pairs of oblong-linear leaflets, with glands on the petioles, one between each pair of pinnæ; heads of flowers usually twin, pedunculate, axillary; legume (ex Willd.) moniliform. ♄. S. Native of Africa, from Senegal to Egypt. Mimòsa Nilótica, Lin. spec. 1506. but not of hort. cliff. Woodv. med. bot. 187. t. 67.—Lob. icon. 2. p. 95. f. 1.—Hern. mex. 866. f. 1. Gommier rouge, Adans. Branches and spines red. Flowers yellow. This is the tree which yields the gum-arabic of the shops, and succus acàciæ. According to Hasselquist the Arabs call it *chasad*. The gum is gathered in vast quantities from the trees growing in Arabia Petræa, near the north bay of the Red Sea at the foot of mount Sinai; this gum is called by dealers Thur or Thor, which is the name of the harbour in the north bay of the Red Sea, thereby distinguishing it from gum-arabic. The gum-thur is also more pellucid and white, whereas gum-arabic is of a brown or dirty yellow colour, and generally opaque.

Gum-arabic is a concrete juice, which exudes from various species of *Acàcia*, but especially from *A. vèra*, *A. Arábica*, and *A. Sénegal*, natives of the sandy deserts of Africa, Arabia, and other parts of Asia. It either exudes spontaneously or from incisions made in the bark, and afterwards hardens in the air. The barks of all the species are highly astringent, and some are used in India for tanning. There are two kinds of gum found in the shops in this country, and often sold promiscuously, but distinguished in commerce by the names of gum-arabic and East India gum. Gum-arabic consists of roundish transparent tears, colourless, or of a yellowish colour, without smell or taste, and almost perfectly soluble in water. The pieces which are most transparent and have least colour are reckoned the best. They are sometimes selected from the gum-arabic and sold for about double the price, under the name of picked gum. The East India gum is darker coloured than gum-arabic, and is not so readily soluble in water. Gum-thur, the produce of *Acàcia Arábica*, is almost colourless, and resembles the picked gum, and gum-senegal resembles the East India gum.

About the middle of November, that is, after the rainy season, which begins early in July, a gummy juice exudes spontaneously from the trunk and principal branches. In about 15 days it thickens in the furrow down which it runs, either into a vermicular shape, or more commonly assuming the form of round or oval tears, about the size of a pigeon's egg, of different colours, as they belong to the white or red gum tree. About the middle of December the Moors encamp on the borders of the forest, and the harvest lasts 5 weeks. The gum is packed in very large sacks of tanned leather, and brought on camels and bullocks to certain ports, where it is sold to the French and English merchants. Mr. Jackson, in his account of the empire of Morocco, informs us, that from Mogodor they export two sorts of gum, one is common gum-arabic, the other finer, called gum-soudan, brought from Tumbuctoo by the caravans. He also says that the gum called Morocco or Barbary-gum, is produced from a thorny tree called *Attaleh*. It yields most gum during the parching heat of July and August, and the hotter the weather, and the more sickly the tree appears, the more gum it yields.

The gum is highly nutritious. During the whole time of the gum harvest, of the journey, and of the fair, the Moors of the desert live almost entirely upon it, and experience has proved that six ounces are sufficient for the support of an adult during twenty-four hours. The characters generally given of gum as a vegetable principle belong only to fine gum-arabic, which is transparent and colourless, easily reduced to powder, without smell, and of a slightly sweetish taste. The solution of gum in water constitutes mucilage; it is thick and adhesive, and soon dries when exposed to the air. Gum is also soluble in weak acids, but is totally insoluble in alcohol. Gum is very little disposed to spontaneous decomposition. By oxygenizement with nitric acid it forms successively mucic, malic, and oxalic acid; with oxymuriat acid it forms citric acid. By exposure to heat it does not melt, but softens, swells, and becomes charred.

In medicine gum-arabic possesses the powers of a mucilaginous demulcent in a high degree. It is useful in all cases where there seems to be a natural deficiency of mucus in the intestinal canal; dissolved in milk, barley-water, or almond emulsions, it removes tenesmus. It is useful in an irritable state of the respiratory passages in catarrh, hoarseness, and cough; for this purpose it may be either administered in substance as a troche, or in a strong solution, and may be combined with a little opium. It is also useful in salivation after mercury, or in small pox. Externally it is applied in powder to bleeding vessels of a small size as a styptic, operating by gluing them up. It is also used in solution as an injection in gonorrhœa.

True Acacia or Gum-Arabic-tree, or Egyptian-thorn. Clt. 1596. Tree 20 feet.

179 A. **Ara'bica** (Willd. spec. 4. p. 1085.) spines twin; branches and petioles pubescent; leaves with 4-6 pairs of pinnæ, each pinna bearing 10-20 pairs of oblong linear leaflets, with a gland on the petiole beneath the lower pair of pinnæ, and usually with one between the upper pair; heads of flowers pedunculate, axillary, usually 3-together; legume moniliform. ♄. S. Native of the East Indies, Senegal, Egypt, and Arabia. Mimòsa Arábica, Lam. dict. 1. p. 19. Roxb. cor. 2. t. 149. A. Nilótica, Delil. ill. fl. ægypt. p. 31. Legume at length smooth. Flowers yellow, polyandrous. This is the tree from which the white transparent gum-arabic, called gum-thur, is obtained; the brown or common gum-arabic being the produce of the preceding species. The wood is strong, tough, and durable, and makes excellent knees and crooked timber in ship building. The bark is astringent and is used for tanning leather, and to dye various shades of brown. A decoction of the bark is used as a substitute for soap. According to Dr. Roxburgh, a large portion of East India gum is also obtained from this species. Perhaps the Arabian plant is distinct from the East Indian one.

Arabian Acacia or Gum-thur-tree. Clt. 1820. Tr. 30 to 40 ft.

180 A. **hebe'clada** (D. C. monsp. p. 73.) spines twin; branches, petioles, and peduncles pubescent, and rather hispid; leaves with 3-5 pairs of pinnæ, each pinna bearing 10 pairs of oblong-linear, glabrous leaflets; gland petiolar; heads of flowers pedunculate, 2-3-together, axillary. ♄. G. Native of the south of Africa. A. stolonífera, Burch. cat. no. 2267. The heads of flowers are very like those of *A. Farnesiàna,* but without scent.

Young-branched Acacia. Clt. 1816. Shrub 3 to 6 feet.

181 A. **Mauroce'nia** (D. C. cat. hort. monsp. p. 74.) spines twin; branches, petioles, and peduncles pubescent; leaves with 3-8 pairs of pinnæ, each pinna bearing 10-20 pairs of oblong, linear, glabrous leaflets, with a gland on the petiole beneath the lower pair of pinnæ; heads of flowers solitary or 2-4-together, axillary, pedunculate. ♄. G. Native of Morocco. Mimòsa Maurocènia, Desf. cat. 181. Heads of flowers white.

Moor's Acacia. Shrub 4 to 6 feet.

182 A. **Farnesia'na** (Willd. spec. 4. p. 1083.) spines twin; tops of branches, petioles, and peduncles rather pubescent; leaves with 5-8 pairs of pinnæ, each pinna bearing from 15-20 pairs of linear glabrous leaflets, with a gland on the petiole between the lower pair of pinnæ, and usually between the extreme pair; heads of flowers axillary, usually twin, on unequal peduncles; legume terete, rather attenuated at both ends. ♄. G. Native of St. Domingo, but now cultivated in the south of Europe and the north of Africa. Ald. farn. p. 2. 4. and 7. with a figure. Mimòsa Farnesiàna, Lin. spec. 1506. Duham. ed. nov. 2. p. 28. Mimòsa scorpioìdes, Forsk. Heads of flowers yellow, sweet-scented, sessile when in a young state, but at length becoming pedunculate. This species of *Acàcia* has been dispersed through most parts of Europe, has been made familiar to the Italian gardens since it was introduced to the Farnese garden in 1616, and is cultivated in great plenty in Spain and Portugal. In Italy it is called *gazia.*

Var. β, pedunculàta (Willd. spec. 4. p. 1084.) branches and petioles hardly pubescent; peduncles a little longer than those of the species, scarcely glabrous at the apex. ♄. S. Native of Java and Timor. Perhaps this is hardly different from A. Giráffæ of Sieb. pl. exsic. seneg. no. 45. which only differs from Willdenow's specimen in the situation of the glands.

Var. γ, curvispìna (D. C. prod. 2. p. 462.) spines somewhat incurved; leaves with 2 pairs of pinnæ; leaflets ovate. . Farnesiàna, Coll. hort. rip. p. 2. Perhaps a distinct species.

Farnesian Acacia. Fl. July, Aug. Clt. 1656. Shrub 6 to 10 feet.

183 A. **parvifo'lia** (Willd. spec. 4. p. 1086.) spines stipular; branches glabrous; petioles pubescent; leaves with 5-9 pairs of pinnæ, each pinna bearing 10-20 pairs of small linear leaflets, with a gland situated on the petiole beneath the lower pair of pinnæ; heads of flowers axillary, solitary, pedunculate. ♄. S. Native of the West Indies, in sandy places by the sea side. Mimòsa parvifòlia, Swartz, fl. ind. occ. 2. p. 984. Mimòsa Antillàrum, Poir. suppl. 1. p. 80. Mimòsa Mangénsis, Jacq. amer. 267. ? The spines, according to Jacquin, are stipular and distinct, but according to Swartz they are solitary under the branchlets. Heads of flowers white and green, void of scent.

Small-leaved Acacia. Tree 20 feet.

184 A. **a'lba** (Willd. ex Steud. nom. phan. 1. p. 1.) spines stipular; leaves with 7-10 pairs of pinnæ, each pinna bearing 16-20 pairs of leaflets; heads of flowers globose, disposed in a panicle; legumes compressed, linear, tomentose. ♄. S. Native of the East Indies. Mimòsa álba, Roxb. ex Rottl. et Willd. nov. act. nat. cur. berol. 1813. vol. 1. p. 208. Heads of flowers white.

White Acacia. Tree 20 feet.

185 A. **a'lbicans** (Kunth, mim. 87. t. 27. nov. gen. amer. 6. p. 272.) spines twin; brânchlets and petioles pubescent; leaves with 8-9 pairs of pinnæ, each pinna bearing 19-32 pairs of oblong, linear glabrous leaflets, with glands on the petiole, one between the superior and another beneath the inferior pair of pinnæ; heads 2-5, aggregate, rising in racemes from the axils of the leaves. ♄. S. Native of Mexico, on the sea shore near Campeachy. Flowers white, polyandrous. Legume unknown.

Whitish Acacia. Shrub.

186 A. **leucophlœ'a** (Roxb. cor. 2. t. 150.) spines twin; branches, leaves, and peduncles glabrous; leaves with 8-12 pairs of pinnæ, each pinna bearing 20-30 pairs of linear-oblong leaflets, with a gland on the petiole between the lower and higher pairs of pinnæ; heads of flowers racemose; the racemes disposed in a terminal panicle. ♄. S. Native of Coromandel, on dry mountains. Flowers pale yellowish, polyandrous. Legume linear, compressed, rather falcate. The specimen in Willdenow's

herbarium, under the name of *A. leucophlœ'a*, has the branches and petioles puberulous, and the leaflets rather ciliated. The bark is very astringent, and the natives distil an ardent spirit from it, mixed with palm wine and a little coarse sugar.

White-juiced Acacia. Tree.

187 A. COCHLIACA'NTHA (Humb. et Bonpl. in Willd. spec. 4. p. 1081.) spines twin, compressed, concave; branches glabrous; petioles and peduncles pubescent; leaves with 9-10 pairs of pinnæ, each pinna bearing 19-24 pairs of linear, very minute, ciliated leaflets; rachis of leaves bearing 4 glands; heads of flowers axillary, twin, pedunculate. ♄. S. Native of Quito, near Guayaquil, Kunth, mim. 93. t. 29. nov. gen. amer. 6. p. 274. Flowers white, polyandrous. Legume unknown.

Twisted-spined Acacia. Shrub 6 to 10 feet.

188 A. HÆMATÓXYLON (Willd. enum. 2. p. 1056.) spines twin, slender, and are, as well as the branches, glabrous; branchlets, leaves, peduncles, and flowers clothed with hoary velvety down; leaves with 8-16 pairs of pinnæ, each pinna bearing 18-24 pairs of very minute, obtuse, crowded leaflets, with a gland below or between the lower pair of pinnæ; heads of flowers axillary, 2-3 together, pedunculate. ♄. G. Native of the Cape of Good Hope. A. atomiphýlla, Burch. trav. 1. p. 341. cat. no. 1685 and 2449. Leaflets so much crowded as to appear joined together. Legume, according to Burchell, tomentose, linear, and indehiscent.

Red-wooded Acacia. Clt. 1816. Shrub 2 to 3 feet.

189 A. TOMENTO'SA (Willd. spec. 4. p. 1087.) spines twin; branches, petioles, peduncles, and under side of leaves tomentose; leaves with 10 pairs of pinnæ, each pinna bearing 20 pairs of linear obtuse leaflets, with a gland on the petiole below the pinnæ, and one between each of the extreme pairs of leaflets; heads of flowers axillary, aggregate, pedunculate. ♄. S. Native of the East Indies. Mimòsa Klèinii, Poir. suppl. 1. p. 82. Perhaps the same as *Mimòsa cavàly-toòma*, Roxb. which is the same as *Mimòsa tomentòsa*, Rottl. nov. act. nat. cur. 1813. p. 208. of which it is said that the peduncles are bracteate, and that the legumes are involute and compressed.

Tomentose Acacia. Clt. 1816. Tree 15 to 20 feet.

190 A. I'NDICA (Desv. journ. bot. 1814. 1. p. 69.) spines twin; leaves with 12-15 pairs of pinnæ, each pinna bearing 15-18 pairs of oblong-linear obtuse leaflets, which are pilose, as well as the petioles, when examined by a lens; heads of flowers axillary. ♄. S. Native of the East Indies. Mimòsa I'ndica, Poir. suppl. p. 80. Pers. ench. 2. p. 266. Habit of *A. Farnesiàna*. Branches terete, brown.

Indian Acacia. Clt. 1800. Tree 20 feet.

191 A. PUNCTA'TA (Humb. et Bonpl. in Willd. spec. 4. p. 1084.) spines twin; leaves with 8-12 pairs of pinnæ, each pinna bearing about 25-30 pairs of linear, obtuse, ciliated leaflets, with an urceolar gland at the base of the petiole; heads of flowers axillary, usually twin; peduncles tomentose. ♄. S Native of South America. Mimòsa atomària, Poir. suppl. 1. p. 81. Like A. Farnesiàna. Legume unknown.

Dotted Acacia. Tree.

192 A. MACRACA'NTHA (Humb. et Bonpl. in Willd. spec. 4. p. 108.) spines twin, lanceolate, compressed; branchlets and petioles pubescent; leaves with 14-18 pairs of pinnæ, each pinna bearing 30 pairs of oblong-linear ciliated leaflets, with a gland between the ultimate pair of pinnæ, and 2 or 3 between the pairs of leaflets; heads of flowers axillary, 2-8 together, pedunculate. ♄. S. Native of Quito, near Guayaquil. Kunth, mim. 90. t. 28. nov. gen. amer. 6. p. 273. Flowers yellow. Spines very long. Petiole furnished with a gland at the base.

Long-spined Acacia. Tree large.

193 A. MACRACANTHOÌDES (Bert. in herb. Balb. D. C. prod. 2. p. 463.) spines twin, terete; branches, petioles, and peduncles pubescent; leaves with 12-14 pairs of pinnæ, each pinna bearing about 25 pairs of oblong-linear glabrous leaflets, with a gland on the petiole beneath the lower pair, and one between the extreme pair of pinnæ; heads of flowers twin, axillary, pedunculate. ♄. S. Native of Jamaica. Very like the preceding species.

Macracantha-like Acacia. Clt. 1820. Tree.

194 A. SIEBERIA'NA (D. C. prod. 2. p. 463.) spines twin, terete, rather connate at the base, and are, as well as the branches, glabrous; leaves with 15-20 pairs of pinnæ, each pinna bearing 25-30 pairs of elliptic-oblong, obtuse, rather ciliated leaflets; heads of flowers globose, twin; peduncles twice the length of the heads, and are, as well as the petioles, puberulous. ♄. S. Native of Senegal. A. flexuòsa affìnis, Sieb. pl. exsic. seneg. no. 43. but it differs from *A. flexuòsa* in the spines being white, not brown, as in that species, and in the peduncles being twice the length, and fewer.

Sieber's Acacia. Tree.

195 A. FLEXUO'SA (Humb. et Bonpl. in Willd. spec. 4. p. 1082.) spines twin, connate; leaves with 16 pairs of pinnæ, each pinna bearing 25 pairs of linear, obtuse, ciliated leaflets, with a depressed gland above the base of the petiole, and one between the extreme pair of leaflets; heads pedunculate, 3-6-together, axillary, about the length of their own peduncles. ♄. S. Native of South America, near Cumana. H. B. et Kunth, nov. gen. amer. 6. p. 271. Spines brown, shining. Legume unknown.

Var. β, ambígua (D. C. prod. 2. p. 463.) spines shorter than the peduncles. ♄. S. Native of Guadaloupe. Spines 3 lines long. Peduncles 5-6-lines long. Legumes glabrous, straight. thickish. Perhaps a proper species.

Flexuous Acacia. Clt. 1824. Shrub.

196 A. OBTU'SA (Humb. et Bonpl. in Willd. spec. 4. p. 1087.) spines twin; leaves with 16-20 pairs of pinnæ, each pinna bearing many pairs of glabrous, ciliated, linear leaflets, with a gland at the base of the petiole, and one on the petiole between each of the 2 extreme pairs of pinnæ; legume linear, arched, obtuse, glabrous. ♄. S. Native of Caraccas, ex Kunth, on the banks of the Orinoco, ex Willd. H. B. et Kunth, nov. gen. amer. 6. p. 272.

Obtuse-leafletted Acacia. Tree.

197 A. SUBINE'RMIS (Bert. in herb. Balb. D. C. prod. 2. p. 463.) spines twin, subulate, short, sometimes wanting; branches, petioles, and peduncles pubescent; leaves with 30-40 pairs of pinnæ, each pinna bearing 30-40 pairs of linear-oblong, glabrous leaflets, with 2 glands beneath the lower pair of pinnæ, and 2 or 4 between the ultimate pairs of pinnæ; heads of flowers pedunculate, 2-3-together, axillary. ♄. S. Native of Jamaica. Flowers yellow. Legume linear, flat, glabrous, 6-7-seeded.

Almost-unarmed Acacia. Tree.

* * *Prickles stipular, twin, usually also petiolar, and along the ribs of the legume. Stamens* 10.

198 A. ACANTHOCA'RPA (Willd. enum. 1057.) stipular; prickles twin, hooked; petioles glandless, prickly; leaves with 6-8 pairs of pinnæ, each pinna bearing 6-15 pairs of oblong, pubescent leaflets; heads of flowers axillary, twin, pedunculate; legumes flat, compressed, falcate, prickly on the rib on both sides. ♄. S. Native of New Spain. Mimòsa aculeaticárpa, Ort. dec. 134. A. aculeaticárpa, Lag. nov. gen. et spec. 16. Flowers dirty white, or rather flesh-coloured. Leaves irritable or sensible to the touch.

Var. β, uncinélla (D. C. prod. 2. p. 463.) petioles unarmed, bearing 1 gland at the base. Mimòsa uncinélla, Poir. suppl. 1. p. 80.

Spiny-fruited Acacia. Clt. 1822. Shrub 6 to 8 feet.

199 A. REVOLU'TA (Kunth, mim. 84. t. 26. nov. gen. amer. 6. p. 270.) stipular spines twin, straight; petioles unarmed; leaves with 2-3 pairs of pinnæ, each pinna bearing 8-12 pairs of oblong, ciliately-scabrous leaflets; heads axillary, 2-3-together, pedunculate; legumes flat, compressed, falcate, prickly on the exterior or convex suture. ♄. S. Native of Peru, at Caxamarca. Flowers white, but the petals are green.

Revolute-podded Acacia. Shrub 6 feet.

200 A. CAVE'NIA (Hook. in Beech, voy. append. bot. p. 21.) spines stipular, about half an inch long, twin, straight; petioles furnished with 1 obscure gland; leaves with usually about 5 pairs of pinnæ, each pinna bearing 9-10 pairs of linear-oblong leaflets, which are clothed with scabrous pubescence; peduncles axillary, aggregate; heads of flowers globose; flowers polyandrous. ♄. G. Native of Chili. Mimòsa Cavènia, Mol. chil. At Valparaiso the flowers are called *Flor d'Aroma*, and the tree *Espino* by the inhabitants. It is used for various purposes, especially as yielding the best charcoal.

Cavenia Acacia. Tree 20 feet.

201 A. DOMINGE'NSIS (Bert. ined. ex D.C. prod. 2. p. 464.) stipular spines hooked, sometimes wanting; petioles prickly, glandless; leaves with 4 pairs of pinnæ, each pinna bearing 7 pairs of elliptic-oblong, glabrous leaflets; heads of flowers 2-3-together, axillary, ultimate ones disposed in a branched panicle; legumes unarmed. ♄. S. Native of St. Domingo. Flowers white. Legume flat, compressed, quite glabrous, falcate, irregularly coarctate on one side.

St. Domingo Acacia. Tree.

202 A. ACANTHO'LOBA (Humb. et Bonpl. in Willd. spec. 4. p. 1089.) prickles scattered, hooked; petioles unarmed, pubescent; leaves with 3-4 pairs of pinnæ, each pinna bearing about 10-12 pairs of leaflets, which are pubescent beneath; heads of flowers almost sessile, racemose; legumes flat, membranous, prickly on both margins. ♄. S. Native of South America. H. B. et Kunth, nov. gen. amer. 6. p. 279. Flowers pale rose-coloured. Perhaps belonging to the following division.

Spiny-podded Acacia. Clt. 1823. Shrub 6 feet.

* * * *Rameal prickles scattered without order. Stems erect.*

203 A.? PSORA'LEA (D. C. prod. 2. p. 464.) rameal prickles scattered; petioles unarmed, but are beset with brown warts as well as the peduncles; leaves with 2-5 pairs of pinnæ, each pinna bearing about 7-8 pairs of oblong-linear, obtuse, glabrous leaflets; heads of flowers axillary, solitary, pedunculate. ♄. S. Native of Madagascar. Legumes unknown.

Scurfy-branched Acacia. Shrub.

204 A.? CONCI'NNA (D. C. prod. 2. p. 464.) rameal prickles scattered; branches clothed with velvety villi; petioles prickly, bearing 1 gland above the base; leaves with 5-6 pairs of pinnæ, each pinna bearing many pairs of linear-cultrate, ciliated leaflets; stipulas cordate, upper ones in the form of bracteas; heads of flowers disposed in a terminal panicle. ♄. S. Native of the East Indies. Mimòsa saponària, Roxb. in herb. Lamb. Mimòsa concínna, Willd. spec. 4. p. 1039. Legume unknown.

Neat Acacia. Clt. 1823. Tree.

205 A. TAMARINDIFO'LIA (Willd. spec. 4. p. 1092.) rameal prickles straight, scattered; leaves with 4-6 pairs of pinnæ, each pinna bearing 10-15 pairs of oblong, obtuse, quite glabrous leaflets; petioles rather prickly, and furnished with a gland at the base; stipulas cordate, upper ones in the form of bracteas; heads of flowers pedunculate, disposed in a panicle. ♄. S. Native of the West India islands and South America. Mimòsa tamarindifòlia, Lin. spec. 1509. Jacq. schœnbr. 3. t. 396.—Plum. ed. Burm. t. 7. Flowers white. Legume broad-linear, flat, straight.

Tamarind-leaved Acacia. Clt. 1774. Tree 40 feet.

206 A. GUADALUPE'NSIS (D. C. prod. 2. p. 464.) rameal and petiolar prickles very few, scattered, and recurved; leaves with 7-9 pairs of pinnæ, each pinna bearing 15-20 pairs of oblong-linear, glabrous leaflets; petioles glandless; heads of flowers pedunculate, disposed in a terminal panicle. ♄. S. Native of Guadaloupe. Flowers yellow, polyandrous. Legumes flat, glabrous, on short stipes, 3-4 inches long, and 9 lines broad.

Guadaloupe Acacia. Tree or shrub.

207 A. I'NTSIA (Willd. spec. 4. p. 1091.) rameal as well as petiolar prickles scattered and recurved; leaves with 6 pairs of pinnæ, each pinna bearing about 12 pairs of incurved leaflets, with a gland between the lower pairs of leaflets; prickles shorter than the stipulas; heads of flowers pedunculate. ♄. S. Native of the East Indies.—Rheed. mal. 6. t. 4.—Pluk. phyt. 122. f. 2. Mimòsa I'ntsia, Lin. spec. 1508. *I'ntsi* is the Malabar name of the tree.

Intsia Acacia. Clt. 1778. Tree 20 feet.

208 A. INTSIOI'DES (D. C. prod. 2. p. 464.) rameal as well as petiolar prickles scattered and recurved; leaves with 8-10 pairs of pinnæ, each pinna bearing about 25 pairs of linear-oblong, somewhat incurved leaflets, with a gland at the base of the petiole; heads of flowers pedunculate, aggregate, somewhat panicled, with the branches between the flowers unarmed. ♄. S. Native country unknown. Leaves and branches glabrous. Heads of flowers about the size of those of *A. Farnesiàna*. It has very much the appearance of the preceding species and to the figure of Rheede, and it differs at first sight from the following in heads of flowers being larger.

Intsia-like Acacia. Tree.

209 A. PENNA'TA (Willd. spec. 4. p. 1090.) rameal as well as petiolar prickles scattered and recurved; leaves with 8-16 pairs of pinnæ, each pinna bearing 20-30 pairs of linear-oblong leaflets, with a depressed gland at the base of the petiole; heads of flowers on short peduncles, aggregate, disposed in a terminal prickly panicle. ♄. S. Native of Ceylon (Burm. zeyl. t. 1.), and Madagascar (Commerson). Mimòsa pennàta, Lin. spec. 1507. The whole plant is glabrous. Heads of flowers yellow, smaller than those of *A. Farnesiàna*. Legume unknown. Perhaps different from *A. pterophýlla* of Hoffmans. verz. 1824. p. 207. which has glands between the exterior pairs of pinnæ. In Cochin-china the bark is converted into a sort of tow, which is used to fill up cracks in houses as well as in boats.

Feather-leaved Acacia. Clt. 1773. Shrub.

210 A. WESTIA'NA (D. C. prod. 2. p. 464.) rameal as well as petiolar and peduncular prickles recurved; leaves with 8 pairs of pinnæ, each pinna bearing 15-27 pairs of linear acute leaflets, with a gland at the base of the petiole, and one between the outer pair of leaflets; heads of flowers disposed in a terminal panicle; pedicels from 2-5, rising from the same dot or centre. ♄. S. Native of the island of Santa Cruz. Mimòsa paniculàta, West. beschr. 312. ex Vahl. ecl. amer. 13. p. 39. It differs from *A. paniculàta* of Willd. It is perhaps the same as *Mimòsa tenuifòlia*, Lin. spec. 771. but the description is not sufficient to decide this point.

West's Acacia. Tree.

211 A. CÆ'SIA (Willd. spec. 4. p. 1090.) rameal as well as petiolar prickles scattered and recurved; leaves with 5-7 pairs of pinnæ, each pinna bearing 12-16 pairs of oval-lanceolate leaflets, with an oblong gland above the base of the petiole; heads of flowers pedunculate, disposed in a terminal panicle; branches of panicle prickly. ♄. S. Native of the East Indies. Pluk. t. 330. bad. Mimòsa cæ'sia, Lin. spec. 1507. but not of Burm. Legume unknown.

Grey Acacia. Clt. 1773. Tree.

212 A. CENTROPHY'LLA (D. C. prod. 2. p. 465.) prickles of the branches, petioles, and panicles numerous, scattered, and re-

curved; petioles glandless, bearing subulate prickles between the pairs of pinnæ; leaves with 6-9 pairs of pinnæ, which are callous and bistipellate at the base, each pinna bearing 8-12 pairs of oblong-linear, mucronate, glabrous leaflets, which are obtuse at both ends; heads of flowers pedunculate, disposed in a terminal raceme. ♄. S. Cultivated in the gardens of Jamaica, where it was observed by Bertero. Flowers white, decandrous. A very distinct species, but the legume is unknown.

Spur-leaved Acacia. Clt. 1818. Tree 20 feet?

213 A. COURRANTIA'NA (D. C. prod. 2. p. 465.) prickles on the branches, petioles, and panicles, few and recurved; petioles glandless; leaves with 8-10 pairs of pinnæ, each pinna bearing 15-20 pairs of linear-oblong leaflets; heads of flowers pedunculate, disposed in terminal and axillary racemes. ♄. S. Native country unknown, but is cultivated in the gardens of Teneriffe. The whole plant is of a greyish or greenish glaucous colour, and is related to *A. cæ'sia.*

Courrant's Acacia. Clt. 1818. Tree.

214 A. RIPA'RIA (H. B. et Kunth, nov. gen. amer. 6. p. 276.) prickles scattered, hooked; leaves with 10-11 pairs of pinnæ, each pinna bearing 30-50 pairs of linear, ciliated leaflets, with a gland above the base of the common petiole, and one between each of the 2 ultimate pairs of leaflets; heads axillary, solitary; legumes linear, flat, rather hooked at the apex. ♄. S. Native at the confluence of the Amazon and Chamaya. Flowers unknown.

River-side Acacia. Tree very tall.

215 A. STRIA'TA (Humb. et Bonpl. in Willd. spec. 4. p. 1089.) rameal prickles scattered, erect; branches striated, and are as well as petioles pubescent; leaves with 9 pairs of pinnæ, each pinna bearing 13-16 pairs of leaflets, which are rather pilose beneath; heads of flowers pedunculate, disposed in a terminal panicle; legume compressed, rather falcate, obtuse, beset with a few short hairs. ♄. S. Native of South America. Heads of flowers small.

Striated-branched Acacia. Shrub.

216 A. MEGALADE'NA (Desv. journ. bot. 1814. 1. p. 69.) rameal as well as petiolar prickles scattered and minute; leaves with many pairs of pinnæ, each pinna bearing many pairs of leaflets, which are linear and glabrous, with a peltate gland above the base of the petiole; heads of flowers pedunculate, disposed in racemes; legumes compressed, rather falcate, quite glabrous. ♄. S. Native of the East Indies.

Large-glanded Acacia. Tree.

217 A. ARROPHU'LA (D. Don, prod. fl. nep. 247.) rameal as well as petiolar prickles recurved; petiole furnished in the middle with a large depressed broad gland; leaves with many pairs of pinnæ, each pinna bearing many pairs of linear, unequal-sided, obtuse leaflets, which are ciliated as well as the rachis; panicle terminal; heads of flowers globose, solitary, or 5, pedunculate. ♄. S. Native of Sirinagur, where it is called *Arroophul* by the natives.

Arroophul Acacia. Clt. 1818. Tree 20 feet.

**** *Prickles scattered. Stem climbing.*

218 A. SCA'NDENS (Willd. enum. 1057.) prickly; stem climbing, sulcate, tomentose; leaves with many pairs of pinnæ, each pinna bearing many pairs of leaflets, with a gland between each of the 10 or 12 ultimate pairs of pinnæ; heads of flowers panicled, axillary, and terminal. ♄. ◡. S. Native of Brazil. The rest unknown.

Scandent Acacia. Clt. 1780. Shrub cl.

219 A.? GUILANDÌNÆ (D. C. prod. 2. p. 465.) rameal as well as petiolar prickles small, and recurved; stem sub-scandent; branches and leaves glabrous; leaves with 4 pairs of pinnæ, each pinna bearing 2 pairs of leaflets, with a gland under the ultimate pair of leaflets; heads of flowers pedunculate, disposed in a loose terminal panicle. ♄. ◡. S. Native of Cayenne. Heads of flowers small, yellow. Legume unknown.

Guilandina-like Acacia. Clt. 1820. Shrub cl.

220 A. SARMENTO'SA (Desv. journ. bot. 1814. 1. p. 70.) quite glabrous; rameal and petiolar prickles scattered and hooked; leaves bipinnate, with 7 pairs of pinnæ, each pinna bearing many pairs of obtuse, linear, somewhat imbricate leaflets, with a minute gland above the base of the petiole. ♄. S. Native country, flowers, and fruit unknown. Mimòsa sarmentòsa, Desf. cat. hort. par. 180. Pers. ench. 2. p. 265.

Sarmentose Acacia. Clt. 1820. Shrub cl.

§ 2. *Unarmed trees or shrubs.*

* *Trichòdeæ* (from θριξ τριχος, *thrix trichos,* hair; in reference to the hairy anthers). *Anthers hairy. Stigma pencil-formed. Perhaps a proper genus.*

221 A. TRICHO'DES (Willd. spec. 4. p. 1063.) unarmed, glabrous; leaves with 2-3 pairs of pinnæ, each pinna bearing 3-5 pairs of ovate, acute leaflets, with an oblong, erect gland between the lower pair of pinnæ; heads of flowers twin, pedunculate, axillary. ♄. S. Native of Caraccas, ex Jacq., and about Lima, ex Dombey. Mimòsa trichòdes, Jacq. schœnbr. t. 394. Branches dotted. Legume flat, compressed, linear, rather obtuse at both ends, and somewhat mucronate at the apex, glabrous. Seeds flat, compressed. Flowers white.

Hairy-anthered Acacia. Clt. 1818. Shrub 6 to 10 feet.

222 A. PSEUDOTRICHO'DES (D. C. prod. 2. p. 466.) unarmed, glabrous; leaves with 2 pairs of pinnæ, each pinna bearing 2-4 pairs of leaflets; petioles glandless; heads of flowers 3-5, axillary, pedunculate. ♄. S. Native of St. Domingo. Legume like that of the preceding species, linear, flat, glabrous, somewhat stipitate at the base. Branches glabrous.

False Trichodes Acacia. Shrub.

* * *Anthers glabrous. Stigma simple. Julibrissinæ.*

223 A. FORMO'SA (Kunth, mim. p. 102. t. 32. nov. gen. et spec. 6. p. 278.) unarmed, glabrous; leaves with 2 pairs of pinnæ, each pinna bearing 5-6 pairs of obovate-elliptic leaflets; petioles glandless; stipulas large, oblong, obtuse; heads of flowers axillary, 2-5 on a common peduncle. ♄. S. Native of Mexico, near Guanaxuato. Flowers white, polyandrous. Legume unknown.

Beautiful Acacia. Clt. 1825. Shrub 6 to 12 feet.

224 A. NI'GRICANS (R. Br. in Ait. hort. kew. 4. p. 465.) unarmed, glabrous; leaves with 2 pairs of pinnæ, bearing 5-7 pairs of obovate-oblong, obtuse leaflets on each of the superior pinnæ, and 2 or 3 pairs on each of the lower pinnæ, with 1 or 2 glands on the petiole; stipulas subulate-setaceous; heads of flowers solitary. ♄. G. Native of New Holland, on the south-west coast. Mimòsa nígricans, Labill. nov. holl. 2. t. 238. A. nígricans, Sims, bot. mag. 2188. The whole plant becomes black on drying. Legume linear, flat, straight, 6-7-seeded. Flowers yellow, polyandrous.

Blackish Acacia. Fl. May, Jul. Clt. 1803. Sh. 6 to 10 feet.

225 A. STRIGO'SA (Link. enum. 2. p. 444.) unarmed, pilose; leaves with 2 pairs of pinnæ, each pinna bearing 2-3 pairs of leaflets; stipulas somewhat setaceous, caducous; heads of flowers solitary. ♄. G. Native of New Holland, on the south-west coast. A. ciliàta, R. Br. in hort. kew. 5. p. 465. but not of Willd. Flowers yellow.

Strigose Acacia. Fl. Mar. Ju. Clt. 1803. Sh. 6 to 10 ft.

226 A. UNGULA'TA (Desv. journ. bot. 1814. 1. p. 68.) unarmed; branches and branchlets pubescent; leaves with usually 3 pairs of pinnæ, each pinna bearing several pairs of linear, nearly glabrous leaflets; heads of flowers on long peduncles;

legumes mucronate, cartilaginous, thickened, ending in an incurved point. ♄. S. Native of the West Indies. The rest unknown.

Claw-podded Acacia. Shrub or tree.

227 A. VA'GA (Willd. spec. 4. p. 1066.) unarmed; leaves with 3 pairs of pinnæ; leaflets smoothish, with 3 pairs on each of the terminal pinnæ, and either 1 or 2 pairs on the lower pinnæ; heads of flowers pedunculate, 2 or 3-together, axillary. ♄. S. Native of Brazil. Mimòsa vàga, Lin. spec. 1503. exclusive of the country, and the synonyme of Breynius, which is evidently referrible to a species of *I'nga*.—Pis. bras. p. 80. f. 2. Marcg. bras. p. 111. f. 1.

Wandering Acacia. Clt. 1818. Tree.

228 A. MULTIFLO'RA (H. B. et Kunth, nov. gen. amer. 6. p. 277.) unarmed; leaves with 3 pairs of pinnæ, each pinna bearing 6-9 pairs of oblong, acute, glabrous leaflets; petioles glandless; racemes axillary, 2-5-together; heads in fascicles; stamens 15. ♄. S. Native of the eastern declivities of the Andes, near St. Felipe. Legume unknown.

Many-flowered Acacia. Tree 20 feet.

229 A. LE'BBEK (Willd. spec. 4. p. 1066.) unarmed, smoothish; leaves with 2-4 pairs of pinnæ, each pinna bearing about 6-8 pairs of oval, somewhat dimidiate leaflets, which are obtuse at both ends; petioles glandless; heads of flowers pedunculate, aggregate; flowers pedicellate. ♄. S. Native of Upper Egypt, but now cultivated in both the East and West Indies. Mimòsa Lébbek, Lin. spec. 1503. A. Hábbas, Link. enum. 2. p. 444.? but not of Delile. Cássia planisíliqua, Burm. ind. 96. but probably exclusive of the leaves. Legume broad-linear, flat, rather long, attenuated at both ends, 7-8-seeded.—Pluk. mant. 2. t. 331. f. 1. The Arabs call the tree *Læbach*. It is cultivated in gardens for the sake of the beauty and scent of the flowers.

Lebbek Acacia. Fl. Mar. June. Clt. 1823. Tree 20 feet.

230 A. PRO'CERA (Willd. spec. 4. p. 1063.) unarmed, smoothish; leaves with 4 pairs of pinnæ, each pinna bearing 5-8 pairs of ovate, acutish leaflets, with a depressed gland at the base of the petiole; heads of flowers pedunculate, disposed in a terminal panicle. ♄. S. Native of the East Indies. Mimòsa prócera, Roxb. cor. 2. t. 21. Flowers pale yellow, polyandrous. Stamens monadelphous. Legume flat, glabrous, attenuated at both ends, 6-7 inches long.

Tall Acacia. Clt. 1816. Tree 60 feet.

231 A. ODORATI'SSIMA (Willd. spec. l. c.) unarmed, smoothish; leaves with 3-4 pairs of pinnæ, each pinna bearing 10-12 pairs of oval-oblong leaflets, lower ones very minute, with a depressed gland at the base of the petiole, and one beneath the extreme pair of pinnæ; heads pedunculate, aggregate, forming a terminal panicle. ♄. S. Native of the coast of Coromandel. Mimòsa odoratíssima, Roxb. cor. 2. t. 120. Flowers pale yellow, very sweet-scented. Legume nearly like that of the preceding species.

Very-sweet-scented-flowered Acacia. Clt. 1790. Tr. 30 to 40 ft.

232 A. LEBBEKIOÌDES (D. C. prod. 2. p. 467.) unarmed, smoothish; leaves with 3-8 pairs of pinnæ, each pinna bearing 10-20 pairs of oval-oblong, glabrous leaflets; petioles puberulous, glandless; legumes flat, glabrous, 7-9-seeded. ♄. S. Native of the Island of Timor. Very nearly allied to *A. Lébbek*, but differs in the leaflets being narrower, more numerous, as well as in other respects.

Lebbek-like Acacia. Tree 30 feet.

233 A. LA'XA (Willd. spec. 4. p. 1069.) unarmed, glabrous; leaves with 4 pairs of pinnæ, each pinna bearing 12-24 pairs of linear-oblong leaflets, which are glaucous beneath; petioles beset with rusty villi; heads of flowers axillary, on long peduncles. ♄. S. Native of Caraccas. Branches terete, divaricate. Filaments purple. Legume compressed, narrowed at the base, 4 inches long.

Loose Acacia. Tree 15 to 20 feet.

234 A. SPECIO'SA (Willd. l. c.) unarmed, glabrous; leaves with 4-5 pairs of pinnæ, each pinna bearing 7-11 pairs of oval-oblong, obtuse, somewhat dimidiate leaflets, with a gland at the base of the petiole; heads 2-3-together, axillary, on long peduncles. ♄. S. Native of the East Indies. Mimòsa speciòsa, Jacq, coll. 1. p. 47. icon. rar. 1. t. 198. Flowers white, polyandrous.

Showy Acacia. Fl. Aug. Sept. Clt. 1742. Sh. 6 to 10 ft.

235 A. JUPU'NBA (Willd. l. c.) unarmed; leaves with 4-5 pairs of pinnæ, each pinna bearing 6-8 pairs of ovate, obtuse leaflets, which are clothed with hoary pubescence beneath; spikes of flowers somewhat capitate, axillary. ♄. S. Native of Para, in Brazil, where it is called *Jupunba*.

Jupunba Acacia. Tree.

236 A. BI'CEPS (Willd. spec. 4. p. 1075.) unarmed; leaves with 4-5 pairs of pinnæ, each pinna bearing about 16 pairs of distant, lanceolate, ciliated leaflets, with a gland on the petiole beneath the lower pair of pinnæ; heads of flowers axillary, twin, pedunculate. ♄. S. Native of Para, in Brazil. Very like *A. glaúca*, of which it is only a variety, according to Steudel.

Two-headed Acacia. Tree.

237 A. GLAU'CA (Willd. l. c.) unarmed, glabrous; leaves with 4-6 pairs of pinnæ, each pinna bearing about 12-15 pairs of linear, distant, acute leaflets, which are glaucous beneath; petiole downy, sometimes glandular beneath the lower pair of pinnæ; heads of flowers axillary, pedunculate, usually twin; legume nearly sessile. ♄. S. Native of South America. Mimòsa glaúca, Lin. spec. 504. Mill. fig. 4. t. 4.—Cat. car. 2. t. 42. Trew. ehret. t. 46. Flowers white, 5-parted, decandrous. Legume linear, flat, glabrous, acute at both ends, 4 inches long and 2 lines broad.

Glaucous Acacia. Fl. June, Jul. Clt. 1690. Sh. 5 to 10 ft.

238 A. LEUCOCE'PHALA (Link. enum. 2. p. 444.) unarmed, smoothish; leaves with 4-5 pairs of pinnæ, each pinna bearing 12-15 pairs of oblong-linear, acute leaflets; petioles downy, sometimes bearing a gland or glands beneath the lower pair of pinnæ; heads of flowers pedunculate, axillary, usually twin; legume standing on a stipe, which is about equal in length to the peduncle, when young it is clothed with velvety down. ♄. S. Native of South America. Mimòsa leucocéphala, Lam. dict. 1. p. 12. Flowers white. Very nearly allied to *A. glaúca*, and is often confused with it in gardens, but differs in the legume being broader, shorter, and standing on a long stipe.

White-headed Acacia. Fl. Ju. Aug. Clt. 1823. Sh. 5 to 10 ft.

239 A. LOMATOCA'RPA (D. C. prod. 2. p. 467.) unarmed, glabrous; leaves with 5 pairs of pinnæ, each pinna bearing 15 pairs of oblong rather falcate leaflets, with a gland between each pair of leaflets; legume flat, girded by a thickened margin. ♄. S. Native of Pondicherry. Mimòsa marginàta, Lam. dict. 1. p. 12. —Wàga, Rheed. mal. 6. t. 5. where the flowers drawn in the figure are loosely panicled, 4-parted, and polyandrous. Perhaps the same.

Fringe-podded Acacia. Clt. 1824. Tree 30 feet.

240 A. LATISI'LIQUA (Willd. spec. 4. p. 1067.) unarmed, glabrous; leaves with 5 pairs of pinnæ, each pinna bearing 10 pairs of elliptic obtuse leaflets; stipulas in the form of bracteas, obliquely cordate; heads of flowers pedunculate, aggregate, forming a terminal panicle. ♄. S. Native of South America. Mimòsa latisíliqua, Lin. spec. 1504.—Plum. ed. Burm. t. 6. Flowers white. Legume oblong, flat, acute at both ends, and standing on a long stipe.

Var. β, paucifoliola (D. C. prod. 2. p. 467.) leaves with 3-4 pairs of pinnæ, each pinna bearing 4-6 pairs of leaflets. ♄. S.

Native of St. Domingo. Flowers not seen, and therefore its affinity with the present species is rather doubtful.

Broad-podded Acacia. Fl. March, June. Clt. 1777. Shrub 6 to 10 feet.

241 A. PORTORICE'NSIS (Willd. l. c.) unarmed; leaves with 5 pairs of pinnæ, each pinna bearing 20 pairs of linear, obtuse, smoothish leaflets; petioles glandless, and are, as well as the branches, pubescent; heads of flowers 2-3-together, axillary; calyx with ciliated margins. ♄. S. Native of Porto-Rico. Mimòsa Portoricénsis, Jacq. icon. rar. t. 633. coll. 4. p. 143. A. álba, Hortul. Stamens with long white filaments.

Porto-Rico Acacia. Fl. June, Aug. Clt. 1824. Shrub 6 to 10 feet.

242 A. CARACCASSA'NA (Willd. l. c.) unarmed, smoothish; leaves with 4-5 pairs of pinnæ, each pinna bearing about 20 pairs of linear bluntish leaflets; petioles glandless, and are, as well as the branches, rather pubescent; heads of flowers pedunculate, 2-3-together, axillary, and somewhat terminal; calyxes with glandular margins. ♄. S. Native of Caraccas. Mimòsa Caraccassàna, Jacq. icon. rar. t. 632. coll. 4. p. 142. Stamens with purple filaments.

Caraccas Acacia. Clt. 1817. Shrub 6 to 12 feet.

243 A. LYCOPODIOI'DES (Desv. journ. bot. 1814. 1. p. 69.) unarmed; branches tetragonal; leaves with 3 pairs of pinnæ, each pinna bearing many pairs of minute rather pubescent leaflets; flowers in capitate spikes, on long peduncles; stipulas distinct, lanceolate, striated. ♄. S. Native country unknown. Mimòsa lycopodioìdes, Pers. ench. 2. p. 263. Poir. suppl. 1. p. 68.

Club-moss-like Acacia. Shrub.

244 A. LAMBERTIA'NA (D. Don, in bot. reg. t. 721.) unarmed; branches terete, and are, as well as the leaves, villous; leaves with 2-3 pairs of pinnæ, each pinna bearing 9-12 pairs of oval-oblong leaflets, which are obtuse at both ends; petiole glandless; heads of flowers 3-5-together, disposed in a raceme. ♄. S. Native of Mexico. Stamens 20-25, with purple exserted filaments, like those of *I'nga purpùrea*. Legume unknown.

Lambert's Acacia. Fl. May, Ju. Clt. 1818. Sh. 6 to 10 feet.

245 A. QUADRANGULA'RIS (Link. enum. 2. p. 445.) unarmed; branches tetragonal; leaves with 5 pairs of pinnæ, each pinna bearing many pairs of linear, acute, ciliated leaflets, the lower and outer ones the shortest; petioles pubescent, glandless; heads of flowers usually tern, pedunculate, axillary. ♄. S. Native country, as well as the legumes, unknown. Stipulas lanceolate, and are, as well as the peduncles, striated longitudinally. Filaments long, white.

Quadrangular-branched Acacia. Fl. June, July. Clt. 1825. Shrub 6 to 10 feet.

246 A. TETRAGO'NA (Willd. spec. 4. p. 1069.) unarmed, glabrous; branches tetragonal; leaves with 5-6 pairs of pinnæ, each pinna bearing 16-29 pairs of linear acute leaflets, the outer ones the largest; heads of flowers pedunculate, usually tern, axillary; legume linear, obtuse, with thickened margins. ♄. S. Native of Caraccas, in sand on the banks of rivers. Flowers white.

Tetragonal-branched Acacia. Clt. 1820. Shrub 6 to 8 feet.

247 A. DI'SCOLOR (Willd. spec. 4. p. 1068.) unarmed; leaves with 5 pairs of pinnæ, each pinna bearing 9-12 pairs of oblong, glabrous, acute leaflets, which are pale beneath; petioles glandular at the base, and are, as well as the branches, pubescent; heads of flowers pedicellate, disposed along the axillary peduncles in long racemes. ♄. G. Native of New Holland. Mimòsa díscolor, Andr. bot. rep. 235. Mimòsa botrycéphala, Vent. cels. t. 1. A. discolor, Sims, bot. mag. 1750. Branches nearly terete. Flowers yellow. Legume flat, broad-linear, obtuse, 2½ inches long, and 8-10 lines broad.

Discoloured-leaved Acacia. Fl. March, June. Clt. 1788. Shrub 6 to 10 feet.

248 A. ANGULA'TA (Desv. journ. bot. 1814. 2. p. 68.) unarmed, quite smooth; branches tetragonal; leaves with 5-7 pairs of pinnæ, each pinna bearing about 30 pairs of very narrow linear leaflets, with one perforated gland beneath the pinnæ, and one between each pair of pinnæ; heads of flowers pedicellate, disposed in long racemes along the axillary peduncles. ♄. G. Native of New Holland. A. súlcipes, Sieb. pl. exsic. nov. holl. no. 460. Heads of flowers small, yellow. Leaflets usually alternate. Legumes unknown.

Angular-branched Acacia. Fl. June, July. Clt. 1820. Tree 10 to 15 feet.

249 A. PUBE'SCENS (R. Br. in hort. kew. 5. p. 467.) unarmed; branches terete, hairy; leaves with 3-10 pairs of pinnæ, each pinna bearing 6-18 pairs of linear glabrous leaflets; petiole glandless; heads of flowers globose, pedicellate, disposed in racemes along the axillary peduncles. ♄. G. Native of New Holland, on the east coast. Mimòsa pubéscens, Vent. malm. t. 21. Sims, bot. mag. 1263. Sieb. pl. exsic. nov. holl. no. 466. Heads of flowers small, yellow. Legume unknown.

Pubescent Acacia. Fl. March, June. Clt. 1790. Shrub 6 to 10 feet.

250 A. FILI'CINA (Willd. spec. 4. p. 1072.) unarmed; branches terete, and are, as well as the petioles, glandless, and pilose; leaves with usually 6 pairs of pinnæ, each pinna bearing 50-70 pairs of linear, acute, ciliated leaflets; heads of flowers pedicellate, disposed in long racemes along the panicled peduncles. ♄. S. Native of Mexico. Mimòsa filicoìdes, Cav. icon. 1. t. 78. Mimòsa pteríeina, Poir. suppl. 1. p. 74. Flowers polyandrous. Legume linear, flat, pilose, with thickened margins.

Fern-like Acacia. Clt. 1825. Shrub 3 to 6 feet.

251 A. VILLO'SA (Willd. spec. 4. p. 1067.) unarmed; leaves with 5-6 pairs of pinnæ, each pinna bearing about 12 pairs of ovate leaflets, which are, as well as the branches, villous; petioles glandless; heads pedicellate, disposed in a terminal panicle. ♄. S. Native of Jamaica, on the mountains on the south side. Mimòsa villòsa, Swartz, fl. ind. occ. 2. p. 982. Flowers white. Legume short, flat, hairy.

Villous Acacia. Clt. 1806. Shrub 6 to 8 feet.

252 A. FRONDO'SA (Willd. spec. 4. p. 1076.) unarmed; leaves with 6 pairs of pinnæ, each pinna bearing 14 pairs of distant lanceolate leaflets, which are pubescent beneath, as well as the branches and petioles, with a gland between the inferior pair of pinnæ; heads of flowers axillary, pedunculate, solitary. ♄. S. Native of the East Indies. Legume linear, flat, with the margin rather repand on the outside.

Leafy Acacia. Clt. 1816. Tree.

253 A. OUYRARE'MA (D. C. prod. 2. p. 469.) unarmed; leaves with 6 pairs of pinnæ, each pinna bearing 30 pairs of oblong, obtuse, glabrous, 2-nerved leaflets, which are obliquely truncate at the base; petioles acutely trigonal or tetragonal, a little winged, bearing an oblong depressed gland at the base. ♄. S. Native of Guiana. Mimòsa Ouyrarèma, Aubl. guian. 946. exclusive of the synonyme. The Guiana name of the tree is *Ouyrarema*.

Ouyrarema Acacia. Tree.

254 A. STIPULA'CEA (D. C. prod. 2. p. 469.) unarmed; leaves with 5-7 pairs of pinnæ, each pinna bearing 20-30 pairs of oblong leaflets, which are pubescent beneath, as well as the petioles, peduncles, and branches; stipulas ovate, cordate, acute, large, permanent; heads of flowers pedunculate, somewhat corymbose. ♄. S. Native of Bengal. Mimòsa stipulàta, Roxb. hort. beng. p. 40. Legume linear, flat, glabrous, straight, 6 inches long, and 9 lines broad. Gland ovate, striated in the middle of the naked part of the petiole.

Large-*stipuled* Acacia. Clt. 1800. Tree 40 feet.

255 A. BIMUCRONA'TA (D. C. prod. 2. p. 469.) unarmed; branches, petioles, and pedicels pubescent; leaves with 6-8 pairs of pinnæ, each pinna bearing 28 pairs of oblong-linear glabrous leaflets, with 2 retrograde mucrones on the lower part of each pinna, and with an obsoletely villous gland between each pair of pinnæ; heads of flowers forming a loose terminal panicle. ♄. S. Native of Brazil. Legume unknown.

Two-pointed-leaved Acacia. Tree.

256 A. DIVARICA'TA (Willd. spec. 4. p. 1070.) unarmed, glabrous; leaves with 6-9 pairs of pinnæ, each pinna bearing 40 pairs of linear obtuse leaflets, with a convex sessile gland beneath the lower pair of pinnæ; stipulas semi-ovate, falcate; heads of flowers pedunculate, 1-3-together, axillary. ♄. S. Native of the East Indies. Flowers white, polyandrous. Mimòsa divaricàta, Jacq. schœnbr. t. 395. Legume unknown.

Divaricate Acacia. Clt. 1820. Tree.

257 A. FLA'VA (Spreng. in herb. Balb. D. C. prod. 2. p. 469.) unarmed, glabrous; leaves with 7-9 pairs of pinnæ, each pinna bearing 18-25 pairs of linear, mucronate, glabrous leaflets; petiole pubescent, with a gland at the base; legume flat, compressed, glabrous, obtuse, ending in a short mucrone, 8-10-seeded. ♄. S. Native of St. Martha. Flowers yellow.

Yellow Acacia. Tree.

258 A. UMBELLULI'FERA (Kunth, mim. p. 100. t. 31. nov. gen. amer. 6. p. 275.) unarmed; leaves with 7-10 pairs of pinnæ, each pinna bearing 17-37 pairs of linear ciliated leaflets; peduncles axillary, bearing numerous umbellules of flowers; flowers pedicellate. ♄. S. Native near the city of Mexico. Flowers white, polyandrous. Legume unknown.

Umbellule-bearing Acacia. Tree.

259 A. ARBO'REA (Willd. spec. 4. p. 1064.) unarmed; branches and petioles clothed with rusty velvety down; leaves with 7-12 pairs of pinnæ, each pinna bearing 16-18 pairs of oblong, dimidiate, glabrous leaflets, with a depressed gland on the petiole between each pair of pinnæ; heads of flowers 2-3-together, axillary, pedunculate. ♄. S. Native of Jamaica and Porto-Rico. Mimòsa arbòrea, Lin. spec. 1503. Swartz, obs. 390. Mimòsa filicifòlia, Lam. dict. 1. p. 12.—Pluk. phyt. 251. f. 2.—Sloan, hist. 2. t. 182. f. 1 and 2. Flowers of a pale flesh colour. The legume, according to Swartz, is nearly terete, arched, and twisted.

Tree Acacia. Clt. 1768. Tree 40 feet.

260 A. AMA'RA (Willd. spec. 4. p. 1074.) unarmed; branches, petioles, and peduncles clothed with velvety hairs; leaves with 8-10 pairs of pinnæ, each pinna bearing 20-25 pairs of linear, bluntish, glabrous leaflets; heads of flowers axillary, from 2-6-together, pedunculate. ♄. S. Native of the East Indies. Mimòsa amàra, Roxb. cor. 2. t. 122. Flowers yellow, polyandrous. The legume, according to Roxburgh, is linear, flat, acute, and 8-seeded. The bark is bitter and astringent.

Bitter Acacia. Clt. 1816. Tree 30 feet.

261 A. NE'MU (Willd. spec. 4. p. 1065.) unarmed; leaves with usually 9 pairs of pinnæ, each pinna bearing many pairs of acute dimidiate leaflets, with a gland at the base of the petiole; heads of flowers pedunculate, forming a terminal panicle; legumes linear, pubescent. ♄. G. Native of Japan. Mimòsa arbòrea, Thunb. fl. jap. 229. Banks, icon. Kœmpf. t. 19. Mimòsa speciòsa, Thunb. in Lin. soc. trans. 2. p. 336. The tree is called *Nemu* in Japan.

Nemu Acacia. Tree.

262 A. JULIBRI'SSIN (Willd. spec. 4. p. 1065.) unarmed, glabrous; leaves with 8-12 pairs of pinnæ, each pinna bearing about 30 pairs of dimidiate-oblong, acute, rather ciliated leaflets, with a depressed orbicular gland at the base of the petiole; heads of flowers pedunculate, forming a terminal somewhat corymbose panicle; legumes flat, membranous, glabrous. ♄. H. Native of the Levant. Mimòsa arbòrea, Forsk. descr. 177. Lam. dict. 1. p. 13. Mimòsa Julibríssin, Scop. del. 1. t. 8. Flowers white. Stamens flesh-coloured at the apex. The specific name is of Persian origin, where the tree is called *Gul-ebrouschim* according to Fischer, or *Ghul-ibrichim* according to Mangles, from its silky flowers. In Turkey it is called *Irbzim*. It is an elegant, hardy, deciduous tree.

Julibrissin Acacia or Silk-tree. Fl. Aug. Clt. 1745. Tree 30 to 40 feet.

263 A. POLYPHY'LLA (D. C. cat. hort. monsp. p. 74.) unarmed, glabrous; leaves with 11-12 pairs of pinnæ, each pinna bearing 30 pairs of dimidiately-oblong ciliated leaflets, which are somewhat puberulous beneath, with a small orbicular gland in the middle of the petiole, and one between each of the 2 or 3 uppermost pairs of pinnæ; heads of flowers pedunculate, forming an ample terminal panicle; legumes flat, membranous, glabrous. ♄. S. Native of St. Martha. Acàcia ripària, Bertero, but not of Kunth. Leaves like those of *A. Julibríssin*, but the heads of flowers are much smaller, and the stamens are about 40 in each flower, hardly 3 lines in length, while those of *A. Julibríssin* are nearly an inch long.

Many-leafletted Acacia. Clt. 1824. Tree 20 feet.

264 A. BERTERIA'NA (Balbis, herb. ex D. C. prod. 2. p. 470.) unarmed, glabrous; leaves with 9-10 pairs of pinnæ, each pinna bearing about 40 pairs of oblong-linear glabrous leaflets, which are shining above, and pale beneath, with a sessile gland at the base of the petiole, and one between the extreme pair of pinnæ; heads of flowers pedunculate, disposed in a panicle; legumes flat, membranous, glabrous. ♄. S. Native of St. Domingo. Stamens 15, 3 times the length of the corolla.

Bertero's Acacia. Tree.

265 A. DECU'RRENS (Willd. spec. 4. p. 1072.) unarmed, glabrous; leaves with 9-11 pairs of pinnæ, each pinna bearing 30-40 pairs of narrow, linear, distant leaflets, with a gland on the rachis between each pair of pinnæ; petioles and branches with acute angles; heads pedicellate, disposed in racemes along the axillary peduncles. ♄. G. Native of New Holland, about Port Jackson. Mimòsa decúrrens, Vent. malm. t. 61. Sieb. pl. exsic. nov. holl. no. 436. Flowers yellow, polyandrous.

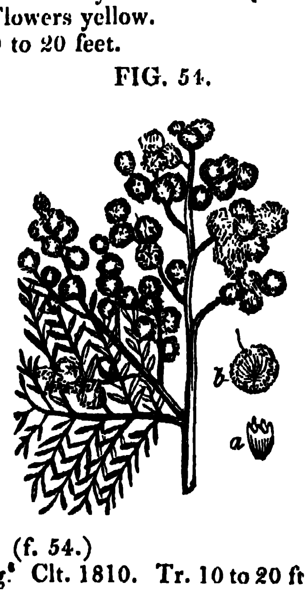
Decurrent Acacia. Fl. May, Jul. Clt. 1790. Tree 10 to 20 ft.

266 A. ADENO'PHORA (Spreng. syst. 3. p. 140.) branches and petioles glandular and glabrous; leaves with 8 pairs of pinnæ, each pinna bearing many pairs of linear, bluntish, glabrous leaflets; heads of flowers disposed in axillary racemes. ♄. G. Native of New Holland, Sieber. Flowers yellow.

Gland-bearing Acacia. Tree 10 to 20 feet.

267 A. MOLLÍSSIMA (Willd. enum. 1053.) unarmed; branches and petioles angular, pubescent; leaves with from 8-18 pairs of pinnæ, each pinna bearing 30-40 pairs of linear, much crowded, pubescent leaflets, with glands on the rachis, one between each pair of pinnæ; heads of flowers pedicellate, disposed in racemes along the axillary peduncles. ♄. S. Native of Van Diemen's Land. A. decúrrens β, móllis, Ker. bot. reg. 371. A. móllis, Sweet, fl. austr. t. 12. Leaves glaucous, when young clothed with yellowish velvety down. Legume linear, glabrous, obtuse, flat; seeds 8-9 in each legume, rather tumid, cuneated and narrowed at the base. (f. 54.)

FIG. 54.



Very-soft Acacia. Fl. July, Aug. Clt. 1810. Tr. 10 to 20 ft.

268 A. DEALBA'TA (Link. enum. 2. p. 445. Sieb. pl. exsic.

nov. holl. no. 446.) unarmed; branches rather angular, and are, as well as the petioles, clothed with short velvety down; leaves with 15 pairs of pinnæ, each pinna bearing 30-35 pairs of linear, much crowded, pubescent leaflets, with glands on the rachis, one between almost every pair of pinnæ; heads of flowers pedicellate, disposed in racemes along the axillary peduncles. ♄. G. Native of New Holland. Flowers yellow. The glands between the pairs of pinnæ perforated.

Whitened Acacia. Fl. Ju. Aug. Clt. 1820. Tree 10 to 20 ft.

269 A. MÓLLIS (Wall. pl. rar. asiat. 2. p. 76. t. 177.) arboreous, erect, unarmed; leaves with 4-8 pairs of pinnæ, each pinna bearing numerous pairs of villous, half-ovate, acute leaflets, with a concave gland above the base of the petiole, and one between each of the ultimate pairs of pinnæ; heads of flowers in fascicles, on long peduncles, disposed in corymbs at the tops of the branches; filaments very long, monadelphous at the base. ♄. G. Native of Nipaul, where it is grown in gardens at Katmandu, under the name of *Lakkay*. Corolla yellow. Filaments red. Tree villous in every part.

Soft Acacia. Tree 40 to 50 feet.

270 A. IRRORA'TA (Sieb. ex Spreng. syst. 3. p. 141.) branches brown, as well as petioles, which are glandless; leaves with 15-20 pairs of pinnæ, each pinna bearing numerous pairs of linear, bluntish, pruinose leaflets; heads of flowers disposed in terminal panicles. ♄. G. Native of New Holland.

Bedewed Acacia. Shrub.

271 A. CONTÓRTA (D. C. prod. 2. p. 470.) unarmed; branches nearly terete, and are, as well as the leaves, glabrous; leaves with 12-16 pairs of pinnæ, each pinna bearing 30-35 pairs of linear approximate leaflets, with an urceolate gland on the petiole beneath the lower pair of pinnæ; legume very long, spirally twisted, flat, glabrous. ♄. S. Native of Brazil. Flowers unknown. Peduncles axillary, solitary, an inch long. Legume a foot long.

Twisted-podded Acacia. Clt. 1825. Tree.

272 A. PENICILLÍFERA (Lag. nov. gen. et spec. 16. no. 208.) unarmed; petioles clothed with adpressed pubescence, glandless, and emarginate; leaves with about 12 pairs of pinnæ, each pinna bearing 20-30 pairs of linear, obtuse, rather ciliated leaflets; heads of flowers pedunculate. ♄. S. Native of New Spain. A weak twiggy shrub, with the habit of *A. filicina*. Legume unknown.

Pencil-bearing Acacia. Shrub 2 to 3 feet.

273 A. ESCULE'NTA (Moc. et Sesse, fl. mex. icon. ined. D. C. prod. 2. p. 470.) unarmed, glabrous; leaves with 17 pairs of pinnæ, each pinna bearing 32 pairs of linear obtuse leaflets; heads pedunculate, twin, disposed in a terminal panicle; legumes linear, flat, glabrous, tapering much to the base. ♄. S. Native of Mexico, where it is called *Guaxe*. Legume eatable. Flowers white, decandrous.

Esculent-podded Acacia. Clt. 1825. Tree.

274 A. PEREGRÌNA (Willd. spec. 4. p. 1073.) unarmed, nearly glabrous; leaves with 15-20 pairs of pinnæ, each pinna bearing 25-30 pairs of oblong-linear ciliated leaflets, bearing one gland in the middle of the petiole, and 1 or 2 at the top of the pinnæ; heads of flowers 2-4-together, pedunculate; anthers bearing a pedicellate gland at the apex. ♄. S. Native of New Granada, at the river Chota. Kunth, mim. p. 96. t. 30. nov. gen. amer. 6. p. 274. Mimòsa peregrìna, Lin. spec. 1504. Flowers white, decandrous.

Foreign Acacia. Tree 40 feet.

275 A. BE'LLA (Spreng. syst. 3. p. 141.) branches and petioles hairy; petioles glandless; leaves with 15 pairs of pinnæ, each pinna bearing many pairs of minute, imbricated, linear, strigose leaflets; heads of flowers disposed in racemes. ♄. S. Native of Brazil.

Pretty Acacia. Tree.

276 A. ANGUSTIFÒLIA (D. C. prod. 2. p. 470.) unarmed, nearly glabrous; leaves with 15-20 pairs of pinnæ, each pinna bearing 30-40 pairs of linear, acute, ciliated leaflets, with a gland at the base of the petiole, and one between the extreme pair of pinnæ; heads of flowers 2-4-together, pedunculate; anthers glandless. ♄. S. Native of the West India Islands. Mimòsa angustifòlia, Lam. dict. 1. p. 12. but not of Wendl. Legume flat, glabrous, with the margins rather sinuated, tapering into a stipe at the base, 6 inches long, and 8-9 lines broad.

Narrow-leafletted Acacia. Tree.

277 A. GRA'TA (Willd. enum. 1056.) unarmed; leaves with 20 pairs of pinnæ, each pinna bearing many pairs of linear leaflets, with scabrous margins; petiole glandular above the base; legumes repand. ♄. S. Native of Brazil. The rest unknown.

Grateful Acacia. Tree.

278 A. MICROPHY'LLA (Willd. enum. p. 1056.) unarmed; leaves with 25 pairs of pinnæ, each pinna bearing 50-60 pairs of linear, acute, ciliated leaflets, with a large gland at the base of the petiole; branches and petioles pubescent; heads of flowers axillary, pedunculate, twin. ♄. S. Native of the Caraccas, on stony hills. Mimòsa parvifòlia, Poir. suppl. 1. p. 74. Legume linear, 9 inches long.

Small-leafletted Acacia. Tree.

279 A. PANICULA'TA (Willd. spec. 4. p. 1074.) unarmed; leaves with 20-25 pairs of pinnæ, each pinna bearing 10 pairs of linear ciliated leaflets, with a gland on the petiole beneath the lower pair of pinnæ; petioles and branches pubescent; heads of flowers pedunculate, disposed in axillary panicles. ♄. S. Native of Para, in Brazil. Legume unknown. The specimen of this species sent by Willdenow to Desfontains is furnished with hooked scattered spines; it is, therefore, perhaps a different plant, or it should be placed in a different division of the genus.

Panicled-flowered Acacia. Tree.

280 A. BRASILIE'NSIS (Spreng. syst. 3. p. 142.) branches terete, hairy, as well as the petioles, which are glandless; leaves with many pairs of pinnæ, each pinna bearing many pairs of linear, minute, strigose, imbricated leaflets; heads of flowers disposed in spikes. ♄. S. Native of Brazil, Sello.

Brazil Acacia. Tree.

281 A. MULTIFLÒRA (Spreng. syst. 3. p. 142.) branches angular, glabrous; petioles glandless; leaves with many pairs of pinnæ, each pinna bearing many pairs of smooth, lanceolate, falcate leaflets; heads of flowers disposed in panicles. ♄. S. Native of Brazil, Sello.

Many-flowered Acacia. Tree.

282 A.? PECTINA'TA (H. B. et Kunth, nov. gen. amer. 6. p. 282. but not of Hoffmansegg,) unarmed; leaves with 15-16 pairs of pinnæ, each pinna bearing 50-60 pairs of linear, obtuse, mucronate leaflets, which are glabrous above, but clothed with rusty pubescence beneath, as well as the petioles; petioles glandless. ♄. S. Native of South America, at the river Cassiquiare. Leaflets on each pinna usually about 60 pairs. I'nga pectinàta, Willd. spec. 4. p. 1126. Flowers and fruit unknown.

Pectinate-leaved Acacia. Tree.

283 A. Nìopo (Humb. rel. hist. 2. p. 620. H. B. et Kunth, nov. gen. amer. 6. p. 282.) unarmed; leaves with 20-25 pairs of pinnæ, each pinna bearing 50-70 pairs of linear, rather falcate, acute, membranous, glabrous, ciliated, obsoletely 1-nerved leaflets, with a gland on the petiole above the base, and one between the extreme pair of pinnæ; legumes linear, beaked. ♄. S. Native of South America, near Maypures and Atures, &c. on the Orinoco. I'nga Nìopa, Willd. spec. 4. p. 1027. *Niopo* is the South American name of the tree.

Niopo Acacia. Tree.

284 A. CHRYSA'NTHA (D. C. prod. 2. p. 471.) unarmed; leaves and branches glabrous; leaves with 20-28 pairs of pinnæ, each pinna bearing 8 pairs of linear-oblong, obtuse leaflets; petioles glandless; peduncles 3-4-together, axillary; heads of flowers oblong. ♄. S. Native of Cayenne. Mimòsa chrysántha, Vahl. ecl. amer. 3. p. 38. Stamens innumerable, golden yellow. Legume unknown.

Golden-flowered Acacia. Tree.

285 A. ASPLENIOÌDES (Neuw. reis. bras. 2. with a figure, ex flora, 1821. p. 303.) unarmed; leaves with 2-3 pairs of pinnæ, each pinna bearing 12-15 pairs of leaflets; petioles hairy; spikes terminal, corymbose, globose, pedunculate. ♄. S. Native of Brazil. Stamens long, purple.

Spleenwort-like Acacia. Tree or shrub.

286 A. INUNDA'TA (Mart. reis. bras. ex Schleicht. Linnæa. 5. p. 43.) arboreous, glabrous; petiole bearing one gland in the middle, and one at the apex; leaves with 3 pairs of pinnæ, each pinna bearing 12-13 pairs of oblong-lanceolate, oblique, unequal-sided, nerved leaflets, which are shining above, but glaucous beneath; heads of flowers pedicellate, disposed in racemes along the axillary peduncles, shorter than the leaves; petioles and peduncles pubescent. ♄. S. Native of Brazil.

Inundated Acacia. Tree.

† *Species of Acàcia not sufficiently known.*

* *Leaves with only one pair of pinnæ, each pinna bearing few or many pairs of leaflets.*

287 A. RUTÆFÒLIA (Link. enum. 2. p. 444.) leaves with one pair of pinnæ; leaflets unequal; flowers yellowish. ♄. S. Native country unknown.

Rue-leaved Acacia. Clt. 1810. Shrub.

288 A. OLIGOPHY'LLA (Hoffmans. verz. 1824. p. 201.) unarmed; leaves with one pair of pinnæ, each pinna bearing 3-4 pairs of ovate-oblong, apiculated leaflets; stipulas filiform. ♄. S. Native country unknown, as well as the flowers and fruit.

Few-leafletted Acacia. Clt. 1817. Tree.

* * *Unarmed trees and shrubs, with bipinnate leaves.*

289 A. HOFFMANSE'GGII (D. C. prod. 2. p. 471.) unarmed; leaves with 4 pairs of pinnæ, each pinna bearing many pairs of linear, equal-sided, bluntly acute leaflets, which are unequal at the base; petioles pubescent, with a gland below the lower pair of pinnæ, and one between the upper pair of pinnæ. ♄. S. Native of Brazil, about Rio Janeiro. H. pectinàta, Hoffmans. verz. 1824. p. 201. but not of others. Said to be allied to *A. rostràta*, but the flowers and fruit are unknown.

Hoffmansegg's Acacia. Tree.

290 A. VENU'STA (Willd. enum. p. 1052.) unarmed; leaves with 3-5 pairs of pinnæ, each pinna bearing from 15-20 pairs of falcate, acutish, quite glabrous leaflets. ♄. S. Native of South America. Flowers and fruit unknown.

Beautiful Acacia. Tree.

291 A.? JAVA'NICA (D. C. prod. 2. p. 471.) unarmed; leaves with 4 pairs of pinnæ, each pinna bearing 70 pairs of oval, lucid, obtuse leaflets. ♄. S. Native of Java. Gledítschia Javánica, Lam. dict. 2. p. 466. Lower leaves bearing fewer leaflets than the upper ones.

Java Acacia. Tree.

292 A. GUACHAPE'LE (H. B. et Kunth, nov. gen. amer. 6. p. 281.) unarmed; leaves with 4-5 pairs of pinnæ, each pinna bearing 5-6 pairs of obovate or subelliptic-oblong membranous leaflets, which are pubescent on both surfaces, with a gland on the middle of the petiole, and between each of the 2 superior pairs of pinnæ; flowers capitate; stamens monadelphous; legumes linear, ending in a long beak. ♄. S. Native of Quito, in woods near Guayaquil. *Guachapele* is the vernacular name of the tree.

Guachapele Acacia. Tree 50 to 60 feet.

293 A. HADIE'NSIS (D. C. prod. 2. p. 472.) unarmed; leaves with 3 pairs of pinnæ, lower pair furnished with one scale, upper pair furnished with a double scale, each pinna bearing about 14 pairs of oval-linear leaflets, middle ones the longest. ♄. G. Native of Arabia, about Hadie. Mimòsa Sejàl, Forsk. descrip. p. 197. but not of Delile.

Hadie Acacia. Tree.

294 A. PRISMA'TICA (Hoffmansegg, verz. 1824. p. 159.) unarmed; leaves with 7-8 pairs of pinnæ, each pinna bearing 14-17 pairs of oblong two-coloured leaflets; branches angled; petioles glabrous; young leaves clammy. ♄. S. Native country unknown. Said to be allied to *A. díscolor*, but the flowers and fruit are unknown.

Prismatic Acacia. Tree.

295 A. COCHLIOCA'RPA (Gomez, mem. acad. das. sci. lisb. 3. p. 104. under *Mimòsa*,) leaves with 3 pairs of pinnæ, each pinna bearing about 3 pairs of leaflets; legumes compressed and spiral. ♄. S. Native of Brazil. Abaremotèmo, Pis. bras. Its root is known by the name of *Cortex Brasiliénsis*, and is a very powerful astringent. The plant is known in Brazil by the name of *Barbatimao*.

Twisted-fruited Acacia. Tree.

*** *Prickles stipular, twin, but without any petiolar ones.*

296 A. PLATY'LOBA (Bert. ined. in herb. Balb. ex D. C. prod. 2. p. 472.) glabrous; prickles stipular, hooked; leaves with 3 pairs of pinnæ, each pinna bearing 2-3 pairs of obovate obtuse leaflets; petioles glandless; legumes flat, rather stipitate. ♄. S. Native of St. Domingo. I'nga Magdalènæ, Spreng. in herb. Balb. Legume 6 inches long, and 1½ inch broad, 2-valved, dry inside. Seeds flat, shining. Flowers unknown. A very doubtful species, allied to *A. Lèbbek* and *A. latisíliqua*, but differs in being prickly. Perhaps it ought to be inserted between the sections *Globiflòræ* and *Spiciflòræ*.

Broad-podded Acacia. Tree.

297 A.? LEPTOPHY'LLA (D. C. cat. hort. monsp. p. 74.) prickles stipular, straight, setaceous, distinct, short; leaves with 4-5 pairs of pinnæ, each pinna bearing 12 pairs of oblong distant leaflets, which are pubescent beneath, as well as the petioles and branches, with a gland on the petiole between the lower pair of pinnæ. ♄. S. Native of South America. Flowers and fruit unknown.

Slender-leaved Acacia. Clt. 1824. Tree.

298 A.? VIRE'SCENS (D. C. l. c.) glabrous; prickles stipular, setaceous, straight, distinct; leaves with 2 pairs of pinnæ, each pinna bearing 12-20 pairs of oblong-linear leaflets, with an obsolete gland on the petiole between the lower pair of pinnæ. ♄. S. Native of South America. Flowers and fruit unknown.

Greenish-flowered Acacia. Clt. 1820. Tree.

299 A. LENTISCIFÒLIA (Desf. cat. hort. par. ed. 2. p. 208.) glabrous; spines subulate, stipular, straight; leaves with usually 4 pairs of pinnæ, each pinna bearing about 10 pairs of ovate, mucronate, rather coriaceous, shining leaflets, with a sessile gland between each of the pairs of pinnæ. ♄. S. Native of Mexico. Mimòsa lentiscifòlia, Pers. ench. 2. p. 263. Poir. suppl. 1. p. 84. Flowers and fruit unknown.

Lentiscus-leaved Acacia. Tree.

300 A. PA'TULA (Humb. et Bonpl. in Willd. enum. 1055.) spines stipular, connate, twin, compressed at the base and dilated; leaves with 5 pairs of pinnæ, each pinna bearing 15-20 pairs of linear leaflets, which are glabrous on both surfaces; petioles rather pilose and glandless. ♄. S. Native of South America. Flowers and fruit unknown.

Spreading Acacia. Clt. 1818. Tree.

301 A. PERUVIA'NA (Humb. et Bonpl. in Willd. enum. p.

1055.) spines stipular, setaceous, twin; leaves with 2 pairs of pinnæ, each pinna bearing 11-15 pairs of obtuse, glabrous leaflets. ♄. S. Native of Peru. Allied to *A. diptera*, according to habit.

Peruvian Acacia. Clt. 1820. Tree.

302 A.? GUAYAQUILE'NSIS (Desf. hort. par. ed. 2. p. 208.) spines stipular, opposite; leaves with 2 pairs of pinnæ, each pinna bearing 3-5 pairs of ovate, obtuse, glaucescent leaflets, lower ones the smallest. ♄. S. Native of Peru, near Guayaquil. Flowers and fruit unknown.

Guayaquil Acacia. Tree.

303 A. BRACHYACA'NTHA (Humb. et Bonpl. in Willd. enum. 1055.) spines stipular, twin, hooked; leaves with usually 10 pairs of pinnæ, each pinna bearing about 10-12 pairs of ciliated leaflets. ♄. S. Native of South America. Flowers and fruit unknown.

Short-spined Acacia. Clt. 1824. Tree.

304 A.? CILIA'TA (Humb. et Bonpl. in Willd. enum. 1055. but not of Ait.) spines stipular, twin, straight, subulate; leaves with 3-4 pairs of pinnæ, each pinna bearing 13 pairs of ciliated leaflets. ♄. S. Native of South America. Flowers and fruit unknown.

Ciliated-leafletted Acacia. Clt. 1822. Tree.

305 A.? ACICULA'RIS (Humb. et Bonpl. in Willd. enum. 1056. but not of Ait.) spines stipular, subulate, twin, straight; leaves with 4 pairs of pinnæ, each pinna bearing 15 pairs of distant, ciliated leaflets. ♄. S. Native of South America. Flowers and fruit unknown.

Acicular-spined Acacia. Tree.

306 A. GIRA'FFÆ (Willd. enum. 1054.) spines stipular, twin, connate, about equal in length to the leaves; leaves with 3-6 pairs of pinnæ, each pinna bearing 10-20 pairs of leaflets, with 1 gland between each pair of pinnæ on the petiole. ♄. G. Native of the Cape of Good Hope, in the interior of the country. Flowers and fruit unknown. It is on this tree that the Cape giraffe or camel-leopard feeds.

Giraffe's Acacia. Tree 40 to 70 feet.

307 A.? MICRACA'NTHA (Desv. journ. bot. 1814. 1. p. 69.) prickles stipular, very slender; leaves pubescent, bipinnate; leaflets linear, rather falcate, very thin; flowers disposed in spike-like racemes, on short peduncles. ♄. S. Native of Cayenne. Mimòsa semi-spinòsa, Lin. ex Desv.

Small-spined Acacia. Tree.

* * * * *Spines or prickles all scattered in an irregular manner, or some of them are stipular, and those on the branches and petioles are scattered.*

308 A.? RHODACA'NTHA (Desf. cat. hort. par. ed. 2. p. 208.) glabrous; stipular prickles twin, petiolar ones scattered; leaves with about 7 pairs of pinnæ, lower pair the smallest, each pinna bearing from 8-20 pairs of oblong-linear, somewhat ciliated leaflets, with a depressed gland at the base of the petiole. ♄. S. Native country, flowers, and fruit unknown. Mimòsa rhodacántha, Pers. ench. 2. p. 266.

Red-spined Acacia. Tree.

309 A. HETEROCA'NTHA (Burch. cat. no. 1710. ex trav. 1. p. 389.) some of the spines are twin, short, recurved, and brown, others are straight, longer, and white; leaves pubescent as well as the branches, with 4-6 pairs of pinnæ, each pinna bearing 10-14 pairs of approximate, oblong leaflets. ♄. G. Native of the Cape of Good Hope, near the river Gariep or Orange River. Legume linear.

Variable-spined Acacia. Clt. 1816. Tree.

310 A. BANCROFTIA'NA (Bert. in herb. Balb. Coll. hort. ripul. p. 1.) glabrous; rameal prickles scattered, petiolar ones twin at the origin of the pinnæ; leaves with 2-5 pairs of pinnæ, each pinna bearing about 2-5 pairs of obovate, obtuse leaflets; petioles glandless. ♄. S. Native of Jamaica. This species approaches in habit to *A. platýloba*. Flowers unknown. Fruit ovate-oblong, glabrous, rather fleshy, few-seeded, sessile.

Bancroft's Acacia. Tree 20 feet.

311 A.? POLYCE'PHALA (D. C. prod. 2. p. 473.) rameal as well as petiolar prickles scattered and a little hooked; leaves with 6-9 pairs of pinnæ, each pinna bearing 20 pairs of linear, acute leaflets, which are puberulous beneath and on the margins; petioles furnished with a large depressed gland at the base, and one between the extreme pair of pinnæ; petioles, branches, and peduncles clothed with velvety hairs; heads of flowers numerous, pedunculate, in fascicles, which are disposed in terminal racemes. ♄. S. Native of the Mauritius. Heads of flowers globose, reddish brown before the flowers expand. Stamens numerous, white. Legume unknown. The species is very like *A. concínna*, but differs in the absence of stipulas.

Many-headed Acacia. Tree.

312 A. SPHÆROCE'PHALA (Schlecht. et Cham. in Linnæa. 5. p. 394.) leaves unknown; racemes axillary, usually tern; heads on short peduncles, ovate-roundish; flowers polyandrous; legume inflated, acinaciform, tapering to both ends, 12-18-seeded; seeds egg-shaped, compressed; spines red, white, or black. ♄. S. Native of Mexico, near Actopan and Vera Cruz. Prosòpis species, Schiede. in litt.

Round-headed Acacia. Tree.

313 A. SPADI'GERA (Schlecht. et Cham. l. c.) leaves unknown; racemes usually twin, leafy; spikes referrible to the spadix of an aroideous plant, cylindrically clavate; spines twin, stipular; peduncles very thick; flowers dense, polyandrous, propped by scales as in the preceding species. ♄. S. Native of Mexico, near La Laguna Verde.

Spadix-bearing Acacia. Tree.

† *Species, the names of which are only known from Roxburgh's Hortus Bengalensis, under Mimòsa.*

1 *A. Kalkòra*, Roxb. 2 *A. fruticòsa*, Roxb. 3 *A. Smithiàna*, Roxb. 4 *A. semicordàta*, Roxb. 5 *A. dumòsa*, Roxb. 6 *A. pedunculàta*, Roxb.

Cult. The greenhouse or New Holland species of *Acàcia* are the most ornamental of greenhouse plants in the winter season and early in spring, bearing flowers from Christmas to April. They are hardy and easily managed. The best soil for them is an equal quantity of sand, loam, and peat. Cuttings taken off by a joint from young wood, and planted in a pot of sand, with a bell-glass placed over them, root freely. Some of the kinds that do not strike readily by cuttings may be increased by taking off pieces of the roots, planting them in the same kind of soil as recommended for the plants, leaving only their points above the surface, and then plunging them in a little bottom heat. The greater part of the species might be propagated by this means. The stove species are furnished with very elegant foliage, but seldom flower in this country. Their culture and propagation are the same as for the greenhouse species, with the exception that they require more heat. The *Acàcia Julibríssin*, *A. acanthocárpa*, *A. decúrrens*, and *A. mollíssima* are the only species that can be considered sufficiently hardy to stand our climate in the open air, and these are liable to be injured in severe winters, unless protected by mats. The best situation for them is against a south wall, where they will make a very fine appearance. They may be propagated either by slips of the root or by young cuttings, planted in sand, with a bell-glass placed over them. The surest way to raise all the kinds is by seeds, when they can be procured.

CCXXXIV. ERYTHROPHLE'UM (from ερυθρος, *erythros*, red; in reference to the red juice which flows from the tree when cut). Afzelius, mss. R. Br. Congo, and in Denh. and Clapp. trav. append. p. 30.

LIN. SYST. *Decándria, Monogýnia.* Flowers hermaphrodite, regular. Calyx 5-cleft. Petals 5. Stamens perigynous. Legume compressed, 2-valved, many-seeded.—A lofty tree with a spreading top and bipinnate leaves. Leaflets opposite, oval, oblique, from roundish to lanceolate, repand, acuminated, and entire. Racemes of flowers terminal and lateral.

1 E. GUINEE'NSE (G. Don, in Edinb. phil. journn. 1824.). ♄. S. Native of Sierra Leone and other parts of Guinea. The red juice in which the tree abounds is used as an ordeal by the natives of many parts of western Africa, as well as of the interior, to detect the innocence or guilt of those who are accused of any crime. The red juice is taken in large draughts, and those who are not sufficiently strong to withstand this ordeal are pronounced guilty, and those who are are considered innocent.

Guinea Gregre-tree or Ordeal-tree. Fl. Feb. Clt. 1823. Tree 100 feet.

Cult. See *Acàcia* for culture and propagation, p. 424.

SUBORDER IV. CÆSALPÍNEÆ (plant agreeing with *Cæsalpínia* in some important characters). R. Br. gen. rem. p. 19. congo. p. 10. D. C. legum. mem. xiii.—Lomentaceàrum and Papilionaceàrum, Lin. gen.—Rectembrièæ, Cassièæ, and Cérceæ, Bronn. mem. Flowers more or less irregular, sometimes papilionaceous, but usually regular (f. 55. *c.* f. 56. *b.*). Petals irregularly imbricate in æstivation, never valvate, sometimes wanting, but never joined together, always free (f. 55. *c.* f. 56. *b.*). Stamens more or less unequal (f. 56. *c.* f. 57. *d.*) always perigynous, and usually free, rarely as in Tribe *Geoffrèæ* having the filaments concrete. Embryo straight (f. 21. *g. h. l. m.*) with the plumule usually large and conspicuous.

Tribe IX.

GEOFFRÈ'Æ (plants agreeing with *Geoffròya* in particular characters). D. C. legum. mem. xiii. prod. 2. p. 473. Petals perigynous, unequal, disposed in a papilionaceous or sub-papilionaceous manner (f. 55. *c.*), imbricate in æstivation. Stamens monadelphous or diadelphous. Cotyledons fleshy or oily (f. 21. *l.*). This is an artificial tribe, which ought perhaps to have been brought in among the *Papilionàceæ*, from the perigynous papilionaceous flowers and connected stamens, but it agrees with the sub-order *Cæsalpíneæ* in the embryo being straight, as in the rest of that suborder. The genera belonging to this tribe are also very dissimilar in habit, and ought perhaps to have formed 4 or 5 distinct tribes.

CCXXXV. ARA'CHIS (*Aracos*, a name under which Pliny speaks of a plant with neither leaves nor branches, which comes from *a* priv. and *ῥακις*, *rakis*, a branch; the present plant, however, has nothing to do with the plant of Pliny). Lin. gen. no. 876. Lam. ill. 615. D. C. prod. 2. p. 474.

LIN. SYST. *Diadélphia, Decándria.* Calyx a long pedicel-like tube, with a bilabiate limb. Corolla resupinate. Stamens and petals inserted in the throat of the calyx, 9 of the stamens are joined together, and the free one sterile. Ovary stipitate, inclosed in the tube of the calyx; the stipe short at first but afterwards becoming elongated. Style filiform. Legume ovate-oblong, obtuse at both ends, gibbous, torulose, coriaceous, indehiscent, 2-4-seeded, and reticulated with veins. Seeds thick, oily inside. Embryo straight, with a short obtuse radicle, and semi-elliptic cotyledons.—An American herb, with elongated stipulas which are adnate to the petioles, abruptly pinnate leaves bearing 2 pairs of leaflets, without any tendril. Flowers yellow, 5-7 together in the axils of the leaves, lower ones subterraneous and fertile, those above ground flowering but sterile.

1 A. HYPOGÆ'A (Lin. spec. 1040.) ⊙. S. Native of South America, from whence it has been transported to Africa, Asia, and the south of Europe, where it is extensively cultivated for its seeds. Trew. ehret. t. 3. f. 3. Niss. act. par. 1723. t. 19. Rumph. amb. 5. t. 136. D. C. legum. mem. ii. t. 20. f. 105. A. Asiática, Lour. cochin. p. 430. Branches diffusedly procumbent. All the European settlements in America abound with ground-nuts, but it is generally supposed that it was brought by the slaves from Africa. In South Carolina it is cultivated in great quantities, where the inhabitants roast the nuts, as they are commonly called, and make use of them as chocolate. In the eastern countries they are a substitute for almonds. They abound in a thin limpid oil proper for lamps, and it is much used for this purpose in Cochin-china; it supplies the place also of their oil of olives for the use of the table, but is inferior to it in flavour. About Paris it is raised on hot-beds, and transplanted into the open garden, where it ripens its seeds, which are used as other legumes. The pods are sold in most fruiterers' shops in London.

Var. β, *glàbra* (D. C. prod. 2. p. 474.) ⊙. S. A. Africàna, Lour. coch. p. 430. Leaves glabrous, not as in the species rather pilose.

Underground or Earth-nut. Fl. May, July. Clt. 1712. Pl. 1 foot or procumbent.

Cult. The seeds of the *Underground-nut* require to be sown on a hot-bed, and when the plants have grown a sufficient size they should be planted singly into separate pots, and set in the stove among other tender annuals. After the plant has done flowering, and the pods begin to lengthen, the pedicels force them into the earth, where they ripen their seeds.

CCXXXVI. VOANDZE'IA (*Voandzou* is the name of the plant in Madagascar). Pet. Th. gen. mad. no. 777. D. C. prod. 2. p. 474.—Cryptólobus, Spreng. ex Bronn.

LIN. SYST. *Polygàmia, Monœ'cia.* Flowers polygamous, outer ones male, sterile and bibracteolate, with a campanulate calyx, and papilionaceous corolla, with horizontal wings. Stamens diadelphous. Style incurved, hairy. Female flowers usually solitary and fertile, borne on reflexed peduncles, with a campanulate calyx, but the corolla and stamens are wanting. Ovary 2-seeded. Style short, ending in a hooked stigma. Legumes subterraneous, roundish, fleshy, usually 1-seeded from abortion. —A tufted creeping herb, with trifoliate leaves on long petioles; the leaflets oblong, the terminal one stalked. Seeds esculent. The peduncles bend down, and penetrate the earth after the flowers have decayed and pods begin to form. This genus is allied to *Aràchis*, or more probably to *Amphicarpæ'a*, but the structure of the seeds is not sufficiently known to decide this point.

1 A. SUBTERRA'NEA (Pet. Th. l. c.) ⊙. S. Native of Madagascar, many parts of the continent of Africa within the tropics, Brazil, and Surinam. D. C. legum. mem. ii. t. 20. f. 106. Voándzou, Flac. mad. 118. Glýcine subterrànea, Lin. dec. 37. t. 17. Aràchis Africàna, Burm. ind. p. 22. Flowers yellow. In Surinam and various parts of Africa the seeds are very good, and are boiled in an unripe state like peas. They are also very good when ripe. The Surinam name of the plant is *Gobbe.*

Underground-podded Voandzou. Fl. June, Aug. Clt. 1823. Pl. ½ foot.

Cult. See *Aràchis* for culture and propagation.

CCXXXVII. PERA'LTEA (in honour of Joseph Peralt, of New Spain, who communicated dried specimens and seeds of plants to Humboldt). H. B. et Kunth, nov. gen. amer. 6. p. 469. D. C. legum. mem. xiii. D. C. prod. 2. p. 474.

LIN. SYST. *Diadélphia, Decándria.* Calyx furnished with 2 opposite bracteoles, which are longer than it, with a short tube, the 3 lower segments deep, elongated, and linear-lanceolate, the 2 superior ones joined into a lip, which is bidentate at the apex. Stamens diadelphous. Style filiform, simple at the apex. Legume oblong, compressed, flat, 4-8-seeded, apiculated by the style, sessile, winged on the seminiferous suture, and somewhat sheathed at the base by the lengthened torus. Embryo straight, with rather fleshy cotyledons.—Mexican subshrubs, clothed with silky villi. Leaves impari-pinnate, with many pairs of leaflets, the terminal one not remote from the rest. Pedicels twin, axillary, 1-flowered. Flowers large, purple. This genus is perhaps not distinct from *Brongniártia*, and probably both are referrible to tribe *Phaseòleæ*.

1 P. lupinoìdes (H. B. et Kunth, nov. gen. amer. 6. p. 471. t. 589.) leaflets clothed with silky wool, oval-oblong, obtuse at both ends, mucronate at the apex; ovary sessile; legume furnished with a narrow wing on the seminiferous suture. ♄. S. Native of New Spain, between Chilpancingo and Zumpango. Pedicels 5-10 lines long. Flowers violaceous.

Lupine-like Peraltea. Shrub 1 to 2 feet.

2 P. oxyphy′lla (D. C. legum. mem. xiii.) leaflets clothed with silky wool, 12-13 pairs, with the terminal one ovate-lanceolate, and very much acuminated; ovary nearly sessile. ♄. S. Native of New Spain. Peduncles an inch long. Corollas glabrous, and are, as well as the bracteas, very villous, 8-10 lines long. The immature pod is emarginate on the back. Stamens connected farther up than those of *P. lupinoìdes*.

Sharp-leaved Peraltea. Shrub 1 to 2 feet.

Cult. The species of *Peráltea* are very elegant when in flower; they thrive best in a mixture of loam, peat, and sand, and young cuttings root readily if planted in a pot of sand, with a bell-glass placed over them in heat.

CCXXXVIII. BRONGNIA′RTIA (in honour of Adolph Brongniart, a distinguished botanist, one of the editors of Annales des Sciences Naturelles). H. B. et Kunth, nov. gen. amer. 6. p. 465. D. C. prod. 2. p. 475.

Lin. syst. *Diadélphia, Decándria*. The characters of the genus are the same as *Peráltea*, but differs in the legume being seated on a more distinct stipe, and in the seminiferous suture being without any wing. Perhaps it ought to be joined to *Peráltea*.

1 B. móllis (H. B. et Kunth, nov. gen. amer. 6. p. 465. t. 587.) leaves with 4-5 pairs of ovate-elliptic acute leaflets, which are puberulous above, but clothed with soft villous pubescence beneath, as well as on the margins. ♄. S. Native of New Spain, on the mountains between Zumpango and Tasco. Legume on a long pedicel. Flowers large, purple.

Soft Brongniartia. Shrub 1 to 2 feet.

2 B. podalyrioìdes (H. B. et Kunth, nov. gen. amer. 6. p. 465. t. 588.) leaves with 2-5 pairs of leaflets; leaflets elliptic-oblong, rounded, and mucronate at the apex, clothed with adpressed villi on both surfaces, but silky when young; branches and petioles glabrous. ♄. S. Native of New Spain, in warm places between Tasco and Cuernavaca. Legume on a short pedicel. Flowers large, purple.

Podalyria-like Brongniartia. Shrub 1 foot.

Cult. Elegant plants when in flower. For their culture and propagation see *Peráltea*.

CCXXXIX. ANDI′RA (the Brazilian name of some of the species). Lam. dict. 1. p. 171. Kunth, nov. gen. amer. 6. p. 385. D. C. prod. 2. p. 475.—Vouacapoùa, Aubl. guian. suppl. p. 10. t. 373.

Lin. syst. *Diadélphia, Decándria*. Calyx turbinately-campanulate, 5-toothed; teeth nearly equal, acute, and erect. Corolla papilionaceous, with a roundish emarginate vexillum, which is longer than the keel. Stamens diadelphous, 9 joined, and 1 free. Ovary 3-ovulate. Legume stipitate, rather orbicular, hard, 1-celled, 1-seeded, when mature it is divisible into 2 valves according to Swartz.—Unarmed trees, with impari-pinnate leaves, opposite petiolulate stipellate leaflets, and terminal panicles of purple flowers. This genus is nearly allied to *Geoffròya*, from which it is probably not distinct.

1 A. racemòsa (Lam. dict. 1. p. 17.) leaflets 13, ovate-oblong, acuminated, glabrous on both surfaces; flowers in panicled racemes; fruit obovate-globose, bluntly mucronate. ♄. S. Native of Cayenne and Brazil. Pison, bras. p. 81. f. 2. Geoffræ'a racemòsa, Poir. dict. 8. p. 182. Lam. ill. t. 604. f. 1. Vouacapoùa Americàna, Aubl. guian. suppl. p. 10. t. 373. Geoffræ'a Pisònis, Raeusch.

Racemose-flowered Andira. Clt. 1818. Tree 20 to 60 feet.

2 A. exce′lsa (H. B. et Kunth, nov. gen. amer. 6. p. 385.) leaflets 13, oblong, ending in a short acumen, obtuse at the base, glabrous; panicle simple; calyx urceolate, clothed with fine tomentum. ♄. S. Native of Mexico. Petiolules exstipulate, hairy. Flowers rose-coloured.

Tall Andira. Tree 40 feet.

3 A. ripa′ria (H. B. et Kunth, nov. gen. amer. 6. p. 385.) leaflets 13, oblong, acuminated, rounded at the base, quite glabrous, and shining above; panicle simple; calyx turbinately-campanulate, clothed with rusty down. ♄. S. Native of New Granada, on the banks of the river Magdalena near the mouth of the Rio Opon. Petiolules stipellate, glabrous. Flowers red.

River-side Andira. Tree 20 to 30 feet.

4 A. ine′rmis (H. B. et Kunth, nov. gen. amer. 6. p. 385 in a note,) leaflets 13-15, ovate-lanceolate, acute, glabrous on both surfaces; flowers panicled on short pedicels; calyx urceolate, clothed with rusty pubescence. ♄. S. Native of Jamaica, Trinidad, Martinico, Porto-Rico, St. Domingo, and Guiana, in woods and on river banks. Geoffræ'a inérmis, Swartz, fl. ind. occid. 1255. Wright in phil. trans. 1777. p. 512. t. 70. The bark of this tree is of a grey colour externally, but black and furrowed on the inside. The powder looks like jalap. It has a mucilaginous and sweetish taste, and a disagreeable smell. Its medical effects are great. When properly exhibited it operates as a powerful anthelmintic. It is given in the form of powder, decoction, syrup, and extract, but should always be given in small doses. The decoction is preferred, and is made by slowly boiling an ounce of the dried bark in a quart of water until it assumes the colour of Madeira wine. This sweetened is the syrup; evaporated it forms the extract. It commonly produces some sickness and purging, and sometimes violent effects, as vomiting, delirium, and fever, but these are usually the effects of an over dose, and are relieved by warm water, castor oil, or vegetable acid. The tree is called *Cabbage-tree*.

Unarmed Andira. Clt. 1773. Tree 20 to 30 feet.

5 A. retu′sa (H. B. et Kunth, nov. gen. amer. l. c. in a note,) leaflets 11-13, oval, retuse, and somewhat emarginate, glabrous on both surfaces. ♄. S. Native of Cayenne. Geoffræ'a retùsa, Lam. ill. 602. f. 2. dict. 8. p. 182.

Var. β, Surinaménsis (D. C. prod. 2. p. 476.) leaflets oblong. ♄. S. Native of Surinam. Geoffræ'a Surinaménsis, Bondt. monogr. p. 13. with a figure.

Retuse-leafletted Andira. Tree 20 to 30 feet.

† *A doubtful species.*

6 A.? Horsfie′ldii (Lesch. ann. mus. 16. p. 481. t. 12.) leaflets 3-5, oval, acute, glabrous; flowers disposed in loose racemes; calyx gibbous above at the base; legume olive-formed. ♄. S. Native of Java, on the mountains. Seeds bitter.

Flowers white. This plant ought to be removed from the present genus.

Horsfield's Andira. Shrub.

Cult. See *Geoffròya* for culture and propagation.

CCXL. GEOFFRO'YA (in honour of M. E. F. Geoffroy; he was author of a Materia Medica, and died in 1731.) Jacq. amer. 207. Lin. gen. no. 878. D. C. prod. 2. p. 476.—Acouròa, Aubl. guian. 3. p. 10. and 753.—Drakenstèinia, Neck. elem. no. 1344.

Lin. syst. *Diadélphia, Decándria.* Calyx campanulate, half-5-cleft, somewhat bilabiate. Corolla papilionaceous, with the wings and keel about equal in length, but shorter than the vexillum. Stamens diadelphous, 9 joined, and one free. Ovary biovulate. Legume drupaceous, egg-shaped, 1-celled, 1-seeded, marked with a furrow on both sides, 2-valved inside. Seeds thick. Cotyledons fleshy. Embryo straight.—American thorny or unarmed trees, with impari-pinnate leaves, axillary racemes or panicles of flowers, and edible seeds. This genus is closely allied to *Amygdalàceæ*.

1 G. SPINÒSA (Jacq. amer. 207. t. 180. f. 62.) spines on the trunk and branches few, and subulate; leaflets 13-15, oblong, obtuse, glabrous. ♄. S. Native of Carthagena, in woods by the sea side, and perhaps of Brazil, if the Umàri of Marcgraff, brasil. p. 121. f. 1. be the same. Flowers of a dirty fulvous colour, diffusing widely a most fetid odour. The drupe is very like an almond, with a tomentose rind of a greenish yellow colour. The pulp is soft, sweet, and yellowish, has a nauseous smell, and stains the hand with rust colour not easily washed out. The nut or stone is white, adheres closely to the pulp, and contains a white kernel that has a farinaceous astringent taste. This plant having papilionaceous flowers, and a drupe for a fruit indicates the close relationship of *Leguminòsæ* with *Amygdalàceæ*, the following order.

Spinose Geoffroya. Clt. 1818. Tree 12 to 20 feet.

2 G. SPINULÒSA (Mart. reis. ex Schlecht. Linnæa. 5. p. 45.) trunk unarmed; branches covered with spongy bark; leaflets 7, ovate, obtuse, pubescent, and reticulated beneath; petioles winged, the wing spinulose at the base of the leaflets; racemes forming a spreading panicle. ♄. S. Native of Brazil.

Spinulose-leaved Geoffroya. Tree.

3 G. SUPE'RBA (Humb. et Bonpl. pl. equin. 2. p. 69. t. 100.) unarmed; leaflets 13-17, oblong, obtuse, somewhat emarginate; branches and calyxes pubescent. ♄. S. Native on the banks of the river Amazon near Tomependa, where it is called *Almendron* or *Almond*. Flowers yellow. Leaves nearly like those of the tamarind-tree (ex Kunth), shining and puberulous above, but glaucous and paler beneath (ex Bonpland), glabrous above, and pubescent beneath (ex D. C.). The fruit is much like that of the last species.

Superb Geoffroya. Tree 24 feet.

4 G. BREDEMEYE'RI (H. B. et Kunth, nov. gen. amer. 6. p. 379.) unarmed; leaflets 17-25, oblong, shining above, but with a few scattered hairs, pubescent beneath; adult branches glabrous; calyx clothed with canescent tomentum. ♄. S. Native of Caraccas, on dry hills and in valleys near New Valencia, and at Cumana. Robínia striàta, Willd. spec. 3. p. 1132. Flowers yellow. Drupe similar to the two preceding species.

Bredemeyer's Geoffroya. Shrub 6 to 8 feet.

5 G. PUBE'SCENS (Rich. in act. soc. hist. nat. par. p. 121.) unarmed; leaflets 11-13, elliptic-obovate, obtuse, and somewhat emarginate, clothed with white pubescence beneath, as well as the calyx. ♄. S. Native of Cayenne. Flowers pedunculate, purple. Leaflets 2 inches long, and about an inch broad.

Pubescent Geoffroya. Tree.

6 G. VERMI'FUGA (Mart. reis. ex Schlecht. Linnæa. 5. p. 44.) trunk unarmed; branches covered with spongy bark; leaves with 9-11 roundly elliptic leaflets, which are glabrous above; petioles wingless, furrowed, covered with rusty tomentum, as well as the primary veins of the leaves on the under surface; racemes panicled, pyramidal, clothed with fulvous tomentum, as well as the calyxes. ♄. S. Native of Brazil.

Vermifuge Geoffroya. Tree.

7 G. VIOLA'CEA (Pers. ench. 2. p. 278.) unarmed; leaflets 7, alternate, ovate-oblong, acuminated, and somewhat emarginate, glabrous on both surfaces. ♄. S. Native of Guiana, on the banks of rivers. Acouròa violàcea, Aubl. guian. 753. t. 301. Flowers violaceous.

Violaceous-flowered Geoffroya. Tree 50 feet.

8 G.? TOMENTÒSA (Poir. dict. 8. p. 181.) leaflets 11, oval, oblong, obtuse or emarginate, glabrous above, and tomentose beneath, as well as the calyxes, peduncles, and branches. ♄. S. Native of Senegal. Petals nearly equal, velvety on the outside. Stamens 8? monadelphous, very villous. Legume unknown. This is a very doubtful species of the present genus.

Tomentose Geoffroya. Tree.

Cult. The species of *Geoffròya* grow freely in sandy loam, or a mixture of loam and peat, and cuttings will strike root if planted in sand, with a hand-glass placed over them in heat.

CCXLI. BRO'WNEA (in honour of Patrick Browne, M.D., author of a history of Jamaica). Jacq. amer. 194. fragm. p. 24. exclusive of Palòvea. Lin. gen. no. 833. Lam. ill. 575. D. C. prod. 2. p. 476.

Lin. syst. *Monadélphia, Deca-Polyándria.* Bracteoles 2, constituting a bifid sheath to the calyx (f. *55. a.*). Calyx coloured, 5-cleft (f. *55. b.*), with the tube permanent, and the lobes long, usually cohering to each other in various ways. Petals 5 (f. *55. c.*), unguiculate (f. *55. e.*). Stamens 10-15, monadelphous, with the tube or sheath cleft longitudinally. Ovary furnished with a stipe, which is adnate to the calyx. Style filiform. Legume 1-celled, many-seeded, acinaciform, compressed. Seeds ovate, covered with fungous fibres.—Small American trees, with abruptly-pinnate leaves, when young they are flaccid, and with the leaflets revolute at the edges. Leaf-bud long and stipulaceous. Flowers elegant, of a rose scarlet colour, rising in fascicled heads from the axillary buds.

1 B. RÒSA (Pers. ench. 2. p. 237.) leaves with 2-3 pairs of oval-oblong acuminated leaflets; stamens twice the length of the corolla; branches and petioles glabrous: flowers in dense heads; leaflets of the involucrum roundish, imbricated, and when in a young state are rather velvety. ♄. S. Native of South America, about Porto-bello, also of Guadaloupe, where it is cultivated. Hermèsias, Lœfl. itin. 278. B. ròsa de monte, Ber. act. angl. 1771. p. 171. t. 8, 9. Lam. ill. 575. f. 3. B. speciòsa, of Reichb. in Sieb. fl. trin. exsic. no. 68. does not differ from the present plant unless in the stamens being less elongated. Flowers scarlet.

Rose Brownea. Fl. June, Aug. Clt. 1820. Shrub 8 feet.

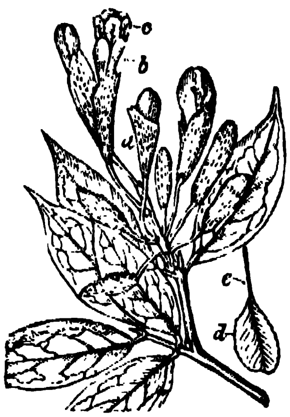
2 B. COCCÍNEA (Jacq. amer. 194. t. 121.) leaves with 2-3 pairs of oval-oblong, acuminated leaflets; flowers in fascicles; branches and petioles glabrous. ♄. S. Native of Venezuela, in hilly and woody places. Lam. ill. t. 575. f. 1. Calyx ferruginous. Corolla scarlet. Stamens 10.

Scarlet-flowered Brownea. Fl. July, Aug. Clt. 1793. Sh. 6 to 10 feet.

3 B. LATIFÒLIA (Jacq. fragm. p. 25. t. 17.) leaves with 1-3 pairs of ovate or obovate cuspidate leaflets; flowers in dense fascicles; involucrum tomentose; calyx compressed, with the two inferior lobes joined together into an emarginate lip. ♄. S. Native of Caraccas and Trinidad. Flowers red. Stamens 11.

Broad-leaved Brownea. Clt. 1824. Shrub 6 to 8 feet.

FIG. 55.



4 B. **racemòsa** (Jacq. fragm. p. 25. t. 16.) leaves with 4 pairs of unequal-sided, oblong or oblong-obovate, cuspidately-acuminated leaflets, which are glanduliferous at the base; flowers in racemes; involucrum and calyx clothed with fine tomentum; calyx apparently of 3 lobes, one free, and the 4 others joined by pairs. ♄. S. Native of Caraccas, at Guriepe, and of Trinidad. H. B. et Kunth, nov. gen. amer. 6. p. 312. Flowers rose-coloured. Stamens 11-12.

Racemose-flowered Brownea. Shrub 4 feet.

5 B. **capite'lla** (Jacq. fragm. p. 26. t. 18 and 19.) leaves with from 2-7 pairs of oblong cuspidate leaflets; flowers disposed in dense heads; ovary villous. ♄. S. Native of Caraccas, where it is called *Rosa-Macho*. Flowers scarlet.

Headed-flowered Brownea. Shrub 6 to 10 feet.

6 B. **leuca'ntha** (Jacq. fragm. p. 26. t. 20 and 21.) leaves with 6-8 pairs of oblong-lanceolate cuspidate leaflets, outer ones the largest, lower ones small, ovate, cordate; flowers disposed in heads. ♄. S. Native of Caraccas. Flowers white.

White-flowered Brownea. Shrub 8 feet.

7 B. **gra'ndiceps** (Jacq. coll. 3. p. 287. t. 22. f. a. i. fragm. t. 22 and 23.) leaves with usually 12 pairs of oblong-lanceolate glandless leaflets, ending in a long cuspidate acumen; branches and petioles pubescent; flowers in dense capitate spikes. ♄. S. Native of mountain woods at Caraccas, and in woods near Cumana, also of Trinidad. H. B. et Kunth, nov. gen. amer. 6. p. 313. Lam. ill. 575. f. 2. Corolla red. Stamens 11.

Large-headed Brownea. Clt. 1829. Tree 60 feet.

Cult. All the species of *Brównea* are very splendid when in bloom, and are therefore worthy a place in every collection of stove plants. A mixture of loam, peat, and sand is a soil well adapted for them, and care should be taken not to over water the plants in winter, as too great a supply of water at that season is almost sure to destroy them. Cuttings should be taken off from ripened wood, and planted in a pot of sand, and placed under a hand-glass in a moist heat, where they will strike root freely.

CCXLII. DI'PTERIX (from δὶς, *dis*, double, and πτερυξ, *pteryx*, a wing; in reference to the 2 upper lobes of the calyx, which appear like 2 wings). Schreb. gen. no. 1161. D. C. prod. 2. p. 477.—Baryósma, Pers. ench. 2. p. 278.

Lin. syst. *Monadélphia, Octo-Decándria.* Calyx turbinately tubular, 3-5-lobed, 2 superior lobes largest and wing-formed, and nearly opposite, the lower ones smaller. Petals 5, disposed into a papilionaceous corolla. Stamens 8-10, monadelphous, with the sheath or tube cleft longitudinally above. Style ascending. Legume ovate, rather compressed, thick, 2-valved, 1-celled, 1-seeded. Seed ovate-oblong, pendulous in the cell, exalbuminous. Embryo straight, with thick cotyledons.—Trees, with abruptly-pinnate coriaceous leaves, and panicles of flowers.

Sect. I. Coumarou'na (*Coumarou* is the name of the tree in Guiana). Aubl. guian. 2. p. 740. t. 296. Cumarùna, Lam. ill. t. 601.—Baryósma, Gærtn. fruct. 2. t. 93.—Heínzia, Scop. Stamens 8. Lower segment of calyx undivided; perhaps it is simple, or perhaps composed of 3 joined sepals.

1 D. **odora'ta** (Willd. spec. 3. p. 910.) leaves alternate, composed of 5-6 alternate leaflets; petiole marginated. ♄. S. Native of Guiana, in woods. Coumaroùna odoràta, Aubl. l. c. Baryósma Tónga, Gærtn. l. c. Flowers purple dashed with violet, disposed in racemose panicles. The seeds of this tree are the Tongo or Tonquin-beans, well known as giving a grateful scent to snuff. The Creoles put them into chests in order to drive away insects, as well as for their fragrance.

Sweet-scented Tonquin-bean. Clt. 1793. Tree 60 feet.

Sect. II. Tara'lea (*Tarala* is the name of the tree in Guiana). Aubl. guian. 2. p. 745. t. 298. D. C. prod. 2. p. 478.—Boldùcia, Neck. elem. no. 1342. Stamens 10; lower segments of the calyx 3 or only one, which is trifid.

2 D. **oppositifòlia** (Willd. spec. 3. p. 910.) leaves opposite, bearing 6-8 nearly opposite leaflets; petiole wingless. ♄. S. Native of Guiana, in woods. Taràlea oppositifòlia, Aubl. l. c. Baryósma oppositifòlia, Pers. ench. 2. p. 278. Flowers in axillary and terminal panicles, when blown their fragrance is very diffusive. Petals violaceous.

Opposite-leaved Tonquin-bean. Tree 60 feet.

Cult. These trees grow best in a loamy soil, and ripened cuttings will strike root if planted in a pot of sand, with a hand-glass placed over them, in a moist heat.

Tribe X.

CASSIE'Æ (plants agreeing with *Cássia* in important characters). D. C. legum. mem. xiii. prod. 2. p. 478.—Cássiæ and Cérceæ, Bronn. diss. Lobes of calyx imbricate before expansion (f. 57. *a.*). Petals perigynous, nearly equal (f. 56. *b.* f. 57. *b.*), rarely somewhat papilionaceous, always imbricate in æstivation. Stamens distinct (f. 56. *c.* f. 57. *c.*), never with the filaments concrete. Legume usually dry, and 2-valved (f. 56. *c.* f. 58. *g.*). Cotyledons foliaceous, rarely fleshy. Leaves sometimes bipinnate, sometimes tripinnate, sometimes simply pinnate, but rarely simple. The habit variable. This tribe will need still to be further divided when the characters of the genera are better known. Some of the genera have the sepals joined at the base, or in a long tube, which is staminiferous at the apex.

CCXLIII. MORI'NGA (*Muringo* is the Malabar name of the first species). Burm. zeyl. 161. Lam. ill. t. 337. Gært. fruct. 2. p. 314. t. 147. Alandìna, Neck. elem. no. 1293.

Lin. syst. *Decándria, Monogýnia.* Calyx of 5 nearly equal, oblong, deciduous sepals, which are a little concrete at the base. Petals 5, nearly equal, oblong, the upper one ascending. Stamens 10, unequal, separate, sometimes 5 of which are sterile. Style filiform, acute. Legume silique-formed, 3-valved. Seeds trigonal, exalbuminous, fixed to the centre of the fruit. Embryo straight, with thick oily cotyledons, which are inclosed within the spermaderm through germination. Plumule none.—Unarmed trees, with impari-bipinnate or tripinnate leaves. Racemes panicled. Legume constantly composed of 3 carpels, which are closely joined together, but which separate at maturity, leaving only the seminiferous sutures. Perhaps a proper tribe.

1 M. **pterygospe'rma** (Gærtn. fruct. 2. p. 314. t. 147.) legumes triquetrous; seeds trigonal, with the angles expanded into wings; leaves sub-bipinnate. ♄. S. Native of the East Indies and South America, where it has probably been introduced. Guilandìna Moringa, Lin. spec. 540. Hyperanthèra Moringa, Vahl. symb. 1. p. 30. Moringa oleífera, Lam. l. c. Anòma Moringa, Lour. coch. p. 279. Moringa Zeylánica, Pers. ench. 1. p. 460.—Rheed. mal. 6. t. 11.—Rumph. amb. t. 74. and t. 75. Flowers pale yellow, the upper petal whitish. The root of this tree when young is scraped, and used by the inhabitants of the places of its natural growth as horse-radish is in Europe, having much the same sharp taste, as have also the seeds.

Horse-radish-tree or *Winged-seeded* Moringa. Clt. 1759. Tree 20 to 30 feet.

2 M. POLYGÒNA (D. C. prod. 2. p. 478.) legumes many-angled; seeds trigonal, with the angles expanded into wings. ♄. S. Native of Bengal and other places in the East Indies. Anòma Morínga, Lour. 879. Hyperanthèra decándra, Willd. 2. p. 535. Burm. zeyl. t. 75? Flowers pale yellow. Perhaps only a variety of the preceding species.

Many-angled-fruited Moringa. Tree 15 to 20 feet.

3 M. A'PTERA (Gærtn. fruct. 2. p. 315.) legumes triquetrous; seeds trigonal, wingless. ♄. S. Native of the East Indies. Bálanus myrépsica, Black. herb. t. 386. Ben album officinale. Seeds snow white. Oil of ben is the produce of the seeds of this tree. It is a fixed, inodorous insipid oil, and is prepared in the Levant, in Egypt, Syria, and in Italy by expression. It is used very largely in perfumery, as a basis into which the art of the perfumer is able to infuse the fine fragrant scent of various delicate flowers, which do not of themselves retain a sufficient basis in which to fix their scent. Thus the great proportion of the oily essences of the shops is only perfumed oil of ben.

Wingless-seeded Moringa or Oil of ben-tree. Tree 15 to 20 ft.

4 M.? ARA'BICA (Pers. ench. 1. p. 460.) legume cylindrical, with 6 keels, articulately thickened; common petiole bearing glands between the pinnæ. ♄. S. Native of Arabia, near Beit-el-faklh. Hyperanthèra semidecándra, Forsk. descript. 67. Vahl. symb. 1. p. 30. Gymnócladus Arábica, Lam. dict. 1. p. 733. Hyperanthèra peregrìna, Spreng. syst. 2. p. 337.

Arabian Moringa. Tree 30 to 40 feet.

Cult. The species of *Moringa* thrive well in light loamy soil, and cuttings strike root readily in sand, under a hand-glass, in heat.

CCXLIV. GLEDI'TSCHIA (in honour of Gottlieb Gleditsch, of Leipsic, once a professor at Berlin, and defender of Linnæus against Siegesbeck; author of Methodus Fungorum, 1753; Systema Plantarum a Staminum situ, 1764, and many other smaller works). Lin. gen. 1159. Lam. ill. 857. D.C. prod. 2. p. 479.

LIN. SYST. *Polygàmia, Diœ'cia.* Flowers unisexual from abortion, or hermaphrodite. Calyx of 3-4-5 equal sepals, which are connected together at the base into a cupula. Petals equal in number to the sepals, rising from the tube of the calyx, sometimes fewer or abortive, or 2 of them are connected together into a carina. Stamens equal in number to the sepals, or fewer from abortion. Style short. Stigma pubescent above. Legume continuous, divided internally in many cells by dissepiments, furnished with more or less pulp, which surrounds the seeds, rarely 1-celled, 1-seeded, or dry. Seeds compressed.—Trees with the supra-axillary branches usually converted into branched spines. Leaves abruptly pinnate and bipinnate on the same tree. Flowers greenish, disposed in spikes.

1 G. TRIACA'NTHOS (Lin. spec. 1509.) spines robust, compressed at the base, but cylindrically conical at the apex, simple, or trifid; leaflets linear-oblong, lucid; legumes compressed, flat, a little twisted, many-seeded, 10 times or more longer than broad. ♄. H. Native of Virginia and Carolina, and other parts of North America. Duham. arb. 1. t. 105. ed. nov. 4. t. 25. Michx. fil. arb. 2. p. 164. t. 10. Hort. ang. t. 21. Wats. dend. brit. t. 138.—Pluk. mant. t. 352. f. 2. Spines supra-axillary. This tree is known in North America by the name of *Honey-locust*, and it is called by gardeners the *Three-thorned Acacia.*

Var. β, *inérmis* (D. C. prod. 2. p. 479.) stem unarmed; branches furnished with a few spines. ♄. S. D. C. legum. mem. ii. t. 22. f. 109. G. læ'vis, Hortul. Catesb. carol. 1. t. 43.—Pluk. alm. t. 123. f. 3.

Three-thorned Acacia or Honey-locust. Fl. June, July. Clt. 1700. Tree 30 to 50 feet.

2 G. BRACHYCA'RPA (Pursh, fl. amer. sept. 1. p. 221.) spines thick, short, and ternate; leaflets oblong, obtuse; legumes oblong, short. ♄. H. Native of Virginia and the Alleghany mountains. G. triacánthos β, Michx. fl. bor. amer. 2. p. 257. Compare Michx. fil. arb. 3. p. 171. Spines sometimes solitary.

Short-fruited Gleditschia. Fl. June, July. Tr. 30 to 50 feet.

3 G. MONOSPE'RMA (Walt. car. 254.) spines slender, few, usually trifid; leaflets ovate-oblong, acute; legumes flat, compressed, roundish, 1-seeded. ♄. H. Native of Carolina, Florida, and Illinois, in humid woods. Michx. fil. arb. 3. p. 169. t. 10. G. Carolinénsis, Lam. dict. 2. p. 461. G. triacántha, Gærtn. fruct. 2. p. 149. Mill. fig. t. 5.

One-seeded Gleditschia. Fl. June, July. Clt. 1723. Tree 30 to 40 feet.

4 G. SINE'NSIS (Lam. dict. 2. p. 465.) spines robust, conical, rameal ones simple or branched, cauline ones in fascicles, branched; leaflets ovate-elliptic, obtuse; legumes compressed, elongated. ♄. H. Native of China. D. C. legum. mem. i. t. 1. G. hórrida, Willd. spec. 4. p. 1098. Spines axillary. A tree beset with strong branched thorns.

China Gleditschia. Fl. June, Jul. Clt. 1774. Tr. 30 to 50 ft.

5 G. MACRACA'NTHA (Desf. arb. 2. p. 246.) spines strong; branched, conical, numerous; leaflets lanceolate, rather rigid; legumes elongated, thickened, pulpy inside. ♄. H. Native country unknown. Trunk very spiny; spines of the branches axillary. Leaflets nearly 2 inches long, crenately toothed. The pulp in the fruit is more austere than in any other species.

Long-spined Gleditschia. Fl. Ju. Jul. Clt. ? Tr. 40 to 50 ft.

6 G. FE'ROX (Desf. arb. 2. p. 247.) spines robust, much compressed, trifid; leaflets lanceolate, acute. ♄. H. Native country unknown. G. orientàlis, Bosc. Spines of the branches supra-axillary, large, compressed almost their whole length, furnished with short, lateral, opposite branchlets. The trunk of the tree is thickly beset with strong, branching thorns.

Fierce Gleditschia. Fl. Ju. Jul. Clt. ? Tree 30 to 50 feet.

7 G. CA'SPICA (Desf. arb. 2. p. 247.) spines slender, trifid, compressed; leaflets elliptic-lanceolate, obtuse. ♄. S. Native of Persia, at the Caspian sea, and at Lenkeran. Flowers and fruit unknown. Spines of the branches supra-axillary, decurrent along the bark at the base on all sides. Leaves usually bipinnate. Flowers and fruit unknown.

Caspian Gleditschia. Clt. 1822. Tree 30 to 40 feet.

8 G. I'NDICA (Pers. ench. 2. p. 623.) spines slender, conically-subulate, simple, or branched; leaflets elliptic-oblong, acutish. ♄. G. Native of Bengal. Spines axillary.

Indian Gleditschia. Clt. 1812. Tree.

† *The following names occur in the gardens, but they are in all probability synonymes of some of those above.*

1 *G. micracántha*, Lodd. cat. 2 *G. latisiliqua*, Lodd. cat.

Cult. The trees are remarkable in producing large strong branching thorns on the main stems. They will grow in any kind of soil, and are generally raised from seeds, which are usually procured from the native countries of the trees. The seeds may be sown one inch deep in a bed prepared for the purpose, and if the spring prove dry they will not vegetate until the second year. The first year from seed the plants should be sheltered from frost.

CCXLV. GYMNO'CLADUS (from γυμνος, *gymnos*, naked, and κλαδος, *klados*, a branch; appearance of branches). Lam. dict. 1. p. 733. ill. t. 823. D. C. prod. 2. p. 479.

LIN. SYST. *Diœ'cia, Decándria.* Flowers dioecious from abortion. Calyx tubular, 5-cleft. Petals 5, equal, oblong, exserted from the tube. Stamens 10, inclosed. Legume oblong, thick, filled with pulp inside.—An unarmed tree, with obtuse branches, bipinnate leaves, with 4-7 pairs of pinnæ, the lower pinna bearing 1 leaflet, the rest bearing 6-8 pairs of leaflets. Flowers white, disposed in racemes.

1 G. Canade'nsis (Lam. l. c. Michx. fl. bor. amer. 2. p. 241. t. 51.). ♄. H. Native of Canada, in woods, State of New York, Tenessee, Ohio, and Kentucky. Reich. mag. t. 40. Guilandìna dioíca, Lin. spec. 546. Hyperanthèra dioíca, Vahl. symb. 1. p. 31. Duham. arb. 1. t. 103. Bark of branches of a bluish ash-colour. Petals white.

Canadian Gymnocladus. Clt. 1748. Tree 30 to 40 feet.

Cult. A fine deciduous tree, with large, bipinnate leaves. It will grow in any common soil, and is increased by slips from the roots, which should be planted in spring, with their ends upwards.

CCXLVI. ANO'MA (*ανομος*, *anomos*, without law, irregular; the corolla as well as the legume are irregular). Lour. coch. p. 279. Juss. in ann. mus. 9. p. 327. D. C. prod. 2. p. 480.

Lin. syst. *Decándria, Monogýnia.* Calyx of 5, nearly equal sepals, which are concrete at the base. Petals 5, oblong, nearly equal. Stamens 10, ascending, the 5 alternate ones sterile. Legume oblong, thick, 1-celled, 2-valved, many-seeded.—A small tree, with opposite, bipinnate leaves, according to Loureiro, but perhaps they are alternate and tripinnate, somewhat ovate, tomentose leaflets, and panicles of white flowers.

1 A. Cochinchine'nsis (Lour. l. c.). ♄. G. Native of Cochin-china, in woods. Hyperanthèra Cochinchinénsis, Willd. spec. 2. p. 537. Hypelàte Cochinchinénsis, Smith, in Rees' cycl. vol. 19.

Cochin-china Anoma. Tree.

Cult. See *Cæsalpínia* for culture and propagation, p. 432.

CCXLVII. GUILANDI'NA (in honour of Melchior Guilandinus, or Wieland, of Prussia, a great traveller, he succeeded Anquillara at Padua in 1561, and Tallopius in 1564; he died in 1589. His publications are, De Stirpibus, 1558, and De Papyro, in 1572). Lin. gen. no. 517. Juss. gen. 350. Gærtn. fruct. 2. t. 148. Lam. ill. t. 336. D. C. prod. 2. p. 480.—Bónduc, Plum. gen. 25. Guilandina species of Lin.

Lin. syst. *Decándria, Monogýnia.* Calyx of 5 nearly equal sepals, joined together into a short tube at the base. Petals 5, sessile, nearly equal. Stamens 10, with the filaments villous at the base. Style short. Legume ovate, compressed, rather ventricose, echinated with prickles on the outside, 2-valved, 1-2-seeded. Seeds bony, shining, nearly globose, exalbuminous.—Trees and shrubs, furnished with hooked prickles both on the stems and petioles. Leaves abruptly bipinnate. Flowers yellow, disposed in racemose spikes. Bracteas elongated.

1 G. Bo'nduc (Lin. spec. 545.) leaves pubescent, velvety; leaflets ovate; prickles solitary; seeds yellow. ♄. S. Native of the East Indies, Africa, Arabia, and South America, on the sea-shore. Rumph. amb. 5. t. 48. G. Bónduc, var. *α*, màjus, D. C. prod. 2. p. 480. Flowers yellow. Seeds large, yellowish. Leaves with 7 pairs of pinnæ each, bearing as many pairs of leaflets. *Bondoq*, a necklace in Arabic; use of seeds.

Bonduc or Nicker-tree. Clt. 1640. Shrub 6 to 10 feet.

2 G. Bonduce'lla (Lin. spec. 545.) leaves pubescent; leaflets ovate-oblong; prickles twin; seeds grey. ♄. S. Native of the East Indies, Africa, and South America. Schrank, hort. mon. t. 68. Glycyrhìza aculeàta, Forsk. desc. 135.—Rumph. amb. t. 49. f. 1. This plant differs from the last in having much smaller leaves set closer together, and below each pair of leaflets are two short, stiff, crooked spines, which are opposite, not solitary, as in the last species. The seeds of this plant are usually used by boys instead of marbles, they being about the same size and shape. In Egypt the seeds of both this and the preceding are used by wömen, strung in necklaces, and hung about their children by way of amulet, to guard them from sorcery. They are often thrown on shore on the coast of Scotland and Ireland, and are called by the inhabitants of the former Molucca beans. The bark and seeds are bitter and tonic.

Small Bonduc or Nicker-tree. Clt. 1700. Sh. 6 to 8 feet.

3 G. cilia'ta (Berg. herb. Wicks. obs. fl. St. Barth. p. 411) branches clothed with rusty tomentum; leaves pubescent, with 3-6 pairs of pinnæ; leaflets nearly orbicular, oblique at the base, emarginate at the apex, pilose beneath at the base on the middle nerve. ♄. S. Native of the island of St. Bartholomew. Flowers in terminal, spicate racemes. Peduncles and pedicels clothed with rusty tomentum.

Ciliated Nicker-tree. Shrub.

4 G. microphy'lla (D. C. cat. hort. monsp. 114.) leaves smooth, with 3-4 pairs of opposite pinnæ, each pinna bearing 6-8 pairs of oval obtuse leaflets. ♄. S. Native country, flowers, and fruit unknown. Perhaps this species is referrible to the figure in Rumph. amb. 5. t. 49. f. 2.

Small-leaved Nicker-tree. Shrub.

5 G. gla'bra (Mill. dict. no. 3.) leaves glabrous, with 4 pairs of alternate pinnæ, pinna bearing oval, acute, opposite leaflets. ♄. S. Native about Campeachy.

Glabrous Nicker-tree. Tree.

6 G.? ge'mina (Lour. coch. 265.) leaves glabrous, simply pinnate; legumes 2 from the same flower. ♄. S. Native of Cochin-china, in woods. Leaves abruptly pinnate. Flowers yellow, disposed in terminal, branched racemes.

Twin-fruited Nicker-tree. Shrub 6 to 10 feet.

Cult. See *Cæsalpínia*, p. 432. for culture and propagation. The species require a considerable degree of heat to make them thrive.

CCXLVIII. COULTE'RIA (in honour of Thomas Coulter, M. D. author of a monograph on the natural order *Dipsàceæ*). H. B. et Kunth, nov. gen. amer. 6. p. 328. D. C. prod. 2. p. 480.—Adenocàlyx, Bertero, ined.—Tàra, Mol. chil. ed. 2. gall. p. 283. Schult. syst. 978.

Lin. syst. *Decándria, Monogýnia.* Calyx turbinate at the base, 5-cleft, the 4 upper lobes nearly equal, the lower one is larger and pectinately toothed, with glands. Petals 5, the upper one the largest. Stamens 10, with the filaments free and somewhat bearded at the base, and with a nectariferous gland on the upper side of the ovary. Style short. Stigma glandularly ciliated. Legume compressed, flat, spongy, hardly dehiscent but usually divided transversely into cells inside, 4-6-seeded. Embryo straight.—Shrubs or trees, native of South America, with spines in the axils of the leaves. Leaves abruptly bipinnate. Flowers yellow, disposed in racemes. Pedicels articulated, under the flower.

1 C. móllis (H. B. et Kunth, nov. gen. amer. 6. p. 328. in a note,) leaves, calyxes, and fruit clothed with velvety pubescence; leaflets oval-oblong, retuse; petioles unarmed; legumes stipitate, obtuse. ♄. S. Native of St. Martha. Adenocàlyx remòtus, Bert. ined. Cæsalpínia móllis, Spreng. syst. append. 169.

Soft Coulteria. Shrub 6 to 7 feet.

2 C. hórrida (H. B. et Kunth, nov. gen. amer. 6. p. 330. t. 568.) leaflets glabrous, oblong; petioles prickly; calyxes hairy; legumes glabrous, sessile, obliquely oblong. ♄. S. Native of the province of Popayan, near Carthagena.

Horrid Coulteria. Clt. 1824. Shrub 6 to 8 feet.

3 C. tinctòria (H. B. et Kunth, nov. gen. amer. 6. p. 330.) t. 569.) leaflets glabrous, oval, emarginate; petioles armed, sometimes somewhat puberulous; calyxes smoothish; legumes gla-

brous, curved, obtuse. ♄. S. Native of the province of Popayan, near Carthagena. Cæsalpínia pectinàta, Cav. præl. D. C. cat. hort. monsp. 84. Turp. dict. sc. nat. icon. Cæsalpínia tinctòria, Domb. ined. Cæsalpínia Tárra, Ruiz, et Pav. fl. per. 4. t. 376. Flowers orange-coloured. Legume 5-6-seeded. Leaves with 3 pairs of pinnæ, each pinna bearing 6 pairs of leaflets. The wood is used in dyeing.

Dyers' Tara. Clt. 1822. Shrub 6 to 10 feet.

4 C. Mexica'na (D. C. prod. 2. p. 481.) leaves, calyxes, and legumes glabrous; leaflets obovate, emarginate; legumes rather torose at the seeds, acuminated at both ends. ♄. S. Native of New Spain. Cæsalpínia vesicària, Sesse et Moc. fl. mex. icon. ined. Flowers yellow, but with the superior petal reddish. Stamens approximate. Leaves with 4 pairs of pinnæ.

Mexican Tara. Shrub.

5 C. Chile'nsis (D. C. prod. 2. p. 481.) flowers pentandrous. ♄. G. Native of Chili. Tàra tinctòria, Mol. chil. l. c. ex Schult. syst. 5. p. 407. The leaves are said to be opposite.

Chili Tara. Shrub.

Cult. See *Cæsalpinia* for culture and propagation, p. 432.

CCXLIX. CÆSALPI'NIA (in honour of Andreas Cæsalpinus, chief physician to Pope Clement VIII., the father of systematic arrangement in plants; in his work entitled De Planti Libri sedecem, Florence 4to. 1583. He died in 1602, at Rome). Plum. gen. 28. t. 9. Lin. gen. no. 516. Lam. ill. t. 335. Gærtn. fruct. 2. p. 144. D. C. legum. mem. xiii. prod. 2. p. 481.

Lin. syst. *Decándria, Monogýnia.* Calyx cup-shaped at the base, 5-lobed; lobes unequal, the lower one largest and a little arched. Petals 5, unequal, unguiculate, the upper one shorter than the rest. Stamens 10, with the filaments villous at the base and ascending; anthers all fertile. Style filiform. Legume unarmed, compressed, 2-valved. Seeds oval-oblong, compressed. Embryo with an elongated plumule.—Prickly or unarmed trees or shrubs, with abruptly bipinnate leaves, and simple or branched racemes of yellow flowers, with the pedicels bractless at the base.

Sect. I. Nuga'ria (*Nuga* is the Molucca name of the first species). D. C. legum. mem. xiii. Legume 1-2-seeded. Seeds very thick, transversely oblong. Calyx glabrous. Perhaps a proper genus, allied to *Moringa* or *Guilandina.*

1 C. Nu'ga (Ait. hort. kew. 3. p. 32.) primary petiole prickly beneath; leaves with 3-4 pairs of pinnæ, each pinna bearing 2-3 pairs of ovate, acute leaflets; flowers in racemose panicles. ♄. S. Native of the Moluccas. Rumph. amb. 5. t. 50. Guilandìna Nùga, Lin. spec. 546. Legume flat, short, ending in an incurved mucrone. Guilandìna Nùgæ of Burm. ind. 99. is very different from this plant in the simply pinnate leaves. Roots diuretic.

Nuga Brasiletto. Clt. 1801. Tree.

2 C. panicula'ta (Desf. cat. ed. 2. p. 210.) petioles and branches prickly; leaves with 2-4 pairs of pinnæ; leaflets oval; flowers panicled; pedicels longer than the flowers. ♄. S. Native of Malabar, in humid places. Guilandìna paniculàta, Lam. dict. 1. p. 435. Legume oval, acute at both ends.—Rheed. mal. 6. t. 19.

Panicled-flowered Brasiletto. Clt. 1817. Tree.

3 C.? axilla'ris (D. C. prod. 2. p. 481.) petioles and branches prickly; leaves simply pinnate; leaflets ovate, acute; flowers axillary, usually solitary. ♄. S. Native of Malabar, in woods. Guilandìna axillàris, Lam. dict. 1. p. 435.—Rheed. mal. 6. t. 20. Legume like those of the first species.

Axillary-flowered Cæsalpinia. Tree.

Sect. II. Brasile'ttia (*Brasiletto* is the name of *C. Brasiliénsis* in the Antilles). D. C. legum. mem. xiii. Legume oblong, acuminated at both ends, indehiscent, samaroid, 1-seeded. Seeds flat, transversely oblong. Calyx clothed with rufous down. Perhaps a proper genus.

4 C. sca'ndens (Roth, nov. spec. 209.) petioles and branches prickly; leaves with 3 pairs of pinnæ, each pinna bearing 4 pairs of ovate, acuminated leaflets, which are tomentose beneath; flowers disposed in loose panicles. ♄. S. Native of the East Indies. Legume roundish, oval, glabrous, 2 inches long and 1½ inch broad. Flowers and seeds unknown.

Climbing Brasiletto. Clt. 1800. Shrub cl.

5 C. Brasilie'nsis (Lin. spec. 544. exclusive of Catesby's synonyme) unarmed; leaves with 7-9 pairs of pinnæ, each pinna bearing about 15 or 16 pairs of oval-oblong, obtuse, glabrous leaflets; rachis and calyxes pubescent; racemes rather panicled; pedicels rather shorter than the corollas, flowers and stamens. ♄. S. Native of Jamaica, St. Domingo, and perhaps of Brazil, according to the name. This is the tree which affords the Brasiletto or Brazil-wood of commerce, much used in dyeing. It is an excellent timber wood, but seldom exceeds 8 or 10 inches in diameter. It is elastic, tough, and durable, and bearing a fine polish; it is of a beautiful orange and red colour, full of resin, and yields a fine tincture by infusion.

Common *Brasiletto.* Clt. 1739. Tree 20 feet.

6 C. fe'rrea (Martius, mss. in herb. Lamb.) unarmed, pubescent in every part; leaves with 3 pairs of pinnæ, each pinna bearing 4-6 pairs of elliptic, oblique leaflets; racemes panicled; legume oblong-ovate, mucronate, pedicellate. ♄. S. Native of Brazil, in the province of Bahia, where it is called *Pao-ferro* or *Iron-tree.*

Iron Brasiletto. Tree.

Sect. III. Sappa'nia (*Sappan* is the Malabar name of the tree). D. C. legum. mem. xiii. prod. 2. p. 482. Campècia, Adans. fam. 2. p. 318. Legume compressed, many-seeded, 1-celled, with dry valves. Seeds oblong. Upper petal short.

7 C. Sa'ppan (Lin. spec. 544.) leaves with 10-12 pairs of pinnæ, each pinna bearing 10-12 pairs of unequal-sided, obliquely oval-oblong leaflets, which are emarginate at the apex; flowers panicled; calyxes glabrous. ♄. S. Native of the East Indies. Roxb. cor. 1. t. 16.—Rheed. mal. 6. t. 2. Legume compressed, woody, glabrous, obliquely truncate at the apex. Flowers yellow. Ovary pubescent, ending in the short style. The uses of the wood of this tree in dyeing are numerous throughout Asia; it is an ingredient in the red dye on the coast of Coromandel, commonly called the chay dye. Where a cheap red is required for cotton cloth, the wood is employed by the Telinga dyers, but they cannot make it stand. The process of the Telinga dyers is as follows:—The cotton cloth is well washed, to remove any remains of the quick-lime, &c. used in bleaching; an infusion of half a pound of the powdered caducay in a pint and a half of cold water strained is employed to prepare the cloth, which is done by wetting it twice in the same infusion, drying it between and after. The following day it is twice wetted in a strong solution of alum, and as often dried in the sun. Next day a decoction of the Sappan-wood is prepared as follows: take 1 pound of Sappan-wood in powder, water 12 quarts, boil it till a third is consumed, divide the remaining 8 quarts into 3 parts, one of 4 and the other two of 2 quarts each; into the 4 quarts put the cloth, wet it well, wring it gently, and half dry it, it is again wetted in one of the small portions, and when half dry wetted for the third and last time in the other remaining portion of the decoction; dry in the shade, which finishes the process. The wood therefore seems to be possessed of nearly the same qualities as the Brasiletto or Brazil-wood.

Sappan Brasiletto. Clt. 1773. Tree 40 feet.

8 C. DI'GYNA (Rottl. ex Willd. nov. act. nat. cur. 1803. vol. 4. p. 198. t. 3.) prickly; leaves with 8-10 pairs of pinnæ, each pinna bearing 10-12 pairs of oblong-linear, obtuse leaflets; racemes simple; flowers usually digynous. ♄. S. Native of the East Indies. Ovary hairy. Stamens not exceeding the petals. Legumes 1-2, glabrous, ovate, oblong, ending in an incurved mucrone. Pedicels of flowers very long. Flowers yellow.

Digynous-flowered Brasiletto. Tree.

9 C. MIMOSOÌDES (Lam. dict. 1. p. 462. ill. t. 335. f. 2.) prickly; leaves with 6-12 pairs of pinnæ, each pinna bearing 8-12 pairs of oval-oblong, obtuse leaflets; racemes hispid; calyxes glabrous. ♄. S. Native of Malabar.—Rheed. mal. 6. t. 8. Leaves sensible to the touch. Flowers yellow. Legume oval-oblong, few-seeded, woolly.

Mimosa-like Brasiletto. Clt. 1806. Shrub 6 to 8 feet.

10 C. CUCULLA'TA (Roxb. hort. beng. p. 32.) prickly; prickles hooked; leaves with 4-5 pairs of pinnæ, each pinna bearing 4-5 pairs of elliptic, acuminated, glabrous leaflets; racemes forming terminal panicles; flowers crowded; upper segment of the calyx long, cucullate, and arched. ♄. ◡. S. Native of the East Indies. Flowers yellow. Legume unknown.

Cucullate-sepalled Brasiletto. Shrub cl.

11 C. TORTUÒSA (Roxb. hort. beng. p. 32.) prickly; prickles hooked; young branches and rachis clothed with rusty down; leaves with about 15 pairs of pinnæ, each pinna bearing 18-20 pairs of sessile, linear, oblong, retuse leaflets, which are glaucous beneath; flowers racemose; stamens length of petals. ♄. ◡. S. Native of Sumatra. Flowers yellow.

Twisted Brasiletto. Clt. 1820. Shrub cl.

12 C. MICROPHY'LLA (Martius, mss. in herb. Lamb.) unarmed; leaves with 8-10 pairs of pinnæ, each pinna bearing 8-10 pairs of small, oblong-roundish leaflets, which are pubescent and pale beneath, but shining above; rachis of leaves beset with pedicellate glands and pubescence; racemes terminal, simple; legume straight, acuminated, 3-4-seeded. ♄. S. Native of Brazil, in the desert of Bahia. Flowers yellow.

Small-leafletted Brasiletto. Shrub.

13 C. DESERTO'RUM (Martius, mss. in herb. Lamb.) unarmed; leaves usually with 1-2 pairs of pinnæ, each pinna bearing usually 7 broad, alternate, ovate-elliptic, glabrous leaflets, which are sessile and oblique at the base; racemes crowded with flowers, terminal, aggregate. ♄. S. Native of Brazil, in the desert of Bahia. Flowers yellow. Legumes unknown.

Desert Brasiletto. Tree.

14 C. BI'JUGA (Swartz, obs. 166.) prickly, but glabrous in every part; leaves with 2 pairs of pinnæ, each pinna bearing 2 pairs of obcordate leaflets; flowers panicled, on short pedicels. ♄. S. Native of Jamaica. Ponciàna bíjuga and Cæsalpínia vesicària, Lin. spec. 545.—Sloan. hist. 2. t. 181. f. 2, 3. Flowers yellow. Stamens equal in length to the corolla. Legume oval-oblong, few-seeded, black, furrowed. All parts of the tree have a strong balsamic scent when bruised. The leaflets are broad.

Two-paired-leaved Brasiletto. Clt. 1770. Tree 15 to 20 ft.

15 C. BAHAME'NSIS (Lam. dict. 1. p. 461.) prickly, but glabrous in every part; leaves with 3 pairs of pinnæ, each pinna bearing 3 pairs of obovate, emarginate leaflets; flowers panicled. ♄. S. Native of the Bahama islands. Catesb. car. 2. t. 51. Flowers whitish. Legume somewhat stipitate, linear, acute. The value of this wood for dycing has occasioned a scarcity of it in the Bahama islands.

Bahama Brasiletto. Tree.

16 C. CRI'STA (Lin. spec. 544.) prickly, but glabrous in every part; leaves with 1-3 pairs of pinnæ; leaflets obovate, nearly obcordate; racemes simple; pedicels thrice the length of the flowers; petals shorter than the calyx. ♄. S. Native of Jamaica. Plum. gen. 28. t. 9. Flowers yellow. Legume linear, somewhat stipitate, acute, glabrous, 7-8-seeded. Leaflets broad. Great quantities of the wood are sent yearly from the West Indies to England for dyeing, under the name of *Brazil-wood.*

Crested Brasiletto. Clt? Tree 15 to 20 feet.

17 C. GLANDULÒSA (Bert. in herb. Balb. D. C. prod. 2. p. 482.) prickly; leaves with 3 pairs of pinnæ, each pinna bearing 5 pairs of oval, glabrous leaflets, with glandular margins; racemes simple, and are as well as the calyxes pubescent. ♄. S. Native of St. Domingo. Legume sessile, flat, oblong-linear, apiculated by the style, beset with pubescence, and a few brown glands, which are only seen under a lens. C. Bertèrii, Spreng. in herb. Balb.

Glandular Brasiletto. Tree.

18 C. GLABRA'TA (H. B. et Kunth, nov. gen. amer. 6. p. 326.) unarmed, quite glabrous; leaves with 3-4 pairs of pinnæ, each pinna bearing 4-5 pairs of oblong-elliptic leaflets, which are rounded at both ends and coriaceous; racemes numerous, crowded at the tops of the branches; stamens hardly exceeding the corolla in length; legumes oblong, rather torulose. ♄. S. Native of Peru, between Caxamarca and Magdalena. Flowers yellow.

Glabrous Brasiletto. Tree.

19 C. CACALA'CO (Humb. et Bonpl. pl. equin. 2. t. 137.) prickly, glabrous; leaves with 4-5 pairs of pinnæ, each pinna bearing 3-4 pairs of obovate-roundish, emarginate, membranous, shining leaflets; racemes terminal, simple; rachis and pedicels rather hairy; stamens hardly exceeding the corolla; legumes torulose. ♄. S. Native of Mexico, between Chilpancingo and Zumpango. H. B. et Kunth, nov. gen. amer. 6. p. 328. *Cacalàco* is the vernacular name of the tree.

Cacalaco Brasiletto. Clt. 1824. Tree 10 to 20 feet.

20 C. PAPA'I (Ruiz, et Pav. fl. per. 4. t. 375.) unarmed; leaves impari-bipinnate, with 5-7 pairs of pinnæ, each pinna bearing 6-7 pairs of small, obtuse leaflets; racemes lateral; filaments filiform, hairy; legumes straight, mucronate. ♄. S. Native of Peru. Flowers small.

Papai Brasiletto. Shrub.

21 C. PRÆ'COX (Ruiz, et Pav. fl. per. 4. t. 376.) leaves abruptly bipinnate; petiole ending in a spine; pinnæ 3 pairs, each pinna bearing 5-7 pairs of small, emarginate leaflets; stipular spines strong, conical; legumes straight. ♄. S. Native of Peru.

Early Brasiletto. Tree.

22 C. EXOSTE'MMA (Moc. et Sesse, fl. mex. icon. ined. D. C. prod. 2. p. 483.) unarmed, glabrous; leaves with 3-4 pairs of pinnæ, each pinna bearing 3-4 pairs of ovate, obtuse leaflets; racemes terminal, simple; stamens twice the length of the corolla. ♄. S. Native of Mexico. Corolla yellow. Calyx and stamens reddish. This species comes very near *C. Cacaláco.*

Exserted-crowned Brasiletto. Tree 20 feet.

23 C. PULCHE'RRIMA; unarmed; petioles, calyx, and rachis of flowers clothed with rusty down; leaves with numerous pairs of pinnæ and leaflets; leaflets elliptic-lanceolate, oblique at the base and mucronate at the apex, pubescent beneath, with revolute edges; calyx rusty; racemes forming a terminal panicle ♄. S. Native of Brazil, in the province of Bahia, Martius. (v. s. in herb. Lamb.)

Very-fair Brasiletto. Tree.

24 C. SELLO'I; unarmed; young branches and rachis of leaves beset with glandular bristles; panicle, calyx, and under side of leaves rusty; leaves with numerous pairs of pinnæ and leaflets; leaflets lanceolate, mucronate, shining above; racemes forming a terminal panicle. ♄. S. Native of Brazil. Sello. Flowers yellow. (v. s. in herb. Lamb.)

Sello's Brasiletto. Tree.

Sect. IV. **Libidi'bia** (*Libidibi* is the name of the legume at Curaçoa). Legume oblong, spongy, incurved laterally, concrete between the seeds inside, and somewhat many-celled.

25 C. CORIA'RIA (Willd. spec. 2. p. 532.) unarmed, glabrous; leaves with 6-7 pairs of pinnæ, each pinna bearing 15-20 pairs of linear, obtuse leaflets; racemes panicled; pedicels shorter than the flowers. ♄. S. Native of Curaçoa, Carthagena, St. Domingo, in salt marshes by the sea-side. Ponciàna coriària, Jacq. amer. 123. t. 175. f. 36. C. coriària, Kunth, mim. t. 45. C. Thomæ'a, Spreng. in herb. Balb. The legumes are called *Libidibi*, and are used in tanning leather when ripe by the Spaniards and natives. The flowers are small and yellow.

Hide Brasiletto. Tree 15 to 20 feet.

26 C. DU'BIA (Spreng. syst. 2. p. 343.) leaves with 12 pairs of pinnæ, each pinna bearing 2-4 pairs of oblong, oblique, mucronate leaflets, which are discoloured beneath; racemes panicled, and are as well as the calyxes clothed with rusty down; legume 1-seeded, ♄. S. Native of Brazil. Sello.

Doubtful Brasiletto. Tree.

† *Species not sufficiently known.*

27 C. LEBBEKOÌDES (D. C. prod. 2. p. 483.) nearly unarmed, glabrous; leaves abruptly bipinnate, with 3-4 pairs of pinnæ, each pinna bearing 6-7 pairs of ovate, obtuse, unequal leaflets; legumes compressed, flat, elongated, linear, membranous. ♄. G. Native of China. Protuberances under the leaves almost spinose. Legume almost like that of *Acàcia Lébbek*. Umbilical funicle straight. Flowers unknown.

Lebbek-like Brasiletto. Tree.

28 C.? PUNCTA'TA (Willd. enum. 445.) unarmed; leaves impari-bipinnate; pinnæ impari-pinnate; leaflets elliptic, obtuse, mucronate, dotted. ♄. S. Native of Brazil. Ponciàna punctàta, Poir. suppl. 4. p. 449. The dots on the leaves vanish on drying. Perhaps a species of *Moringa*.

Dotted-leaved Brasiletto. Clt. 1820. Shrub 6 feet.

29 C.? ECHINA'TA (Lam. dict. 1. p. 461.) prickly; leaves bipinnate; leaflets ovate, obtuse; legumes echinated. ♄. S. Native of Brazil, where the wood is used for dyeing. Guilandìna echinàta, Spreng. syst. 2. p. 327. Perhaps a true species of *Guilandìna*. Flowers yellow. This species is said to produce the best Brazil-wood or *Brasiletto*.

Echinated-podded Brasiletto. Tree.

30 C.? CASSIOÌDES (Willd. enum. 444.) stipulas spinose; leaves with 2-3 pairs of pinnæ, each pinna bearing 6-7 pairs of oblong, retuse leaflets; petioles rather pilose. ♄. S. Native of South America. Ponciàna cassioìdes, Poir. suppl. 4. p. 448. Flowers and legumes unknown.

Cassia-like Brasiletto. Clt. 1821. Shrub.

31 C.? MUCRONA'TA (Willd. enum. 444.) prickly; leaves bipinnate, with 3 pairs of pinnæ, each pinna bearing 7 pairs of oblong, obtuse, mucronate, glabrous leaflets. ♄. S. Native of Brazil. Ponciana mucronàta, Poir. l. c. Flowers and legumes unknown.

Mucronate-leafletted Brasiletto. Shrub.

32 C.? PLUVIÒSA (D. C. prod. 2. p. 483.) unarmed; leaves impari-bipinnate, with 6-8 pairs of pinnæ, which are abruptly pinnate, bearing 10-12 pairs of unequal, rhomboid-ovate, glabrous leaflets; gland axillary, ovate; racemes terminal; pedicels and calyxes clothed with rufous velvety down. ♄. S. Native of Brazil. Cubæ'a pluviòsa, Leandr. sacr. ined. According to the testimony of Leandre, water flows from the young branches, and falls from them in drops like rain. The superior segment of the calyx is longer than the rest. The vexillum is shorter than the other petals. Stamens with the filaments villous at the base. Legume 1-celled, few-seeded. All ex Leandr.

Rainy Brasiletto. Tree 40 to 60 feet.

33 C. PROCE'RA (Poppig. ex Spreng. syst. 2. p. 343.) leaves simply pinnate, with many pairs of oblong-linear, obtuse, glabrous leaflets; racemes few-flowered; stamens about equal in length to the corolla. ♄. S. Native of Cuba. Flowers yellow.

Tall Brasiletto. Clt. 1824. Tree.

† *Species only known by name from Roxburgh's Hortus Bengalensis, p. 32. and p. 90.*

1 *C. enneaphýlla*, Roxb. 2 *C. oleospérma*, Roxb. 3 *C. Chinénsis*, Roxb. 4 *C. lácerans*, Roxb. 5 *C. resupinàta*, Roxb. 6 *C. paniculàta*, Roxb. 7 *C. Sumatràna*, Roxb. 8 *C. polyphýlla*, Roxb.

Cult. Cæsalpínia is a genus of fine flowering trees and shrubs, but in our collections they are never allowed to grow to a size large enough for flowering, in consequence of their being prickly, and are not admired on that account. A mixture of loam and peat suits them best. Cuttings are difficult to root, but sometimes will succeed if taken off from the mother plant in a growing state and planted in sand, with a hand-glass placed over them in a moist heat.

CCL. POINCIA'NA (in honour of M. de Poinci, once governor of the Antilles, and a patron of botany). Lin. gen. 515. Lam. ill. t. 333. Gærtn. fruct. 2. t. 150. D. C. prod. 2. p. 483. —Poíncia, Neck. elem. 1282.

Lin. syst. *Decándria, Monogýnia*. Calyx cup-shaped at the base, permanent, 5-cleft, lower segment arched. Petals 5, stipitate, upper one difformed. Stamens 10, very long, all fertile, with the filaments hairy at the base. Style very long. Legume flat, compressed, 2-valved, somewhat many-celled from the seeds being separated by a kind of cellular spongy substance. Seeds obovate, compressed, with the endupleura gelatinous when placed in water. Embryo with flat cotyledons, and an oval plumule.—Very elegant prickly or unarmed shrubs and trees, with abruptly-bipinnate leaves, and corymbous panicles of shewy flowers, on long bractless pedicels.

1 P. PULCHE'RRIMA (Lin. spec. 554.) prickly; leaflets obovate; calyx glabrous; petals on long stipes, fringed. ♄. S. Native of the East Indies and tropical Africa, from whence it has migrated to South America and the West India Islands. Reich. gart. mag. t. 93. D. C. legum. mem. xi. t. 23. f. 111. Sims, bot. mag. 995.—Merian. sur. t. 45.—Rheed. mal. 6. t. 1.—Rumph. amb. 4. t. 20. Cæsalpínia pulchérrima, Swartz, obs. 166. To this species the *P. pulchérrima*, *P. alàta*, and *P. trijuga* of Burm. ind. p. 333. appertain. The Barbadoes flower-fence is planted in the West Indies as hedges to divide the lands, whence the English name. It is called *Spanish carnation* in some of our West Indian colonies. Sir Hans Sloane calls it *wild-senna*, and Dr. Browne calls it *Barbadoes-pride*. Its French name is *Pounciade* or *fleurs de Paradis*. Ligon says the seeds were first carried to Barbadoes from the Cape de Verd Islands. The flowers are beautifully variegated with a deep red or deep orange colour, yellow, and some spots of green; they have a very agreeable odour, sometimes the flowers are deep orange, and sometimes yellow, without any admixture. All parts of the plant are thought to be very powerful amenegogues, and are frequently used for that purpose among the negroes.

Beautiful Barbadoes-flower-fence. Fl. Jul. Sept. Clt. 1691. Shrub 6 to 8 feet.

2 P. INSI'GNIS (Kunth, mim. t. 44. H. B. et Kunth, nov. gen. amer. 6. p. 333.) prickly; calyx glabrous; petals entire, standing on very short stipes. ♄. S. Native of South America. Flowers copper-coloured, painted with purple veins.

Noble Flower-fence. Fl. June, July. Clt. 1823. Shrub 6 to 10 feet.

3 P. ELA'TA (Lin. spec. 554.) unarmed; leaflets linear, obtuse,

ending in a small acumen; calyx clothed with velvety tomentum; petals fringed, on long stipes. ♄. S. Native of the East Indies and Abyssinia. Cæsalpínia elàta, Swartz, obs. 166. Leaves with 5-6 pairs of pinnæ, each pinna bearing many pairs of small leaflets, which are clothed with white tomentum beneath. Flowers with yellow petals, and dark purple filaments. Buds and pods silky.

Tall Flower-fence. Clt. 1778. Tree 15 to 20 feet.

4 P. Roxbu'rghii; unarmed; branches and panicle clothed with rusty down; leaves with 11 pairs of pinnæ, each pinna bearing 18-20 pairs of trapezoid-oblong, retuse leaflets; calyx and legumes woolly; petals fringed, stipitate. ♄. S. Native of the East Indies. Cæsalpínia inérmis, Roxb. hort. beng. p. 90. but not of Lin. Flowers with yellow petals, and purple filaments.

Roxburgh's Flower-fence. Tree.

5 P. compre'ssa (Sesse et Moc. in herb. Lamb.) unarmed; leaves with 3 pairs of pinnæ, each pinna bearing 4-5 pairs of elliptic, obtuse, emarginate, glaucous leaflets; petals entire, about twice the length of the calyx, on short stipes; stamens much exserted. ♄. S. Native of Mexico and Peru. Racemes terminal, simple. Pedicels an inch long. Flowers with yellow petals and purplish stamens.

Compressed Flower-fence. Shrub 8 to 10 feet.

6 P. hi'spida; branches beset with stiff curved bristles; leaves with 10 pairs of pinnæ, each pinna bearing 10-11 pairs of obovate emarginate leaflets, with a bristle in the notch at the end; petals crenated, on short stipes. ♄. S. Native of Mexico, Pavon. Racemes terminal, few-flowered. Pedicels 2 inches long. Flowers apparently yellow. (v. s. in herb. Lamb.)

Hispid Flower-fence. Shrub 6 to 10 feet.

7 P. Gillie'sii (Hook. bot. misc. 1. p. 129. t. 34.) unarmed; leaves bipinnate; leaflets oblong; petals glandular, denticulately-ciliated at the apex; legume acinaciform, glandular, 1-celled, dry. ♄. S. Native of Chili, about Mendoza. Flowers sulphur-coloured; they have a sickly disagreeable smell, and are considered by the common people in Chili to be injurious to the sight; hence the vernacular name *mal de ozos*. The shrub will not grow unless in irrigated places.

Gillies's Flower-fence. Shrub 4 to 6 feet.

Cult. Beautiful shrubs, with very showy flowers, and are therefore worth cultivating in every collection of stove plants. They require to be kept in a strong heat to have them to flower freely. A mixture of loam and peat is the best soil for them. Young cuttings may be rooted if planted in a pot of sand, with a hand-glass placed over them, in a moist heat; but the plants are usually raised from seeds received from abroad.

CCLI. MEZONEU'RUM (from *μεσος, mesos*, the middle, and *νευρον, neuron*, a nerve; in reference to the seminiferous suture of the pod being expanded into a wing). Desf. mem. mus. 4. p. 245. D. C. prod. 2. p. 484.

Lin. syst. *Decándria, Monogýnia.* Calyx of 5 sepals, which are concrete at the base; the lower one arched, involving the others, which are orbicular before expansion. Petals 5, unguiculate, upper one the smallest. Stamens 10, declinate, villous at the base. Style incurved. Legume foliaceous, flat, ovate-oblong, indehiscent, 1-celled, many-seeded, having the seminiferous suture expanded into a wing.—Trees, with abruptly and oppositely bipinnate leaves, having twin hooked prickles at the base of each pair of pinnæ. Racemes simple, bractless. This genus is nearly allied to *Cæsalpínia*, but it is distinguished from it by the winged legume.

1 M. gla'brum (Desf. l. c. t. 10.) leaves glabrous; legume very flat. ♄. S. Native of the Island of Timor.

Glabrous Mezoneurum. Tree 20 feet.

2 M. pube'scens (Desf. l. c. t. 11.) leaves pubescent; legume inflated and reticulated in the middle part. ♄. S. Native of Java.

Pubescent Mezoneurum. Tree 20 feet.

Cult. See *Poinciàna* for culture and propagation.

CCLII. REICHA'RDIA (in honour of John James Reichard, author of a Systema Plantarum, 4 vol. 8vo. Frankfort, 1779 and 1780., and other botanical works). Roth, nov. spec. 210. but not of his bot. abhandl. nor of his cat. bot. D. C. prod. 2. p. 484.

Lin. syst. *Decándria, Monogýnia.* Sepals 5, joined into a campanulate crenulated calyx. Petals 6-10, unequal, disposed in a somewhat papilionaceous manner. Stamens 10, declinate, distinct, cohering together beneath the middle by a beard. Ovary somewhat pedicellate. Style filiform. Stigma dilated. Legume samaroid, ending in an oblong wing. This genus is not sufficiently known.

1 R. hexape'tala (Roth. l. c.) corolla 6-petalled; leaves abruptly bipinnate, and are, as well as the stems, prickly. ♄. S. Native of the East Indies. Cæsalpínia ligulàta, Heyne ex Roth. Flowers about the size of those of *E'rvum*.

Six-petalled Reichardia. Clt. 1824. Tree 10 feet.

2 R.? decape'tala (Roth, l. c.) corolla 10-petalled; leaves abruptly and simply pinnate; stem prickly. ♄. S. Native of the East Indies. Cæsalpínia, spec. nov. Heyne ex Roth. Legume unknown.

Ten-petalled Reichardia. Tree.

Cult. See *Poinciàna* for culture and propagation.

CCLIII. LABI'CHEA (in memory of M. Labiche, an officer of the French ship Uranie, who accompanied Freycenet in his voyage round the world; he died on his passage to the Moluccas). Gaud. in Freycenet, voy. part. bot. p. 486. t. 16.

Lin. syst. *Diándria, Monogýnia.* Calyx of 5 sepals, nearly regular, deciduous. Petals 5, roundish-obovate, rather orbicular, nearly equal, spreading, exceeding the calyx. Stamens 2, hypogynous; filaments very short; anthers 2-celled, thick, arched, unequal, opening by a suboperculate pore. Ovary on a short stipe, obliquely ovate-oblong, compressed, ending in a subulate style, containing 2 ovula. Stigma simple. Fruit unknown.—An unarmed shrub, with alternate, sessile, imparipinnate leaves, bearing 1-5 pairs of opposite, lanceolate, mucronate, coriaceous leaflets. Stipulas petiolar, minute. Racemes terminal, many-flowered. Flowers alternate, pedicellate, yellow. Pedicels bracteate at the base.

1 L. cassioìdes (Gaud. l. c.) ♄. G. Native of New Holland, on the western coast, at a place called in French Baie des chiens marins, and in English Shark's Bay.

Cassia-like Labichea. Shrub 3 to 4 feet.

Cult. This shrub will grow well in a mixture of loam and peat, and cuttings will probably root if planted in a pot of sand, with a bell-glass placed over them.

CCLIV. HOFFMANSE'GGIA (in honour of John C. Hoffmansegg, author of Flore Portugaise, in conjunction with Link Berlin, 1806 and following years). Cav. icon. 4. p. 63. D. C. prod. 2. p. 484.

Lin. syst. *Decándria, Monogýnia.* Sepals 5, joined at the base, permanent. Petals 5, unguiculate, spreading, glandular at the base, the superior one the broadest. Stamens 10, with the filaments beset with glandular pili, one of which is usually castrated. Stigma clavate. Legume linear, compressed, dry, many-seeded.—Herbs or subshrubs, with bipinnate leaves, the pinnæ sometimes abruptly, sometimes impari-pinnate, and with a pedicellate gland at the base of the petiole on one or both sides. Racemes opposite the leaves. Flowers yellow.

1 H. falca'ria (Cav. icon. 4. t. 392.) stems decumbent, hardly suffruticose; leaves with 3-6 pairs of pinnæ, with an odd one, each pinna bearing 3-6 pairs of oval-oblong, glaucous leaflets; legumes falciform. ♃. S. Native of Chili, on the mountains about Mendosa, and of Peru. Lárrea glaúca, Ort. dec. p. 15. Root creeping, tuberous. Flowers yellow.

Sickle-podded Hoffmanseggia. Fl. July, Aug. Clt. 1806. Pl. decumbent.

2 H. trifolia'ta (Cav. icon. 4. t. 393. f. 1.) stems almost wanting; leaves with 3 pinnæ; leaflets ovate, hoary from tomentum; legumes straight, villous. ♃. S. Native of South America, near Port Desire. Flowers yellow.

Trifoliate Hoffmanseggia. Pl. ½ foot.

3 H. prostra'ta (Lag. in litt. ex D. C. prod. 2. p. 485.) stems almost wanting; leaves with 2 pairs of pinnæ, without an odd one; leaflets ovate-oblong, rather villous; legumes straight, pubescent. ♃. S. Native of Peru, about Lima. Flowers yellow.

Prostrate Hoffmanseggia. Pl. ¼ foot, prostrate.

4 H. pilòsa; stems wanting; leaves radical, with 3 pairs of pinnæ, each pinna bearing numerous, crowded, imbricate leaflets; racemes radical, simple, few-flowered. ♃. S. Native of Peru. Cæsalpínia pilòsa, Ruiz et Pav. in herb. Lamb. Petioles and peduncles very pilose. Root tapering. Flowers yellow.

Pilose Hoffmanseggia. Pl. ¼ foot.

Cult. The species of this genus are small herbaceous plants. They grow best in a mixture of peat and loam, and are increased by seeds, which will ripen in this country.

CCLV. MELANOSTI'CTA (from μελας, *melas*, black, and στικτος, *stictos*, marked; in reference to the leaves and calyxes being beset with black glands, which have the appearance of [illegible] legum. mem. xii. prod. 2. p. 485.

Lin. syst. *Decándria, Monogýnia.* Sepals 5, nearly equal, joined together at the base into a short permanent tube, but free at the apex, and deciduous. Petals 5, nearly equal, elliptic, attenuated at the base, length of the calyx. Stamens 10, distinct; filaments rather villous at the base from branched hairs. Legume compressed, ovate-oblong, hairy, 4-ovulate.—A humble shrub, native of the Cape of Good Hope, with somewhat fascicled roots, some of which are cylindrical, and others thickened into tubers. Leaves bipinnate, with 2 pairs of pinnæ, each pinna bearing 6-8 pairs of leaflets, with the terminal leaflet elongated. Stipulas pinnatifid. Racemes elongated. This genus is very nearly related to *Pomària*, but the fruit is not sufficiently known.

1 M. Burche'llii (D. C. l. c. t. 69.) ♄. G. Native of the Cape of Good Hope. Burch. cat. no. 2345. Cæsalpínia Melanostícta, Spreng. syst. append. p. 169. Leaves and calyxes dotted with black sessile glands, whence the generic name.

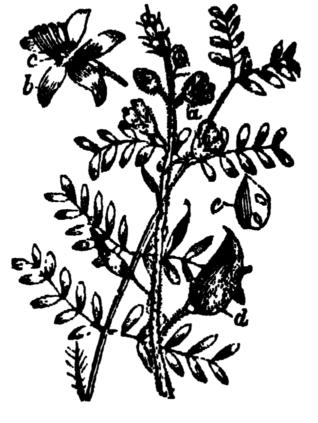
Burchell's Melanosticta. Shrub 1 foot.

Cult. See *Hoffmanséggia* for culture and propagation. The plant is increased by dividing at the root.

CCLVI. POMA'RIA (in honour of — Pomar, physician to Philip III. of Spain). Cav. icon. 5. p. 1. t. 402. D. C. prod. 2. p. 485.

Lin. syst. *Decándria, Monogýnia.* Sepals 5, joined at the base into a short tube, 5-cleft at the apex (f. 56. *a.*), the segments deciduous. Petals 5 (f. 56. *b.*), on short claws, the uppermost one concave, and shorter than the rest. Stamens 10, free (f. 56. *c.*), declinate, hairy at the base (f. 56. *c.*). Style filiform, crowned by a capitate stigma. Legume oblong, compressed (f. 56. *d.*), 2-valved, 1-celled, 2-seeded (f. 56. *e.*). Seeds ovate.—A shrub, with abruptly bipinnate leaves, pinnatifid stipulas, and axillary racemes of flowers. Branches, calyxes, and corollas beset with glands. This genus is very nearly allied to *Hoffmanséggia.*

FIG. 56.



1 P. glandulòsa (Cav. l. c.) ♄. S. Native of New Spain, near Queretaro, and of North America, on the banks of the Canadian river. Flowers yellow.

Glandular Pomaria. Shrub 6 feet.

Cult. See *Hoffmanséggia* for culture and propagation.

CCLVII. HÆMATO'XYLON (from αἱμα, *haima*, blood, and ξυλον, *xylon*, wood; logwood is well known for its red colour). Lin. gen. no. 525. Lam. ill. t. 340. D. C. prod. 2. p. 485.

Lin. syst. *Decándria, Monogýnia.* Calyx 5-lobed, the tube permanent, but the lobes are deciduous, oblong, and obtuse. Petals 5, hardly longer than the calyx. Stamens 10; filaments pilose at the base; anthers glandless. Style capillary. Legume compressed, flat, lanceolate, acuminated at both ends, 1-celled, 2-seeded, with the sutures indehiscent, but the valves burst longitudinally to relieve the seeds. Seeds transversely oblong. Cotyledons 2-lobed.—A tree, with unarmed branches, or with spines under the leaves. Flowers racemose, hermaphrodite.

1 H. Campechia'num (Lin. spec. 549.) ♄. S. Native of the Bay of Campeachy at Honduras, and other parts of the Spanish West Indies, but now cultivated in Jamaica and other West India Islands, &c. Plench. icon. t. 329. Woodv. med. bot. p. 48. t. 17. Cat. car. 3. t. 66. Sloan. hist. 2. t. 10. f. 1-4. Leaves abruptly-pinnate, in fascicles; leaflets obovate, obcordate. Flowers yellow. Logwood is generally crooked, and seldom thicker than a man's thigh. It was first cultivated in Jamaica in 1715 from seeds brought from the Bay of Campeachy. It makes impenetrable and beautiful fences. Both the bark and wood are gentle subastringents; but the last excels, and adds a sweetness to its virtue, which makes it more agreeable to the palate. The wood is principally used in dyeing.

Campeachy or Common Logwood. Clt. 1732. Tree 20 ft.

Cult. Logwood grows well in a mixture of sand and peat; and cuttings will root if planted in a pot of sand, with a hand-glass placed over them in heat; but the plants are generally raised from seeds sent or brought from the West Indies.

CCLVIII. PARKINSO'NIA (in honour of John Parkinson, an apothecary of London, author of Paradisis Terrestris, 1629, and Theatrum Botanicum, 1649). Plum. gen. 25. Lin. gen. no. 513. Lam. ill. t. 336. D. C. prod. 2. p. 485.

Lin. syst. *Decándria, Monogýnia.* Sepals 5, equal, spreadingly reflexed. Petals 5, ovate, flat, upper one roundish, on a long claw. Stamens 10, rather declinate, a little longer than the claw of the superior petal. Style filiform, rather ascending. Legume linear-oblong, acuminated at both ends, torose at the seeds, but compressed between them. Seeds oblong, with the endopleura tumid, and with a linear hylum. Embryo with oblong cotyledons, and an ovate radicle.—A shrub, furnished with solitary or tern straight prickles or spines. Leaves pinnate; leaflets usually deciduous or abortive. Petioles linear, very long, winged. Racemes loose. Flowers beautiful yellow.

1 P. aculea'ta (Lin. hort. cliff. 157. t. 13.) ♄. S. Native of

South America and the West India Islands, and now cultivated in most parts of the world within the tropics. Jacq. amer. 121. t. 80. pict. 62. t. 119. D. C. legum. mem. xi. t. 21. f. 112. germ. Flowers yellow, sweet-scented, disposed in pendulous racemes. In Jamaica the shrub is called *Jerusalem-thorn*, and the French in the West Indies call it *Genet épineux*.

Prickly Parkinsonia. Clt. 1739. Shrub 8 to 10 feet.

Cult. This is a most elegant shrub in the West Indies when in flower, but in our stoves it is seldom preserved throughout the winter, although seeds of it are received annually from the West Indies, and great numbers of plants raised yearly.

CCLIX. CA'DIA (*Kadi* is the Arabic name of the tree). Forsk. descr. p. 90. D. C. prod. 2. p. 486.

LIN. SYST. *Decándria, Monogýnia.* Calyx campanulate, 5-cleft, glandular on the inside of the tube at the base. Petals 5, equal, inserted in the calyx. Stamens 10, with the filaments gibbously geniculated at the base; anthers glandless. Ovary pedicellate. Stigma sessile, acute. Legume linear, many seeded, 2-valved, on a short stipe.—An unarmed shrub, with impari-pinnate leaves, linear, opposite or alternate leaflets, and pedicellate solitary flowers.

1 C. VA'RIA (Lher. diss. in mag. ency. 5. p. 29.) ♄. G. Native of Arabia Felix. C. purpùrea, Willd. spec. 548. Spændóncea tamarindifòlia, Desf. dec. phil. 7. p. 259. Panciática purpùrea, Piccio, diss. Corolla at first white, but as it fades it becomes rose-coloured.

Variable Cadia. Clt. 1777. Shrub 5 to 6 feet.

Cult. See *Ceratònia* for culture and propagation.

CCLX. ZUCCA'GNIA (in honour of Attilius Zuccagni, M.D. once director of the botanic garden at Florence). Cav. icon. 5. p. 2. t. 403. but not of Thunb. D. C. prod. 2. p. 486.

LIN. SYST. *Decándria, Monogýnia.* Calyx 5-lobed, with a turbinate tube, and oblong obtuse lobes, the lower one rather the longest. Petals 5, ovate, the upper one broader and concave. Stamens 10, nearly equal, pilose at the base. Style filiform. Stigma funnel-shaped. Legume nearly ovate, compressed, 1-celled, 2-valved, 1-seeded, hairy. Seed fixed to the top of the suture.—Clammy shrubs, with abruptly pinnate leaves, and racemes of saffron-coloured flowers.

1 Z. PUNCTA'TA (Cav. icon. 5. p. 2. t. 403.) clammy; leaves abruptly pinnate; racemes terminal. ♄. G. Native of Chili, on the mountains. Flowers saffron-coloured.

Dotted Zuccagnia. Shrub 4 to 5 feet.

2 Z.? ANGULA'TA (Hook. in Beech. voy. p. 22.) stems glabrous, and branches angular; leaves conjugately-pinnate and sub-bipinnate; leaflets minute, ovate-orbicular; racemes terminal, clothed with glandular pubescence. ♄. G. Native of Chili, about Coquimbo.

Angular-branched Zuccagnia. Shrub.

Cult. See *Ceratònia* for culture and propagation.

CCLXI. CERATO'NIA (from κερατωνια of Theophrastus, from κερατιον, *keration*, a horn or pod; shape of pods). Lin. gen. 1167. Lam. ill. t. 859. Síliqua, Tourn. inst. 344.

LIN. SYST. *Polygàmia, Diœ'cia.* Flowers polygamous or diœcious. Calyx 5-parted. Petals wanting. Stamens 5. Stigma sessile, orbicular. Legume linear, coriaceous, indehiscent, many seeded, many celled from the seeds being intercepted by a kind of fleshy substance, and with the valves thick and pulpy on the inside.—Trees, with thick trunks, ever-green abruptly-pinnate, coriaceous shining leaves, and racemes of small red flowers. Legumes containing edible pulp.

1 C. SÍLIQUA (Lin. spec. 1513.) unarmed; leaflets oval, obtuse, flat, coriaceous, shining, dark green. ♄. G. Native of the south of Europe, Mauritania, and the Levant. Cav. icon. t. 113. Andr. bot. rep. 567. D. C. legum. xi. t. 23. f. 114. germ. Tasano in act. nap. 1787. p. 248. t. 18. f. 2.—Blackw. herb. t. 209. The carob-tree is much cultivated in the south of Europe for the sake of the pods, the pulp of which is eaten; they are 4 inches and more in length, of a dusky ferruginous colour, as well as the seeds. Ignorance of eastern manners and natural history induced some persons to fancy that the locusts which John the Baptist fed on were the tender shoots of this plant, and that the wild honey was the pulp in the pods of the carob, whence it has the name of St. John's bread; there is better reason to suppose that the shells of the carob-pod might be the husks which the prodigal son desired to partake of with the swine.

Silique-podded Ceratonia or Carob-tree, or St. John's-bread. Fl. Sept. Oct. Clt. 1570. Tree 30 to 50 feet.

2 C.? CHILE'NSIS (Mol. chil. ed. gall. 338.) branches spiny; leaflets oval, keeled. ♄. G. Native of Chili. Perhaps a species of *Prosòpis*.

Chili Ceratonia. Tree 20 to 30 feet.

Cult. Loam and sand is a good mixture for the carob-tree, and ripened cuttings will strike root if planted in sand, with a hand-glass placed over them.

CCLXII. CASTANOSPE'RMUM (from καστανον, *kastanon*, a chestnut, and σπερμα, *sperma*, a seed; in reference to the seeds, which taste like chestnuts). Cunningh. in Hook. bot. misc. 1. p. 241. t. 51 and t. 52.

LIN. SYST. *Decándria, Monogýnia.* Calyx coloured, somewhat bilabiate, with a short tube, upper lip bifid, lower one trifid. Petals 5, papilionaceous, with the wings and keel nearly equal in length. Stamens 10, free. Ovary on a long stipe. Legume stipitate, large, oblong-cylindrical, 2-valved, usually 4-seeded; valves coriaceous, spongy inside.—A large tree, with impari-pinnate leaves, and lateral rather compound racemes of flowers. Leaflets broad, smooth, and entire.

1 C. AUSTRA'LE (Cunningh. l. c.) ♄. G. Native of New Holland, in Morton Bay. The legumes are produced from 2 years old wood, containing usually 4 seeds as large as Spanish chestnuts, which are eaten by the natives about Morton Bay on all occasions, and they have when roasted somewhat of the flavour of Spanish chestnuts, and even Europeans who have subsisted on them for 2 or 3 days together have found no bad effects from them when roasted.

Southern Morton Bay Chestnut. Clt. 1828. Tree 40 to 50 ft.

Cult. For culture and propagation see *Ceratònia.*

CCLXIII. HARDWI'CKIA (in honour of Major General Thomas Hardwicke, F.R.S. F.L.S. &c. of the East India Company's artillery). Roxb. cor. 3. p. 6. hort. beng. p. 33. D. C. prod. 2. p. 486.

LIN. SYST. *Octo-Decándria, Monogýnia.* Sepals 4, but usually 5, ovate, equal, hardly cohering at the base. Corolla none. Stamens 8, but usually 10, free, inserted in the bottom of the calyx, or perhaps in the torus, the 5 which alternate with the sepals are a little larger than the rest. Anthers ovate, somewhat apiculated. Style short. Stigma peltate. Legume lanceolate, 1-celled, 1-seeded, 2-valved, dehiscent at the apex. Seed hanging from the apex of the legume, cuneated, membranous on the posterior side.—Smooth Indian trees, with abruptly-pinnate leaves, bearing 1 or many pairs of leaflets. Stipulas small, caducous. Panicles terminal and axillary. Flowers of a dirty yellow colour.

1 H. BINA'TA (Roxb. cor. 3. t. 209.) leaves with 1 pair of leaflets; petiole ending in a bristle; leaflets opposite, obliquely

ovate, semi-cordate, 3-nerved. ♄. S. Native of Coromandel, on the mountains. Flowers dirty yellow. The wood is excellent.

Binate-leaved Hardwickia. Clt. 1820. Tree 40 feet.

2 H. pinna'ta (Roxb. hort. beng. p. 33.) leaves with 3 pairs of alternate, ovate-lanceolate, acuminated leaflets, which are 1-nerved in the middle, the ultimate one almost terminal. ♄. S. Native of the East Indies. Flowers dirty yellow.

Pinnate-leaved Hardwickia. Clt. 1818. Tree 40 to 50 feet.

Cult. The species of *Hardwickia* grow freely in a light loamy soil, and large cuttings root readily if planted in sand, with a hand-glass placed over them, in heat.

CCLXIV. JONE'SIA (in honour of the celebrated Sir William Jones, whose knowledge of botany, independent of his other incomparable qualifications, entitles him to this mark of distinction). Roxb. in asiat. res. 4. p. 355. D. C. prod. 2. p. 487. —Saràca, Burm. ind.

Lin. syst. *Hepto-Octándria, Monogýnia.* Calyx with 2 ovate-roundish opposite bracteas at the base, coloured and funnel-shaped, with a long closed fleshy tube, and a 4-lobed spreading limb, the lobes ovate. Petals none. Stamens 8 (sometimes 7-9), rising from the throat of the calyx, much exserted beyond the calyx, free, or sometimes connected at the base. Ovary stipitate, with the lower part of the stipe adnate to the tube of the calyx, but free in the upper part. Style filiform. Legume 4-8-seeded, compressed, flat, acinaciform, with callous sutures. —Asiatic unarmed trees, with abruptly-pinnate leaves, and somewhat fasciculate racemes of flowers. The more recent name of Roxburgh has been preferred to the more ancient one of Burman, and Linnæus Saràca, to prevent its being confounded with *Saràcha.*

1 J. Aso'ca (Roxb. hort. beng. p. 26.) stem arboreous. ♄. S. Native of Malabar, Java, and Bengal. Hook, bot. mag. t. 3018.—Rheed. mal. 5. t. 59. Jonèsia pinnàta, Willd. spec. 2. p. 287. Saràca arboréscens, Burm. fl. ind. 85. t. 25. f. 2. Saràca I'ndica, Lin. mant. 98. Leaves with 2-3 pairs of oblong, shining, firm leaflets, and orange-red flowers. *Ushoka* is the Bengal name of the tree.

Asoca Jonesia. Fl. June, Jul. Clt. 1796. Tr. 12 to 20 ft.

2 J. sca'ndens (Roxb. hort. beng. p. 26.) stem climbing. ♄. S. Native of Sumatra. The rest unknown.

Cult. For culture and propagation, see *Hardwickia.*

CCLXV. TACHIGA'LIA (*Tassi* or *Tachigali* is the name of *T. paniculàta* in Guiana). Aubl. guian. 1. p. 372. exclusive of the fruit. Lam. ill. 339. D. C. prod. 2. p. 487.—Cubæ'a, Schreb. gen. no. 702.—Valentìnia, Neck. elem. no. 1283. but not of Swartz.—Tássia, Rich. ined.—Tàchia, Pers. ench. no. 1077. but not of Aublet.

Lin. syst. *Decándria, Monogýnia.* Sepals 5, joined together into an obconical striated tube, with the free parts rather unequal and obtuse. Petals 5, inserted in the throat of the calyx, unequal. Stamens 10, exserted, with the filaments villous at the base, the 3 shortest ones erect. Ovary somewhat stipitate. Style filiform, acute. Legume compressed, flat, membranous, indehiscent, 1-seeded, oblong, nearly as in *Dalbérgia.* —Trees, with abruptly pinnate leaves, with the petioles as well as the peduncles trigonal, and panicles of yellow flowers, which are bractless, and crowded in a spicate manner along the branches of the panicle.

1 T. panicula'ta (Aubl. l. c. t. 143. f. 1.) leaves with 6 pairs of opposite, ovate-oblong, acuminated leaflets. ♄. S. Native of Guiana, on the banks of rivers, where it is called *Tassi* or *Tachigàli.*

Panicled-flowered Tachigalia. Tree 60 feet.

2 T. trigòna (Aubl. l. c. f. 2.) leaves with 6 alternate leaflets. ♄. S. Native along with the preceding, of which it is perhaps only a variety. Cubæ'a trigòna, Willd.

Trigonal-peduncled Tachigalia. Tree 60 feet.

3 T. bi'juga (D. C. prod. 2. p. 487.) leaves with 2 pairs of opposite, coriaceous, shining leaflets, which are glaucous beneath. ♄. S. Native of Brazil. Cubæ'a bíjuga, Spreng. neue entd. 1. p. 290. Cássia tetraphýlla, Desv.

Two-paired-leafletted Tachigalia. Clt. 1822. Tr. 20 to 30 ft.

4 T. emargina'ta; leaves with usually 4 pairs of elliptic, emarginate, coriaceous leaflets, which are discoloured beneath; racemes compound, pubescent. ♄. S. Native of Brazil. Sello. Cubæ'a emarginàta, Spreng. syst. 2. p. 345.

Emarginate-leafletted Tachygalia. Tree.

Cult. For culture and propagation see *Hardwíckia*, p. 436.

CCLXVI. BARY'XYLUM (from *βαρυς, barys*, heavy, and *ξυλον, xylon*, wood; the wood of the tree is very heavy). Lour. coch. p. 266. D. C. prod. 2. p. 487.

Lin. syst. *Decándria, Monogýnia.* Calyx of 5, ovate-oblong, reflexed, equal, deciduous sepals, which are hardly concrete at the base. Petals 5, roundish, nearly equal, on short claws. Stamens 10, free, unequal, hypogynous? Anthers 4-celled. Style filiform. Legume thick, obtuse, nearly terete, a little curved, many-seeded. Seeds roundish, angular.—A tree, with brownish-red, heavy wood, abruptly pinnate, glabrous leaves, with few pairs of leaflets, and loose racemes of yellow flowers.

1 B. ru'fum (Lour. l. c.) leaflets oblong, obtuse. ♄. G. Native of Cochin-china, on the mountains. Wood iron-coloured, very heavy and very hard.

Brown-wooded Baryxylum. Tree 50 feet.

Cult. For culture and propagation, see *Ceratònia*, p. 435.

CCLXVII. MOLDENHAWE'RA (in honour of John James Moldenhawer, author of Tentamen in historiam plantarum Theophrasti, 1 vol. 8vo. Hamburgh, 1791.). Schrad. in Gött. anz. 1821. p. 718. D. C. prod. 2. p. 488.—Dolichonèma, Neuw. reis. vol. 2. with a figure ex flora, 1821. p. 303. and 329.

Lin. syst. *Decándria, Monogýnia.* Calyx of 5 sepals, which are concrete at the base. Petals 5, nearly equal. Stamens 10, free, glabrous, 9 of which are fertile and shorter than the claws of the petals, the other one 3-times longer than the rest, sterile, and bearing a pilose anther, which is dissimilar to those on the 9 fertile filaments. Style 1. Legume linear-oblong.—A tree, with simply or doubly pinnate leaves and yellow flowers. This genus is allied to *Cássia* and *Tachigàlia*, according to the author.

1 M. floribu'nda (Schrad. l. c.). ♄. S. Native of Brazil. Cubæ'a speciòsa, Spreng. syst. append. 170.

Bundle-flowered Moldenhawera. Tree.

Cult. For culture and propagation see *Hardwíckia*, p. 436.

CCLXVIII. HUMBO'LDTIA (in honour of Alexander Baron de Humboldt, the celebrated American traveller and naturalist). Vahl. symb. 3. p. 106. but not of Ruiz, et Pav. D. C. prod. 2. p. 488.—Bátschia, Vahl. symb. 3. p. 39. t. 56. but not of Walt. Mœnch. nor Thunb.

Lin. syst. *Pentándria, Monogýnia.* Calyx with a short tube, 4-cleft; segments oblong, nearly equal. Petals 5, nearly equal, inserted in the mouth of the calyx. Stamens 5, glabrous. Ovary pedicellate. Style filiform. Legume oblong, compressed. —An unarmed tree, with flexuous branches, abruptly pinnate leaves, bearing about 4-6 pairs of ovate-oblong, acuminated leaflets, the lower pair situated at the very base of the petioles and appearing like stipulas. Stipulas truly transversely linear-oblong. Racemes axillary, with a solitary bractea under each pedicel, but with 2 bracteoles at the top of each pedicel.

1 H. LAURIFÒLIA (Vahl. l. c.) leaflets 3-5 pairs; hind lobes of stipulas drawn out, acute; branches thickened at the internodes. ♄. S. Native of Java. Bátschia laurifòlia, Vahl. l. c.

Laurel-leaved Humboldtia. Tree 30 to 40 feet.

Cult. For culture and propagation see *Hardwickia*, p. 436.

CCLXIX. HETEROSTEMON (ἑτερος, *heteros*. variable, and στημων, *stemon*, a stamen, in reference to the variable length of the stamens, as well as in some being fertile and others sterile). Desf. mem. mus. 4. p. 248. D. C. prod. 2. p. 488.

LIN. SYST. *Monadélphia, Octándria.* Calyx tubular, 4-cleft, girded at the base by 2 connate, calyculate bracteas, the segments oblong and acute. Petals 3, obovate, inserted in the throat of the calyx. Stamens 8, unequal, long, declinate, monadelphous below and pilose above, the 3 lower ones are longer and fertile, and 5 bearing barren 2-lobed anthers. Stipe of the ovary concrete with the calyx. Style filiform. Legume flat, tapering to both ends, many seeded.—A tree, with abruptly pinnate leaves and winged petioles, bearing linear, obtuse, emarginate, glabrous leaflets. Flowers large, few, somewhat corymbous. This genus is allied to *Tamarindus.*

1 H. MIMOSOÌDES (Desf. l. c. t. 12.) ♄. S. Native of Brazil.

Mimosa-like Heterostemon. Tree.

Cult. See *Tamarindus* for culture and propagation, p. 438.

CCLXX. AMHE'RSTIA (named by Dr. Wallich after the Right Honourable Countess Amherst and her daughter Lady Sarah Amherst, the zealous friends and constant promoters of all branches of natural history, especially botany, who, during their residence in India performed an arduous and extensive journey to the northern regions of Northern and Western Hindoostan, spending many weeks among the mountains near the Himalaya, where they obtained a very interesting collection of preserved specimens of plants). Wall. pl. rar. asiat. 1. p. 1. t. 1.

LIN. SYST. *Diadélphia, Decándria.* Sepals 4, connate into a tube at the base, which is permanent and bears the staminiferous column at the apex, girded by 2 large opposite bracteas at the base, which are valvate in æstivation. Petals 5, unequal, 2 lower ones very minute and curved, lateral ones cuneiform, divaricate, upper one large, spreading, obcordate, and unguiculate. Stamens 10, 9 of the filaments joined together into a long tube, but free at the apex, alternate ones shortest, the tenth free, but adnate to the pedicel of the ovary at the base. Anthers versatile, all fertile. Ovary stipitate, falcate, 4-6-ovulate, with the stipe adhering to the calycine tube. Style filiform, crowned by a small convex stigma. Legume pedicellate, flat, oblong, few-seeded.—A tree, with large, impari-pinnate leaves, bearing 6-8 pairs of leaflets, and long pendulous axillary racemes of showy scarlet flowers.

1 A. NÓBILIS (Wall. l. c.). ♄. S. Native of the Burman Empire, in the garden of a decayed kioun, a sort of monastery, 2 miles from the right bank of the Saluen River, and 27 miles from the town of Martaban, but its native place of growth is still unknown, as the trees found in the garden have undoubtedly been planted there. The flowers are large, of a fine vermilion colour, diversified with yellow spots. This tree, when in foliage and blossom is the most superb object that can possibly be imagined, and not surpassed by any plant in the world. The Burmese name of the tree is *Thoka.* Handfuls of flowers were presented as offerings in the cave before the images of Buddha. Along with this tree were found some trees of *Mesùa férrea* and *Jonèsia Asòca.* It is not a little remarkable that the priests of these parts should have manifested so good a taste as to select three sorts of trees as ornaments to their objects of worship which can hardly be surpassed in beauty.

Noble Amherstia. Tree 30 to 40 feet.

Cult. For culture and propagation see *Hardwíckia*, p. 436.

CCLXXI. TAMARINDUS (*Tamar*, in Arabic is the name of the date, *Indus*, Indian; Indian date). Lin. gen. no. 46. Lam. ill. t. 25. D. C. prod. 2. p. 488.

LIN. SYST. *Monadélphia, Enneándria*, and *Decándria.* Calyx tubular at the base, cleft; the 3 upper lobes are reflexed and oblong. 2 lower ones also reflexed and joined together into one broad, 2-nerved lobe, which is usually bidentate at the apex. Petals 3, alternating with the 3 upper lobes of the calyx, the 2 lateral ones ovate, and the middle one cucullate. Stamens 9-10, 2 or 3 of which are longer than the others, monadelphous at the base and antheriferous, the other 7 very short and sterile. Style subulate. Legume pedicellate, acinaciform, compressed, 1-celled, 3-6-seeded, the valves filled with pulp between the epicarp and endocarp. Seeds ovate-quadrate, obliquely truncate at the hylum. Cotyledons unequal at the base.—Trees with abruptly pinnate leaves, bearing many pairs of small leaflets, and racemes of flowers.

1 T. I'NDICA (Lin. spec. 48. exclusive of the synonyme of Lœfl.) legumes elongated, 8-12-seeded, 6-times or more longer than broad. ♄. S. Native of the East Indies and the tropical parts of Africa. Woodv. med. bot. t. 166.—Rheed. mal. 1. t. 23.—Rumph. amb. 2. t. 23.—Blackw. herb. t. 221. D. C. legum. mem. xi. t. 24. f. 113. germ. A large spreading tree, with the leaves of a pale colour. Flowers with a straw-coloured calyx and yellow petals, beautifully streaked with red, and purple filaments and brown anthers. The timber of the *Tamarind*-tree is heavy, firm, and hard; sawed into boards it is converted to many useful purposes in building. The pulp contained in the pods is used both in food and medicine. The tamarinds which are brought from the East Indies are darker and drier, but contain more pulp; being preserved without sugar they are fitter to be put into medicines than those from the West Indies, which are much redder, but being preserved with sugar are more pleasant to the palate. The use of *tamarinds* was first learned from the Arabians; they contain a larger proportion of acid with the saccharine matter than is usually found in acid fruits. The epicarp of the pod is thin, and the acid pulp for which they are esteemed is the sarcocarp. *Tamarinds* are preserved in two ways; commonly by throwing hot sugar from the boilers on the ripe pulp; but a better method is to put alternate layers of *tamarinds* and powdered sugar in a stone jar. By this means the *tamarinds* preserve their colour, and taste more agreeably. Preserved *tamarinds* should be fresh and juicy, and should have an agreeable acid taste. They should not have a musty smell; the seeds should not be soft and swollen; and the blade of a knife should not get a coating of copper by being immersed among them. *Tamarinds* contain sugar, mucilage, citric acid, supertartrate of potass, tartaric acid, and malic acid. In medicine the pulp of *tamarinds*, taken in the quantity of from 2 to 3 drachms to an ounce or more, proves gently laxative and purgative, and at the same time by its acidity quenches thirst and allays immoderate heat. It increases the action of the sweet purgatives *cassia* and *manna*, and weakens that of the resinous cathartics. Salts, whose base is potass, form an improper addition to *tamarinds*, for they are decomposed, and the tartaric acid of the fruit is precipitated in the form of supertartrate of potass.

East Indian Tamarind. Fl. June, July. Clt. 1633. Tree 40 to 60 feet.

2 T. OCCIDENTA'LIS (Gærtn. fruct. 2. p. 310. t. 146.) legumes short, 1-4-seeded, hardly 3-times longer than broad. ♄. S. Native of South America and the West India Islands. Jacq. amer. p. 10. t. 179. f. 98. Blackw. herb. t. 201. Flowers with a straw-coloured calyx and yellower petals streaked with red, and purplish stamens. A large spreading tree. The pods of the West Indian *tamarind* are shorter and redder than those of

the East Indian *tamarind*, and are not so good. In many parts of America, particularly in Curaçoa, the natives eat abundance of the pulp raw without any inconvenience, except that of gently relaxing the body. In Martinico they eat even the unripe fruit. In the West Indies it is frequently made an ingredient in punch.

West Indian Tamarind. Fl. Feb. Clt. 1633. Tr. 30 to 50 ft.

Cult. Loam and peat is a good mixture to grow the species of *tamarind* in. Cuttings will root if planted in a pot of sand, with a hand-glass placed over them, in heat; but as seeds are annually received both from the East and West Indies, this is an unnecessary mode of increasing the plants. The seeds should be raised on a hot-bed, and the plants put into separate pots, as soon as they are about 2 or 3 inches high.

CCLXXII. CA'SSIA (*κασσια*, *cassia*, of Dioscorides. According to Olaus Celsus, this name is to be traced to the Hebrew *ketzioth*, rendered by *κασιαν* in the Septuagint, and Latinized by *cassia*). Lin. gen. 514. Lam. ill. t. 332. Collad. mon. 1816. in 4to. D. C. prod. 2. p. 489.

Lin. syst. *Decándria*, *Monogýnia*. Calyx of 5 sepals, which are hardly connected together at the base (f. 57. *a.*) and more or less unequal. Petals 5, unequal. Stamens 10, free, unequal (f. 57. *c. d.*), 3 lower ones the longest, the 4 middle ones short and straight, the 3 superior ones (f. 57. *d.*), bearing abortive difformed anthers. Fertile anthers opening by 2 pores at the apex (f. 57. *f.*). Ovary stipitate, usually arched. Legume dehiscent, compressed, transversely many-celled inside; cells 1-seeded.—Shrubs or herbs, with abruptly pinnate leaves and opposite leaflets. The petioles are usually glandular. The flowers of all are yellow.

Sect. I. Herpe'tica (Amboyna name of *C. alàta*, var. *β.*). D. C. in Collad. mon. p 91. prod. 2. p. 492. Calyx of 5 bluntish sepals. Anthers opening by 2 pores at the apex. Legumes flat, membranous, dehiscent, furnished with an acute foliaceous wing on the back, and divided internally into many cells by transverse dissepiments; cells rather pulpy inside. Seeds horizontal, compressed, nearly obcordate.—Perennial herbs, furnished with a large concave bractea under each flower.

1 C. ALA'TA (Lin. spec. 541.) leaves with 8-12 pairs of obovate-oblong, glabrous leaflets, outer ones the largest, lower ones approximating to the axils; petioles glandless. ♃. S. Native of South America and the West India Islands. Sloan. hist. t. 175. f. 1. C. Herpética, Jacq. obs. 2. t. 45. f. 2. Flowers large, yellow. The leaves are finely pubescent on the under surface, according to H. B. et Kunth, nov. gen. amer. 6. p. 347. This is therefore a different plant.

Var. β, Rumphiàna (D. C. prod. 2. p. 492.) racemes short, few-flowered. ♃. S. Native of Java. Herpética, Rumph. amb. 7. t. 18. C. alàta, Burm. fl. ind. 96. Perhaps a proper species.

Winged-podded Cassia. Clt. 1731. Pl. 6 feet.

2 C. BRACTEA'TA (Lin. fil. suppl. 232.) leaves with 10 pairs of oblong, obtuse leaflets, which are soft and hoary beneath; petioles glandless. ♃. S. Native of Surinam. Flowers yellow. Leaves more than a foot long.

Bracteate-flowered Cassia. Fl. April, Dec. Cl. 1822. Pl. 6 ft.

Sect. II. Se'nna (*Senna* or *Sena mecki*, the Arabic name for senna). Tourn. inst. t. 390. Gærtn. fruct. 146. D. C. in Collad. mon. 92. prod. 2. p. 492. Sepals obtuse. Anthers opening by 2 pores at the apex. Legumes membranous, broad, flat, and compressed, hardly dehiscent, torose at the seeds, divided internally into many cells by transverse dissepiments; cells hardly pulpy inside. Seeds vertical, compressed, nearly obcordate, shorter than the breadth of the legume, but the length of the funicle.

3 C. OBOVA'TA (Collad. mon. p. 92.) leaves with 6-7 pairs of obovate, obtuse leaflets; petioles glandless; legumes flat, compressed, arched, tumid, and a little crested in the middle. ♄. S. but ⊙. in the gardens. Native of Egypt, Senegal, and Rome; cultivated in the south of Europe and the West Indies for its leaves, which are one kind of *Senna*. C. Sénna, Lam. ill. t. 332. f. 2. *a. b. d.* and f. 3. *b. f. g.* Jacq. fil. ecl. 1. t. 87. Flowers yellow. This is the Italian officinal *senna*.

Obovate-leafletted or Italian Senna. Fl. July, Aug, Clt. 1640. Pl. 1 to 2 feet.

4 C. LANCEOLA'TA (Forsk. ægypt. p. 85.) leaves with 4-5 pairs of oval-lanceolate, acute leaflets; petiole glandular; legumes flat, compressed, straightish, tumid in the middle. ♄. S. Native of Upper Egypt. Lam. ill. t. 332. f. 2. *c.* and f. 3. *a.* Cássia orientàlis, Pers. ench. 1. p. 457. C. acutifòlia, Delil. ill. ægyp. 75. t. 27. f. 1. Flowers yellow. This is the officinal Alexandrian *senna*.

Senna is the leaves of *C. lanceolàta* and *C. obovàta*, both natives of Egypt; they are mixed with the pods. Those of the former are most esteemed; they are of a lively yellowish green colour, while those of the latter are green without any yellowish cast. With the true *senna* are mixed the leaves of another plant, *Cynánchium A'rquel*. Rouillion says that at Cairo the traders mix these in the proportion of 500 of *C. lanceolàta* and 300 of *C. obovàta* and 200 of *Cynánchium A'rquel*. But the greater part of the *senna* now used in this country is of a different kind. It is called East Indian. In America they now use the leaves of *C. Marylándica*. In medicine *senna* is a very useful cathartic, operating mildly and yet effectually; and if judiciously dosed and managed, rarely occasioning the bad consequences which too frequently follow the exhibition of the stronger purges. Its nauseous flavour, and its being apt to gripe, are the only inconveniences complained of in this drug. These are best obviated by adding some aromatic substance to the *senna*, as cardamon, ginger, cinnamon, &c., and by facilitating its operating by drinking plentifully of any mild diluent. *Senna* may be given in substance to the extent of half a drachm night and morning. It is more conveniently given in the form of infusion, which is generally made by pouring 6 ounces of boiling water upon from 2 to 6 drachms of senna leaves in a teapot, and letting it stand about an hour. *Senna* ought never to be used in decoction, Green says, because it becomes perfectly inert by the total dissipation of the nauseous and volatile principle, on which its purgative effects depend. The tincture, on account of the menstruum, cannot be given in doses large enough to have any effect.

Lanceolate-leafletted or Alexandrian Senna. Fl. July, Aug. Clt.? Shrub 2 to 3 feet.

5 C. LIGUSTRINOÌDES (Schranck, in akad. munch. 6. p. 179.) leaves with 5 pairs of glabrous, lanceolate leaflets, the lower ones the smallest; petioles glandless?; flowers racemose; legumes much compressed, glabrous, rounded at the apex. ♄. S. Native of Arabia. Flowers yellow. This kind of *senna* is confused with the Alexandrian *senna* in the shops.

Privet-like or Arabian Senna. Fl. July, Aug. Clt. 1800. Shrub 1 foot.

6 C. PISTACIÆFÒLIA (H. B. et Kunth, nov. gen. amer. 6. p. 349.) leaves with 6 pairs of oblong leaflets, which are retuse at the apex and glabrous above but pubescent beneath; petioles glandless; flowers racemose; legumes transversely veined. ♄. S. Native of South America, between Popayan and Meneses. Flowers yellow.

Pistachio-leaved Senna. Tree 24 feet.

7 C. STROBILA'CEA (H. B. et Kunth, nov. gen. amer. 6. p. 347.) leaves with 11-12 pairs of oblong, emarginate leaflets, which are rather pilose above, but pubescent beneath; petioles glandless; racemes axillary; bracteas large; legumes com-

pressed, torulose. ♄. S. Native of South America, on the banks of the river Magdalena, near the Bocca of St. Bartholomew. Flowers yellow.

Strobile-like-racemed Senna. Tree 12 to 20 feet.

8 C. Tara'ntan (H. B. et Kunth, nov. gen. amer. 6. p. 348.) leaves with 11 pairs of oblong, acute leaflets, which are pilose above but pubescent beneath; petioles glandless; flowers racemose?; legumes compressed, torulose. ♄. S. Native of South America, near Cumana, where it is called *Tarantan*.

Tarantan Senna. Fl. July, Aug. Clt. 1817. Tree.

9 C. fraxinifòlia (H. B. et Kunth, nov. gen. amer. 6. p. 349.) leaves with 9-11 pairs of oblong, obtuse, glabrous leaflets; petioles glandless; racemes axillary, corymbose; legumes compressed, short. ♄. S. Native of South America, between the river Amazon and the town of Jaen de Bracamoros. C. cuspidàta, Willd. enum. p. 445. Flowers yellow.

Ash-leaved Senna. Shrub 3 to 6 feet.

10 C. Brownia'na (Kunth, mim. p. 135. t. 41.) leaves with 8-13 pairs of oblong, obtuse, mucronate, rather ciliated, glabrous leaflets; racemes axillary, length of leaves; legumes oblong-linear, mucronate, furnished with a narrow wing on both sutures. ♄. S. Native of Mexico, near Guanaxuato. H. B. et Kunth, nov. gen. amer. 6. p. 350. Flowers yellow.

Brown's Senna. Shrub 12 feet.

11 C. Richardia'na (Kunth, mim. p. 139. t. 42.) leaves with 18-20 pairs of oblong leaflets, which are puberulous beneath, with a small gland on the petiole, between the lower pair; panicle terminal; legumes compressed, membranous, transversely veined, glabrous. ♄. S. Native of South America, on the banks of the river Atabapo, near the head of the Orinoco. H. B. et Kunth, nov. gen. amer. 6. p. 351. Flowers yellow.

Richard's Senna. Fl. July, Aug. Clt. 1823. Shrub.

Sect. III. Chamæse'nna (χαμαι, *chamai*, on the ground, and *senna*; dwarf senna). D. C. in Collad. mon. p. 95. prod. 2. p. 493. Sepals obtuse. Anthers oblong, opening by 2 pores at the apex. Legumes compressed, dehiscent, rather tumid at the sutures, divided internally into many cells, by complete or incomplete transverse dissepiments. Cells not pulpy inside. Seeds vertical, compressed, ovate, or somewhat square, about equal to the breadth of the legume, but longer than the funicle.

§ 1. *Trigonelloìdeæ* (*Trigonélla*, and *idea*, like; plants with the habit of *Trigonélla*). *Annual plants, having the leaves furnished with but few pairs of leaflets.*

12 C. seri'cea (Swartz, fl. ind. occ. 2. p. 724.) leaves with 4 pairs of oval leaflets, which are clothed with silky hairs, with subulate glands on the petiole, one between each pair of leaflets; legumes hairy, somewhat tetragonal, transversely somewhat articulated. ⊙. S. Native of the West Indies and Brazil. C. sensitìva, Jacq. icon. rar. t. 459. C. ornithopoìdes, Lam. dict. 1. p. 644.

Silky Wild-senna. Fl. May, Aug. Clt. 1731. Pl. 1 foot.

13 C. cilia'ta (Hoffm. verz. 1824. p. 208.) leaves with 3-4 pairs of obovate, acutish, pubescent leaflets, which are ciliated with silky down, and furnished with stipitate glands on the petiole, one between each of the pairs of leaflets, except the outer pair; spikes axillary, somewhat capitate; legumes terete, beaked, impressed. ⊙. S. Native of Cuba. Perhaps sufficiently distinct from *C. sericea.*

Ciliated-leafletted Wild-senna. Fl. Ju. Jul. Clt. 1820. Pl. 1 ft.

14 C. obtusifòlia (Lin. spec. 539. exclusive of the synonyme of Rumph.) leaves with 3 pairs of obovate, obtuse leaflets, which are pubescent beneath, with an oblong, cylindrical, acute gland on the petiole, between the lower pair of leaflets; stipulas linear-subulate; legumes long, slender, recurved. ⊙. S. Native of Cuba and Jamaica among rubbish. C. Tòra, H. B. et Kunth, nov. gen. amer. 6. p. 35. which was gathered in the fields of Popayan.—Dill. hort. elth. 71. t. 62. f. 72. Sloane, jam. t. 180. f. 5.

Obtuse-leaved Wild-senna. Fl. July, Aug. Clt. 1732. Pl. 1 to 2 feet.

15 C. hu'milis (Collad. mon. p. 96.) leaves with 3 pairs of obovate, obtuse leaflets, with an oblong gland on the petiole between the lower pair; petiole without an awn at the apex; legumes arched, compressed, with callous margins. ⊙. S. Native of South America, Caribbee Islands, and Carolina. C. Tòra β, Lin. spec. 538. C. Tàla, Desv. journ. bot. 1814. p. 73. ?—Plum. ed. Burm. t. 76. f. 2.

Humble Wild-senna. Fl. Ju. Jul. Clt. 1810. Pl. 1 to 2 ft.

16 C. Tòra (Lin. spec. 538. exclusive of var. β and the synonyme of Mill.) leaves with 3 pairs of obovate, obtuse leaflets, with an oblong gland between each of the 2 lower pairs on the petiole; petiole ending in a bristle; legumes straight, compressed, with callous margins. ⊙. S. Native of the East Indies, Arabia, Japan, and Cochin-china. Dill. elth. 72. t. 63. f. 73. C. fœ'tida, Sal. prod. 326. C. gallinària, Collad. mon. p. 96. C. toroìdes, Hortul. C. obtusifòlia and C. Tòra, Burm. ind. p. 95. exclusive of the synonymes.—Rumph. amb. 5. t. 97. f. 2.

Tora Wild-senna. Fl. Aug. Clt. 1693. Pl. 2 to 5 feet.

17 C. Lime'nsis (Lam. dict. 1. p. 643.) leaves with 3-4 pairs of obovate, very blunt, glabrous leaflets; racemes axillary, many flowered, about equal in length to the leaves. ⊙. S. Native of Peru. Perhaps the same as *C. pentagònia*, of Mill. fig. t. 82. from Campeachy.

Lima Wild-senna. Pl. 1 to 2 feet.

18 C. cilia'ris (Collad. mon. p. 98.) leaves with 2-3 pairs of semi-orbicular, veiny leaflets, the 2 outer ones the largest; stipulas cordate, lanceolate, with ciliated margins. ⊙. S. Native of the East Indies. C. Tagèra, Lin. spec. 538. exclusive of the synonyme of Rheed. Plant filiform, procumbent.

Ciliary-stipuled Wild-senna. Pl. procumbent.

19 C. Tage'ra (Lam. dict. 1. p. 643. but not of Lin.) leaves with 3 pairs of obovate leaflets; peduncles very short, 1-flowered; legumes straight, linear. ⊙. ? S. Native of Malabar, where it is called *Ponnam-Tagera*. Rheed. mal. 2. p. 103. t. 53.

Tagera Wild-senna. Fl. July. Clt. 1803. Pl. 2 to 3 feet.

§ 2. *Coluteoìdeæ* (from *Colùtea*, and *idea*, like; plants with the habit of *Colùtea*). *Plants shrubby. Leaves with few or many pairs of leaflets.*

* *Interglandulòsæ* (from *inter*, between, and *glandula*, a gland). *Glands situated on the petioles, between the pairs of leaflets.*

20 C. venu'stula (H. B. et Kunth, nov. gen. amer. 6. p. 352.) leaves with 3-4 pairs of obovate-elliptic, puberulous leaflets, which are rounded at the apex, with a gland on the petiole above the lower pair; panicle terminal, with 2-flowered branches; legumes linear, beaked, puberulous. ♄. S. Native of South America, near Cumana, in arid places.

Pretty Wild-senna. Shrub.

* * *Jugiglandulòsæ* (from *jùgum*, a yoke, and *glandula*, a gland). *Glands one or more on the petiole between the pairs of leaflets.*

21 C. vimínea (Lin. amœn. 5. p. 397.) leaves with 2 pairs of ovate-oblong, acuminated, glabrous leaflets, with an oblong acute gland on the petiole between the lower pair; petiole ending in an awn; spines tridentate, on the old branches. ♄. ◡. S. Native of Jamaica, on the Blue Mountains, and of Porto Rico.—Sloane, jam. 2. t. 180. f. 6, 7. A rambling or climbing shrub.

Twiggy Wild-senna. Clt. 1786. Shrub cl.

22 C. CHRYSÓTRICHA (Collad. mon. p. 99. t. 13.) leaves with 2 pairs of rather pubescent ovate leaflets, lower pair the shortest and rounded on the outside, with an oblong gland on the petiole between the lower pair; spines tridentate on the old branches. ♄. S. Native of Guiana. C. chrysocárpa, Desv. journ. bot. 1814. p. 72. C. virgàta, Rich. act. soc. hist. nat. par. p. 108. but not of Swartz. A rambling shrub. Ovary clothed with silky, adpressed, yellow hairs, whence the specific name.

Golden-haired Wild-senna. Shrub rambling.

23 C. RUGÒSA; branches and peduncles pubescent; leaves with 2 pairs of elliptic, obtuse leaflets, which are oblique at the base and somewhat emarginate and mucronate at the apex, pubescent beneath, with the veins and nerves very prominent; racemes forming a terminal panicle; petiole bearing glands, one between each pair of leaflets; stipulas subulate. ♄. S. Native of Brazil. Sello (v. s. in herb. Lamb.).

Wrinkled-leaved Wild-senna. Shrub.

24 C. MACRANTHE'RA (D. C. in Collad. mon. p. 99. t. 8.) leaves with 2 pairs of oval-oblong, glabrous, acuminated leaflets, with an oblong-ovate gland on the petiole between the lower pair; petiole ending in a thick caducous bristle. ♄. S. Native of Brazil. Ovary linear, a little arched, clothed with adpressed pubescence.

Long-anthered Wild-senna. Fl. June, July. Clt. 1824. Sh.

25 C. SCA'NDENS (Ruiz, et Pav. in herb. Lamb.) branches angular, pubescent; leaves smooth, membranous, with 2 pairs of elliptic-oblong, acute, cuspidate leaflets, lower pair one half smaller than the upper; petiole bearing a large obtuse gland between the lower pair of leaflets; stipulas and bracteas lanceolate-subulate; racemes long, puberulous, shorter than the leaves. ♄. ⌒. S. Native of Guayaquil.

Climbing Wild-senna. Shrub cl.

26 C. QUINQUANGULA'TA (Rich. act. soc. hist. nat. par. p. 108.) leaves with 2 pairs of ovate coriaceous, acuminated leaflets, which are glabrous above but pubescent beneath, and unequal at the base, with an ovate thick gland between each of the pairs on the petiole; panicle terminal. ♄. S. Native of Cayenne, in woods. Branches pentagonal, smoothish. Ovary hoary, a little arched. Stigma large, ovate, petaloid. The legume being unknown, the section to which the present plant belongs is doubtful.

Five-angled-branched Wild-senna. Fl. Ju. Jul. Clt. 1818. Shrub 2 to 4 feet.

27 C. APOUCOUI'TA (Aubl. guian. 1. p. 379. t. 146.) leaves with 2-3 pairs of ovate-oblong, acuminated, glabrous leaflets, which are shining above, with an ovate sessile gland between each of the pairs on the petiole; racemes axillary. ♄. S. Native of Guiana, along the banks of the river Sinemari. C. acuminàta, Willd. spec. 2. p. 517. but not of Mœnch. C. nítida, Rich. act. soc. hist. nat. par. p. 108. *Apoucouita* is the name of the shrub in Guiana.

Apoucouita Wild-senna. Shrub 4 to 8 feet.

28 C. SENNOÌDES (Jacq. icon. rar. t. 70.) leaves with 2-3 pairs of obovate glabrous leaflets, the lower ones the roundest, with an oblong sessile gland on the petiole between the lower pair; stipulas linear-subulate, spreading. ♄. S. Native of the East Indies. Racemes axillary.

Senna-like Cassia. Fl. July, Aug. Clt. 1808. Sh. 3 to 4 ft.

29 C. ALCAPARI'LLO (H. B. et Kunth, nov. gen. amer. 6. p. 355.) leaves with 2-3 pairs of oblong glabrous leaflets, which are rounded at the apex, with a gland on the petiole between the lower pair; racemes axillary and terminal, loose. ♄. S. Native of Peru, in hot places near Olleros, where it is called *Alcaparillo*. The legume, according to Bonpland, is terete; it is therefore probably a species of *Chamæfistula*.

Alcaparillo Wild-senna. Shrub.

30 C. BICAPSULA'RIS (Lin. spec. 538.) leaves with 3 pairs of obovate, rather marginate, glabrous leaflets, lower ones the roundest, with a somewhat globose gland on the petiole between the lower pair, which is attenuated at the base; stipulas linear-subulate, spreading. ♄. S. Native of the West Indies, Surinam, and St. Martha. Plum. ed. Burm. t. 76. f. 1. Jacq. fragm. t. 58. Merian, sur. t. 32. C. inflàta, Spreng. in herb. Balb.

Var. β, aristàta (D. C. prod. 2. p. 495.) leaflets mucronate at the apex. ♄. S. Native of Guadaloupe. C. Bertèrii, Coll. hort. rip. p. 30. t. 34.

Var. γ, quadrijuga (D. C. l. c.) leaves with 4 pairs of obtuse leaflets.

Bicapsular Wild-senna. Fl. May, June. Clt. 1739. Shrub 4 to 6 feet.

31 C. ARGE'NTEA (H. B. et Kunth, nov. gen. amer. 6. p. 358.) leaves with 3 pairs of sub-elliptic leaflets, which are rounded at the apex, and clothed with silky pubescence, but silvery beneath, with a gland on the petiole between the lower pair; flowers axillary, solitary, and disposed in racemes at the tops of the branches; legumes slender, clothed with adpressed pubescence. ♄. S. Native of Mexico, on the banks of the river Mescala.

Silvery Wild-senna. Shrub 3 to 4 feet.

32 C. GENICULA'TA; clothed with scurfy stellate tomentum; leaves with 3 pairs of ovate oblique leaflets, tapering to the apex, with a hairy gland on the petiole between the lower pair; racemes short, corymbose, axillary; legumes articulated. ♄. S. Native of Peru. (v. s. in herb. Lamb.)

Jointed-podded Wild-senna. Shrub.

33 C. MOLLÍSSIMA (Humb. et Bonpl. in Willd. enum. 440.) leaves with 3 pairs of ovate acuminated leaflets, which are clothed with soft pubescence beneath; petiole pilose, bearing a hairy gland between each pair of leaflets. ♄. S. Native of South America. Legumes unknown.

Very-soft Wild-senna. Clt. 1816. Shrub.

34 C. RENIFÓRMIS; branches pubescent; leaves with 3 pairs of elliptic, acuminated, glabrous leaflets, tapering to both ends, lower ones the smallest, with an elongated gland between each pair; stipulas large, reniform, acuminated on one side. ♄. S. Native of Brazil, Sello. Perhaps a species of *Chamæfistula*.

Kidney-shaped-stipuled Wild-senna. Shrub.

35 C. ARTEMISIOÌDES (Gaud. in D. C. prod. 2. p. 495.) clothed in every part with velvety canescent down; leaves with 3-4 pairs of linear-filiform leaflets, with a small gland on the petiole between the lower pair; racemes axillary, 5-8-flowered, a little shorter than the leaves. ♄. G. Native of New Holland, in the interior of the country.

Wormwood-like Wild-senna. Fl. June, July. Clt. 1820. Sh. 2 to 3 feet.

36 C. GLUTINÒSA (D. C. prod. 2. p. 495.) leaves with 3-4 pairs of oblong, acuminated, glabrous leaflets, which are clammy as well as the branches, with a small sessile gland on the petiole between the lower pair; racemes axillary, usually 4-flowered. ♄. G. Native of New Holland, on the eastern coast. Legume broad, linear, on a short stipe, mucronate by the style.

Clammy Wild-senna. Shrub.

37 C. OXYADE'NA (D. C. prod. 2. p. 475.) leaves with 4-5 pairs of obovate glabrous leaflets, outer ones the longest, all glaucous beneath; petioles glabrous, furnished with a subulate acute gland, which is situated between the lower pair of leaflets. ♄. S. Native of Jamaica. C. díscolor, Desv. journ. bot. 1814. p. 73? C. frutéscens, Mill. dict. no. 2.

Sharp-glanded Wild-senna. Shrub 5 to 6 feet.

38 C. DÍSPAR (Willd. enum. 441.) leaves with 4-5 pairs of oblong usually obtuse leaflets, outer ones the largest, with a gland between each pair on the petiole. ♄. S. Native of South America. Compare it with *C. floribúnda*.

Unequal-leafletted Wild-senna. Fl. Ju. July. Clt. 1824. Sh.

39 C. ACAPULCE'NSIS (H. B. et Kunth, nov. gen. amer. 6. p. 353.) leaves with 4 pairs of obovate-elliptic leaflets, which are rounded at the apex, glabrous above, but puberulous beneath, and dotted, with a gland on the petiole between the lower pair; peduncles axillary, 2-flowered. ♄. S. Native of Mexico, near Acapulco.

Acapulco Wild-senna. Fl. June, July. Clt. 1823. Shrub 3 to 4 feet.

40 C. GLAU'CA (Lam. dict. 1. p. 647.) leaves with 4-6 pairs of oval, acutish, glaucous leaflets, with a sessile oblong gland on the petiole between each of the 3 lower pairs; stipulas linear, subulate, spreading. ♄. S. Native of the East Indies. C. Surraténsis, Burm. ind. 97.

Glaucous Wild-senna. Fl. June, July. Clt. 1818. Shrub 4 to 6 feet.

41 C. FŒTIDI'SSIMA (Ruiz et Pav. in herb. Lamb.) pubescent; leaves with 5 pairs of elliptic-lanceolate cuspidate leaflets, which are glaucous beneath, with a gland on the petiole between the lower pair; racemes axillary, shorter than the leaves. ♄. S. Native of Mexico. Flowers pale, with purple veins.

Very-fetid Wild-senna. Shrub.

42 C. SULPHU'REA (D. C. in Collad. mon. p. 84.) leaves with 5-6 pairs of oval-oblong leaflets, which are glaucous beneath, in the adult state they are glabrous, but when young they are puberulous, as well as the branches and petioles; petioles furnished with glands, one between each of the 3 or 4 lower pairs of leaflets; stipulas linear-subulate, rather falcate; racemes axillary, erect, shorter than the leaves. ♄. S. Native of the East Indies and the Mauritius, where it is probably cultivated. Rheed. mal. 6. t. 9. and t. 10. C. arboréscens, Vahl. symb. 3. p. 56. but not of Mill. Robínia Javánica, Burm. fl. ind. 163. Legume flat, compressed, 4-5 inches long, erect. Flowers sulphur-coloured.

Sulphur-coloured-flowered Wild-senna. Fl. June, July. Clt. 1800. Shrub 5 to 10 feet.

43 C. COLUTEOÌDES (Collad. mon. p. 102. t. 12.) leaves with 5-6 pairs of ovate, retuse, glabrous leaflets, outer ones the longest, with an oblong gland on the petiole between the lower pair; corymb terminal; 2 of the stamens are very long. ♄. S. Native country and legumes unknown.

Colutea-like Wild-senna. Shrub 4 to 6 feet.

44 C. NEMORÒSA (H. B. et Kunth, nov. gen. amer. 6. p. 358.) leaves with 5-7 pairs of elliptic, emarginate, glabrous leaflets, with a gland on the petiole between the lower pair; peduncles axillary and terminal, 2-flowered. ♄. S. Native of South America, in the province of Jaen de Bracamoros in groves. Said to be allied to *C. polyphýlla*.

Grove Wild-senna. Shrub 1 to 2 feet.

45 C. BIFLÒRA (Lin. amœn. 5. p. 397.) leaves with 6-8 pairs of oval-oblong or obovate, rather glabrous leaflets, with a subulate gland on the petiole between the lower pair; peduncles 2-4-flowered, much shorter than the leaves. ♄. S. Native of South America and the West India Islands. Sims, bot. mag. t. 810.—Plum. ed. Burm. t. 78. f. 1.

Var. β, sempervìrens (D. C. cat. hort. monsp. p. 90. no. 56.) leaflets emarginate, glabrous; flowers smaller.

Two-flowered Wild-senna. Fl. April, Dec. Clt. 1766. Shrub 4 to 6 feet.

46 C. GEMINIFLÒRA (Moc. et Sesse, in Collad. mon. p. 103. t. 3.) leaves with 6 pairs of oval equal leaflets; petioles glandless? peduncles axillary, bifid, 2-flowered. ♄. S. Native of Mexico. Very like the preceding species.

Twin-flowered Wild-senna. Fl. June, July. Clt. 1824. Shrub 4 to 6 feet.

47 C. OBCORDA'TA (Swartz, herb. Wicks. obs. fl. St. Barth. p. 411.) stems angular, glabrous; branches terete, pubescent; leaves with 3-7 pairs of obcordate, cuspidate, glabrous leaflets, with a pedicellate gland on the petiole between the lower pair; legumes compressed, pubescent; peduncles sub-terminal, filiform, 1-flowered, bibracteolate both at the base and in the middle. ♄. S. Native of the Island of St. Bartholomew. Flowers large, yellow.

Obcordate-leafletted Wild-senna. Shrub.

48 C. PA'LLIDA (Vahl. ecl. amer. 3. p. 12.) leaves with 5-6 pairs of oval glabrous leaflets, outer ones somewhat cuneated and mucronate, with a clavate gland on the petiole between the lower pair; peduncles axillary, usually 4-flowered. ♄. S. Native of St. Martha. Legume linear, straight.

Pale-flowered Wild-senna. Fl. June, July. Clt. 1818. Shrub 4 to 6 feet.

49 C. TOMENTÒSA (Lam. dict. 1. p. 647.) leaves with 6-8 pairs of oval-oblong obtuse leaflets, which are nearly glabrous above, but clothed with hoary tomentum beneath; petiole furnished with glands, usually with one between each pair of leaflets; legumes compressed, pubescent. ♄. S. Native of South America, near Santa-Fe-de-Bogota. H. B. et Kunth, nov. gen. amer. 6. p. 345. C. multiglandulòsa, Jacq. icon. rar. 1. t. 72.

Var. β, álbida (Ort. dec. 8. p. 92.) leaves with 2-5 pairs of oblique oval leaflets; glands subulate. ♄. S. Native of New Spain. Flowers pale yellow.

Tomentose Wild-senna. Fl. July, Sept. Clt. 1822. Shrub 5 to 7 feet.

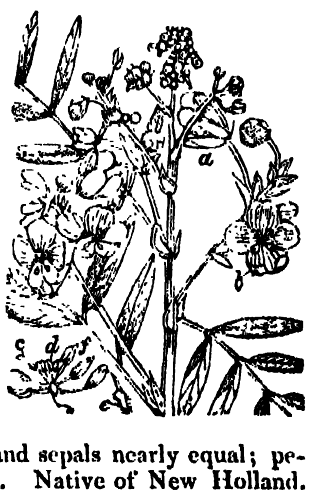
50 C. CA'NA (Nees et Mart. nov. act. bonn. 12. p. 33.) leaves with 6-8 pairs of oblong, oblique, acutish leaflets, which are tomentose beneath, with a large subulate gland between each pair except the lower one; stipulas reniform, one of them furnished with a cuspidate lobe on one side; racemes axillary. ♄. S. Native of Brazil, at Barra-das-Veredas. The whole shrub is clothed with canescent tomentum. The legume is unknown, but the plant itself is said to be nearly allied to *C. tomentòsa*.

Hoary Wild-senna. Shrub 4 to 6 feet.

51 C. MEXICA'NA (Jacq. hort. schœnbr. t. 203.) leaves with 5-7 pairs of oval-oblong, bluntish pubescent, ciliated leaflets, which are unequal at the base, with an ovate-cylindrical gland on the petiole between the lower pair; petioles and branches velvety. ♄. S. Native of Mexico and St. Domingo.

Mexican Wild-senna. Fl. June, July. Clt. 1824. Shrub 6 to 10 feet.

FIG. 57.



52 C. BARCLAYA'NA (Sweet, fl. austr. t. 32.) leaves with 6-8 pairs of linear-lanceolate, acute, glabrous leaflets, with a fascicle of glands between each of the pairs of pinnæ, and one large depressed one at the base of the petiole; peduncles axillary and terminal, many-flowered, shorter than the leaves; 4 of the stamens sterile. ♄. G. Native of New Holland. (f. 57.)

Barclay's Wild-senna. Fl. June, Aug. Clt. 1824. Shrub 2 to 4 feet.

53 C. AUSTRA'LIS (Hook. bot. mag. 2676.) leaves with 12 pairs of oblong-lanceolate leaflets, with a subulate pedicellate gland between each of the pairs; petals and sepals nearly equal; peduncles usually 4-flowered. ♄. G. Native of New Holland. Flowers large, yellow.

Southern Wild-senna. Fl. June, Aug. Clt. 1824. Shrub 3 to 4 feet.

89 C. ni′gricans NA (Balb. herb. ex D. C. prod. 2. p. 496.)
of linear-oblong, v pairs of elliptic mucronate leaflets, which are
gland on the petio se, with a thick obtuse gland on the petiole,
Arabia Felix. C. base, and sometimes between the lower pair;
haps belonging to a aves, as well as the petioles and branches
Blackish Wild-sen peduncles axillary, short, few-flowered. ♄.
Domingo. It is allied to *C. frondòsa*, but

* * * * *Eglandulo* being very obtuse, not acutely ovate, as in
there are no glands

Petioles without glan na. Shrub 5 to 6 feet.

90 C. aphy′lla (aves with 3 pairs of ovate, glabrous, mucro-
n are margined with white, with a pedicellate
stipulas wanting; st between the lower pair; stipulas linear, lan-
cent at the apex. ers axillary, racemose. ♄. S. Native of
Buenos Ayres. . Bertèrii, Coll. hort. rip. p. 30. t. 24.
Leafless *Sota's* Wild-senna. Fl. May, July. Clt. 1824. Sh. 8 to 10 ft.

56 C. stipula′cea (Ait. hort. kew. 2. p. 52.) leaves with 8 pairs of ovate-lanceolate glabrous leaflets, with a gland on the petiole between the lower pair; stipulas ovate, large. ♄. S. Native of Chili. Feuill. per. 2. p. 56. t. 42.

Large-stipuled Wild-senna. Fl. June, Aug. Clt. 1786. Shrub.

57 C. auricula′ta (Lin. spec. 542.) leaves with 8-12 pairs of oval, obtuse, rather mucronate leaflets, which are puberulous when young, but at length become nearly glabrous, with numerous subulate glands on the petiole; stipulas reniform; racemes axillary; bracteas oval-oblong, mucronate. ♄. S. Native of the East Indies.—Pluk. alm. t. 314. f. 4. Glands on the petioles sometimes wanting.

Auricled Wild-senna. Fl. June, July. Clt. 1777. Sh. 4 to 6 ft.

58 C. Gaudichau′di (Hook. in Beech. voy. append. p. 81.) leaves with 4 pairs of elliptic-oblong, rather emarginate, glabrous leaflets, which are pale beneath, with a linear obtuse gland on the petiole between the lower pair; stipulas subulate; racemes axillary, shorter than the leaves; legumes pendulous, linear, compressed, membranous, usually 8-seeded. ♄. G. Native of the Sandwich Islands.

Gaudichaud's Wild-senna. Shrub.

59 C. Chatelainia′na (Gaud. in Freycenet, voy. part. bot. p. 485. t. 111.) leaves with 4-5 pairs of lanceolate-linear, thickish, glabrous leaflets, with stipitate glands on the petiole, one below each pair of leaflets; umbels axillary, stalked, few-flowered; sepals obtuse; legumes membranous, flat, smooth. ♄. G. Native of New Holland, on the western coast.

Chatelain's Wild-senna. Shrub.

60 C. suffruticòsa (Roth, nov. spec. 213.) leaves with 9 pairs of oval, obtuse, rather pilose leaflets, which are glaucous beneath, with a pedicellate gland between each of the 2 lower pairs on the petiole; stipulas linear, rather falcate; corymbs fastigiate. ♄. S. Native of the East Indies.

Suffruticose Wild-senna. Shrub.

61 C. fastigia′ta (Vahl. symb. 3. p. 57.) leaves with 9 pairs of oblong, obtuse, glabrous leaflets, with a pedicellate gland between each of the pairs of pinnæ on the petiole; calyx clothed with canescent villi. ♄. S. Native of the East Indies.

Fastigiate Wild-senna. Fl. June, July. Clt. 1810. Shrub 4 to 6 feet.

62 C. frondòsa (Ait. hort. kew. 2. p. 35.) leaves with 9 pairs of oval-oblong, smoothish, bluntish leaflets, with a cylindrical gland on the petiole between the lower pair; racemes axillary, shorter than the leaves. ♄. S. Native of South America.

Var. α, tenuíssima (Zucc. obs. no. 70.) branches and petioles rather pubescent; leaflets smaller. ♄. S. Native of Cuba, about the Havannah.

Var. β, crísta (Jacq. icon. rar. 1. t. 74.) branches and petioles smoothish; leaflets larger. ♄. S. Native of Florida and St. Domingo.

Var. γ, pubéscens (Collad. mon. p. 106.) branches clothed with velvety down, as well as the under surface of the leaves. ♄. S. Native of St. Domingo.

Var. δ, galegifòlia (Collad. l. c.) glabrous; leaflets larger, deep green; flowers sublateral.

Frondose Wild-senna. Fl. March, April. Clt. 1769. Shrub 3 to 6 feet.

63 C. polyphy′lla (Jacq. icon. rar. t. 460.) leaves with 10-12 pairs of elliptic-obtuse, somewhat mucronate, ciliated leaflets, with an oblong gland on the petiole between the lower pair; peduncles 2-flowered, shorter than the leaves. ♄. S. Native of Porto-Rico. There is sometimes a gland between more of the pairs of leaflets than the lower one.

Many-leafletted Wild-senna. Fl. June, July. Clt. 1816. Sh. 4 to 6 feet.

64 C. lute′scens; stems clothed with yellowish tomentum, as well as the petioles and under surface of the leaves, peduncles, and calyxes; upper surface of the leaflets hardly pubescent; leaves with 7-8 pairs of lanceolate, mucronate leaflets, which are oblique at the base; petiole bearing glands, one between each pair of leaflets; racemes shorter than the leaves, somewhat corymbose at the apex. ♄. S. Native of Peru. C. pubéscens, Ruiz et Pav. in herb. Lamb. Stem simple.

Yellowish Wild-senna. Shrub.

65 C. aura′ntia (Ruiz et Pav. in herb. Lamb.) pubescent; leaves with 6 pairs of elliptic, oblique, obtuse, mucronate leaflets, with an acute gland on the petiole between the lower pair; racemes axillary, longer than the leaves. ♄. S. Native of Peru. Flowers orange-coloured.

Orange-flowered Wild-senna. Shrub.

66 C. angustisi′liqua (Lam. dict. 1. p. 649.) leaves with 10 pairs of oblong, acute, awned leaflets, with a pedicellate gland on the petiole between the lower pair of leaflets; legumes linear, compressed. ♄. S. Native of St. Domingo. Plum. ed. Burm. t. 78. f. 2. Flowers large.

Narrow-podded Wild-senna. Shrub 6 to 8 feet.

67 C. margina′ta (Willd. enum. 444. but not of Roxb.) leaves with usually 15 pairs of linear-elliptic leaflets, with a subulate gland on the petiole between each of the pairs. ♄. S. Native of Surinam; the rest unknown.

Margined Wild-senna. Shrub.

68 C. Sellòi; branches and petioles pubescent; leaves with numerous pairs of lanceolate-linear mucronate leaflets, which are glaucous beneath, with a gland between the lower pair; racemes forming terminal panicles. ♄. S. Native of Brazil, Sello.

Sello's Wild-senna. Shrub.

69 C. callia′ntha (Meyer, prim. esseq. 169.) leaves with 24 pairs of oblong-linear, glabrous leaflets, with a subulate gland on the petiole between the lower pair; racemes terminal; legumes glabrous. ♄. S. Native of Guiana, near Essequibo. Flowers large. According to Meyer this species is allied to *Poncidna.*

Beautiful-flowered Wild-senna. Shrub.

70 C. Mutisia′na (Kunth, mim. p. 142. t. 43. nov. gen. amer. 6. p. 359.) leaves with 40-50 pairs of oblong-linear leaflets, which are rounded at the apex, puberulous above, but hairy-pubescent beneath, as well as the petioles; branches very hispid; glands on the petiole, one between each pair of leaflets; racemes axillary, solitary, and twin. ♄. S. Native of New Granada. Legume linear, membranous, glabrous. Seeds 20-26.

Mutis's Wild-senna. Shrub.

* * * *Basiglandulòsæ* (from *basis*, the base, and *glandula*, a gland; leaves furnished with a gland at the base of the petiole). *Leaves with a sessile gland at the base of the petiole.*

71 C. longisíliqua (Lin. fil. suppl. 230.) leaves with 4-5 pairs of ovate-oblong, acute, glabrous leaflets, outer ones the

longest, with acute glands on the petiole, one beneath or between the lower pair of leaflets, and another between the outer pair. ♄. S. Native of St. Domingo. From the situation of the glands this species appears to be intermediate between the present and the preceding division of the genus.

Long-siliqued Wild-senna. Fl. June, July. Clt. 1800. Shrub 3 to 6 feet.

72 C. falca'ta (Lin. spec. 539.) leaves with 4 pairs of ovate-lanceolate, retro-falcate leaflets, outer ones the largest, and with the outer side broadest, with a gland at the base of the petiole. ⊙. S. Native of South America.

Falcate-leafletted Wild-senna. Pl. 1 to 2 feet.

73 C. venenífera (Meyer, prim. esseq. 167.) leaves with 4 pairs of oval hairy leaflets, with a gland at the base of the petiole; racemes axillary, few-flowered; legumes pubescent. ♄. S. Native of Guiana, near Essequebo, in bushy sandy places, where it is called *Piami*, and where the roots are used by the inhabitants to intoxicate fish by throwing them in the water.

Poison-bearing Wild-senna. Shrub 3 to 6 feet.

74 C. Ægypti'aca (Willd. enum. 442.) leaves with 6 pairs of lanceolate, acute, glabrous leaflets, outer ones the largest, with a lanceolate gland at the base of the petiole; racemes terminal; peduncles 2-flowered. ♄. S. Native of Egypt.

Egyptian Wild-senna. Fl. May. Clt. 1822. Sh. 3 to 4 ft.

75 C. occidenta'lis (Lin. spec. 539.) leaves with 4-6 pairs of ovate-lanceolate leaflets, with pubescent margins, and with a thick gland at the base of the petiole; peduncles short, 2-4-flowered, lower ones axillary, the rest disposed in a terminal raceme; legumes flat, compressed, with the sutures tumid. ⊙. S. Native of South America and the West India Islands. Sloane, hist. 2. p. 175. f. 3, 4. Ker, bot. reg. t. 83. C. planisíliqua, Lin. spec. 540. C. Caroliniàna, Walt. car. 135? ex Ell. sketch. 471. C. occidentàlis, Burm. ind. 96. This is a very common species about Kingston in Jamaica, where it is called *stinking-weed*. The tops of the plant are commonly employed in all resolutive baths, and it is accounted a very powerful ingredient on such occasions.

Var. β, *glàbra* (D. C. prod. 2. p. 497.) leaflets nearly elliptic, glabrous. C. geminiflòra, Schranck, hort. mon. t. 26.

Var. γ, *aristàta* (D. C. l. c.) leaflets ovate-lanceolate, with pubescent margins, awnedly-mucronate at the apex. Collad. m[illegible] p. 108.

Occidental Wild-senna. Fl. May, Aug. Clt. 1759. Sh. 1 to 2 ft.

76 C. purpu'rea (Roxb. et Jacq. fil. ex Schrad. in litt. D. C. prod. l. c.) leaves with 5 pairs of ovate-lanceolate glabrous leaflets, with a small obtuse gland at the base of the petiole; peduncles 3 times shorter than the leaves, 4-6-flowered. ♄. S. Native of the East Indies. Lindl. bot. reg. 856. Stems purple at the base. Flowers yellow, as in the rest of the species. Legume unknown. Very like *C. occidentàlis*.

Purple-stemmed Wild-senna. Fl. June, Aug. Clt. 1821. Sh. 3 to 4 feet.

77 C. fœ'tida (Ruiz et Pav. in herb. Lamb.) hairy; leaves with 5 pairs of ovate acute leaflets; racemes axillary, about the length of the leaves; legumes ovate, membranous, cuspidate. ♄. S. Native of Chili. Stipulas ovate, oblique at the base. Petiole bearing a gland below some of the pairs of leaflets.

Fetid Wild-senna. Shrub.

78 C. hirsu'ta (Lin. fil. suppl. p. 231.) leaves with 4-6 pairs of hairy, broadly-ovate, acuminated leaflets, with a depressed gland at the base of the petiole; racemes axillary, short, crowded; calyx very villous. ♄. S. Native of South America. C. Caraccasàna, Jacq. hort. schœnbr. t. 270.

Hairy Wild-senna. Fl. July. Clt. 1778. Shrub 3 to 6 feet.

79 C. linea'ris (Michx. fl. bor. amer. 1. p. 261.) leaves with
5-6 pairs of oval-lanceolate, acute, glabrous
at the base of the petiole; peduncles ushai p. 500.) leaves with 2
lary, and terminal; legumes linear, straight. pilose leaflets; petioles
Carolina. Said to be nearly allied to C. occ s hispid and clammy;
narrow and very acute, ex Michx., ovate per ones disposed in a
Legume compressed, ex Michx., terete, ex uinea. C. viscòsa, Vahl.
Linear- but hed Wild-senna. Fl. June, copper-coloured, drying
1 to 2 fe n.
80 C*Thonning's* Cas hort. kew. 2. p. 51.) Clt. 1824. Pl. 1½ ft.
of obl 116 C. viscòsa brous leaflets, with v. gen. amer. 6. p. 360.)
of th eaves with 2 pair es short. ♄. S. ate, ciliated leaflets, and
Indic are as well as t , clammy, and pilose;
S: branches, pedicels a. Fl. July, Aug. Cl with clammy pili; ra-
8 cemes terminal a acq. fragm. 46. t. red. ♄. S. Native of
pa New Granada, ne te acuminated leafle ne. Flowers yellow.
cc *Clammy* C[illegible] he margins branches and pe
an c te thick gland at the base of the petiole; racemes terminal; peduncles short, 2-4-flowered. ♄. S. Native country unknown.

Pubescent Wild-senna. Fl. June, July. Clt. 1818. Sh. 6 ft.

82 C. Ca'nca (Cav. descrip. pl. 131.) leaves with 6 pairs of ovate-lanceolate, somewhat ciliated leaflets, with a sessile gland at the base of the petiole; flowers sub-umbellate; legumes almost quadrangular. ♄. S. Native of Cumana. Lag. ex Rod. in ann. scienc. nat. 1802. vol. 5. p. 70. Perhaps sufficiently distinct from *C. occidentàlis*.

Canca Wild-senna. Shrub 2 to 3 feet.

83 C. sulca'ta (D. C. cat. hort. monsp. p. 90. no. 58.) leaves with 6-9 pairs of oval-oblong bluntish leaflets, which are pubescent beneath and on the margins, with an ovate thick gland at the base of the petiole; branches glabrous, furrowed. ♄. S. Native of South America. Collad. mon. p. 110. t. 6. C. cérnua, Balb. cat. hort. taur. 1813. p. 22.

Furrowed Wild-senna. Fl. Ju. July. Clt. 1820. Sh. 2 to 3 ft.

84 C. ruscifòlia (Jacq. icon. rar. 1. p. 71.) leaves with 6 pairs of ovate-lanceolate, almost glabrous leaflets, with a terete gland at the base of the petiole; legumes compressed, oblong-linear, tapering at both ends, with the sutures prominent. ♄. S. Native of Caraccas. H. B. et Kunth, nov. gen. amer. 6. p. 355.

Ruscus-leaved Wild-senna. Clt. 1816. Shrub 4 to 6 feet.

85 C. ligu'strina (Lin. spec. 541.) leaves with 7 pairs of lanceolate, acuminated, rather ciliated leaflets, with a terete erect gland, which is rather distant from the base of the petiole. ♄. S. Native of America, from Cayenne to Virginia.—Dill. hort. elth. 350. t. 250. f. 328.

Privet-like Wild-senna. Fl. July. Clt. 1726. Sh. 5 to 6 feet.

86 C. robinioìdes (Willd. enum. 443.) leaves with 6-9 pairs of lanceolate, acuminated, glabrous leaflets, with a sessile gland at the base of the petiole. ♄. S. Native of South America.

Robinia-like Wild-senna. Clt. 1823. Tree 10 to 20 feet.

87 C. Maryla'ndica (Lin. spec. 541.) leaves with 8-9 pairs of ovate-oblong, equal, mucronate leaflets, with an ovate gland at the base of the petiole; racemes axillary, many-flowered, shorter than the leaves; legumes compressed, linear, hispid, at length glabrous. ♃. H. Native of North America, in temperate places. Schkuhr, handb. 1. t. 113.—Dill. hort. elth. t. 260. f. 339. Root with black fibres. The leaves are used in North America as a substitute for senna.

Maryland Wild-senna. Fl. Aug. Oct. Clt. 1723. Pl. 2 to 3 ft.

88 C. polya'ntha (Moc. et Sesse, in Collad. mon. p. 112. t. 2.) leaves with 12 pairs of oval mucronate leaflets, with an ovate thick gland at the base of the petiole; flowers panicled, corymbous; legumes compressed, and furnished with a narrow wing on both sutures. ♄. S. Native of New Spain.

Many-flowered Wild-senna. Shrub.

89 C. ni'gricans (Vahl. symb. 1. p. 30.) leaves with 14 pairs of linear-oblong, very blunt, mucronate leaflets, with a sessile gland on the petiole beneath the leaflets. ♄. G. Native of Arabia Felix. C. procúmbens, Forsk. cat. arab. p. 111. Perhaps belonging to a different section.

Blackish Wild-senna. Fl. June, July. Clt. 1817. Sh. proc.

.t to *C. fro*
**** *Eglandulosæ* (from *e*, priv. a not acutely ova a gland;
there are no glands on the petiole in this genus).
Petioles without glands. feet.
ovate, glabrous, r
90 C. aphy'lla Cav. icon. 6. p. 41 white, with a pedic and
stipulas wanting; stem shrubby, dichoto air; stipulas linear nes-
cent at the apex. ♄. S. Native of e. ♄. S. Nati bout
Buenos Ayres. rip. p. 30. t. 24.
Wild-senna. Shrub 3 feet Sh. 8 to 10

91 C. barba'ta (Nees et Mart. nov. act. bonn. 12. 32.) leaves with 1-2 pairs of ovate-oblong obtuse leaflets, which are pubescent beneath; petioles and branches clothed with seabrous pubescence; petiole glandless; racemes axillary and terminal, elongated. ♄. S. Native of Brazil, on the road to Felisbert. Sutures of the anthers bearded. Stipulas setaceous. Legume hairy. Said to be allied to *C. Apoucouíta.*

Bearded-anthered Wild-senna. Shrub 4 to 5 feet.

92 C. ellí'ptica (H. B. et Kunth, nov. gen. amer. 6. p. 356.) leaves with 2-3 pairs of elliptic retuse leaflets, which are hairy above, and clothed with canescent pubescence beneath; petiole glandless; racemes axillary. ♄. S. Native near Cumana, Turbaco, and Campeachy. Legume linear, glabrous.

Elliptic-leafletted Wild-senna. Fl. June, July. Clt. 1818. Tree 20 to 30 feet.

93 C. triflòra (Vahl. ecl. amer. 3. p. 11.) leaves with 2 pairs of oblong obtuse leaflets, which are clothed with hoary villi beneath; petiole glandless; peduncles axillary, pubescent, 3-4-flowered. ♄. S. Native of the Island of Santa Cruz. Legume unknown, and therefore the section to which the plant belongs is doubtful.

Three-flowered Wild-senna. Shrub.

94 C. cane'scens (H. B. et Kunth, nov. gen. amer. 6. p. 357.) leaves with 3 pairs of leaflets, which are rounded at the apex, hairy above, and clothed with hoary tomentum beneath, upper ones elliptic, the rest smaller and roundish-ovate; petiole glandless; racemes axillary, pendulous. ♄. S. Native of South America, near Guayaquil. Legume linear, glabrous, warted.

Canescent Wild-senna. Shrub.

95 C. Peraltea'na (H. B. et Kunth, nov. gen. amer. 6. p. 356.) leaves with 3-4 pairs of oblong leaflets, which are rounded at the apex, puberulous above, but clothed with canescent pubescence beneath; petiole glandless; racemes axillary. ♄. S. Native of Mexico, about Campeachy. Legume unknown.

Peralt's Wild-senna. Tree.

96 C. nu'tans (Moc. et Sesse, in Collad. mon. p. 113. t. 4.) leaves with 2-5 pairs of oval glabrous leaflets, the lower pair the smallest; petiole glandless; branches beset with blunt tubercles; peduncles axillary, racemose, nodding. ♄. S. Native of Mexico.

Nodding-branched Wild-senna. Shrub.

97 C. emargina'ta (Lin. spec. 538.) leaves with 4 pairs of ovate, obtuse, or rather emarginate leaflets, clothed with hairy pubescence beneath, as well as the branches and petioles; petioles glandless; racemes axillary, crowded. ♄. S. Native of Jamaica and St. Domingo. Sloane, hist. 2. p. 180. f. 1-4.

Emarginate-leafletted Wild-senna. Fl. May, June. Clt. 1759. Tree.

98 C. pi'cta; glabrous; leaves with 5 pairs of ovate-elliptic, cuspidate leaflets, which are oblique at the base; petiole glandless; racemes axillary and terminal; legumes flat, membranous. ♄. S. Native of Guayaquil. Flowers pale yellow, painted with purple veins.

Painted-flowered Wild-senna. Shrub.

99 C. atoma'ria (Lin. spec. 540.) leaves with 5 pairs of ovate tomentose leaflets; petioles terete, glandless, rather ferruginous. ♄. S. Native of South America. C. latifòlia, Desf. cat. hort. par. ed. 1. p. 182.?

Atom-bearing Wild-senna. Fl. June, July. Clt. 1810. Shrub 4 to 6 feet.

100 C. Dominge'nsis (Spreng. neue entd. 3. p. 55.) leaves with 4-6 pairs of oblong, acuminated, glabrous leaflets, ending in an awn; petioles glandless; racemes panicled, very long. ♄. S. Native of St. Domingo. Leaflets on long petiolules. Legumes flat, very glabrous, rather shining, 1½ inch long, on a short pedicel within the calyx.

St. Domingo Wild-senna. Shrub.

101 C. angustifòlia (Vahl. symb. 1. p. 29.) leaves with 7 pairs of lanceolate glabrous leaflets, outer ones the largest; petioles glandless; legumes pendulous. ♄. S. Native of Arabia.

Narrow-leafletted Wild-senna. Shrub.

102 C. flòrida (Vahl. symb. 3. p. 57.) leaves with 7 pairs of oval-oblong, glabrous, emarginate leaflets; petioles glandless; racemes axillary, many-flowered; bracteas spatulate, ending in a long mucrone. ♄. S. Native of the East Indies.

Florid Wild-senna. Fl. Ju. July. Clt. 1820. Sh. 5 to 6 feet.

103 C. Sia'mea (Lam. dict. 1. p. 648.) leaves with 8-9 pairs of ovate-oblong, obtuse, glabrous leaflets; petioles glandless; legumes flat, compressed, marginated. ♄. S. Native about Siam.

Siam Wild-senna. Shrub.

104 C. dumetòrum (Bert. ined. D. C. prod. 2. p. 499.) leaves with 9 pairs of oval leaflets, which are obtuse at both ends, and pubescent beneath, outer ones the largest, and obovate; petioles glandless, and are, as well as the branches, pubescent; legumes very flat, attenuated at the base, but obtuse and mucronate at the apex. ♄. S. Native of St. Martha. Stipulas rather spinose. Perhaps distinct from the following.

Hedge Wild-senna. Shrub.

105 C. catha'rtica (Mart. reis. bras. ex Schlecht. Linnæa. 5. p. 41.) plant beset with pili, which are glandular at the base, and viscid; petioles glandless; leaves with 8-10 pairs of oblong, elliptic, bluntish, almost mutic leaflets, which are rather unequal at the base; peduncles axillary; legumes linear, rather convex, an inch long. ♄. S. Native of Brazil.

Cathartic Wild-senna. Shrub.

106 C. reticula'ta (Willd. enum. p. 443.) leaves with 10 pairs of oblong leaflets, which are rounded and obtuse at both ends, and pubescent beneath, outer ones the largest; petioles glandless; legumes compressed. ♄. S. Native of Para, in Brazil.

Reticulated-leaved Wild-senna. Shrub.

107 C. specta'bilis (D. C. cat. hort. monsp. p. 90. no. 57.) leaves with 10-12 pairs of ovate-lanceolate, acuminated, mucronate leaflets; petioles glandless; stipulas linear-subulate; racemes loose, terminal. ♄. S. Native of Caraccas. Collad. mon. p. 115. t. 7. Legume unknown.

Showy Wild-senna. Fl. June, July. Clt. 1820. Shrub 4 to 6 feet.

108 C. aversiflòra (Herb. mss. Hook. bot. mag. 2638.) leaves with 7 pairs of obovate leaflets, with a fulvous oblong gland on the petiole between the lower pair; peduncles 2-flowered, axillary, glabrous; stipulas hispid; legume falcate. ♄. S. Native of Brazil. Flowers large.

Contrary-flowered Wild-senna. Fl. June, Sept. Clt. 1820. Shrub 6 feet.

109 C. SETI'GERA (D. C. prod. 2. p. 499.) leaves with 10-12 pairs of leaflets, which are glabrous, as well as the branches; leaflets oval-oblong, obtuse at both ends, each ending in a deciduous bristle, glaucous beneath; petioles glandless; racemes axillary and terminal, disposed in panicles; legumes flat. ♄. S. Native of the East Indies.

Bristle-bearing Wild-senna. Shrub.

110 C. MONTA'NA (Roth. nov. spec. 214.) leaves with about [illegible] pairs of oblong-oval, somewhat emarginate leaflets, which are glabrous on both surfaces; petioles glandless; racemes axillary; flowers heptandrous. ♄. S. Native of the East Indies.

Mountain Wild-senna. Shrub.

111 C. TIMORIE'NSIS (D. C. prod. 2. p. 499.) leaves with 12-15 pairs of oval-oblong leaflets, which are obtuse at both ends, muricated with awns, and clothed with hairy pubescence beneath; petioles glandless, and are as well as the branches puberulous; racemes many-flowered, shorter than the leaves; legumes flat, immarginate. ♄. S. Native of the Island of Timor.

Timor Wild-senna. Shrub.

SECT. IV. BASEOPHY'LLUM (from βασις, *basis*, and φυλλον, *phyllon*, a leaf; in reference to the lower pair of leaflets being at the base of the petiole). D. C. in Collad. mon. p. 115. Sepals obtuse. Stamens nearly equal. Anthers oblong, all fertile, opening by 2 chinks at the apex. Legume flat, compressed, 1-celled, destitute of pulp. Seeds vertical, compressed, oval, longer than the funicle, but hardly shorter than the breadth of the valves.

112 C. CYTISOI'DES (D. C. in Collad. mon. p. 116. t. 14.) leaves with 3 pairs of obovate-orbicular, glabrous leaflets, the lower pair approximating the axil, with a sessile gland on the petiole, between the 2 lower pairs of leaflets. ♄. S. Native of Brazil.

Cytisus-like Cassia. Shrub.

SECT. V. A'BSUS (a name which Prosper Alpinus gave to *C. A'bsus*, from the name of a river in Palestine). D. C. in Collad. mon. p. 116. prod. 500. Sepals bluntish or acutish. Pe[illegible] nearly equal. Stamens 5-10, nearly equal, all fertile. [illegible]hers opening by 2 chinks at the apex. Legumes flat, compressed, destitute of pulp, 1-celled, or many-celled from obsolete dissepiments. Seeds vertical, or parallel to the valves, ovate, compressed, with the funicle short and scale-formed.—Annual herbs or subshrubs. Leaves with 2 pairs of leaflets. Bracteoles small, along the pedicels.

113 C. A'BSUS (Lin. spec. 537.) leaves with 2 pairs of obovate, glabrous, ciliated, dotted leaflets, with small glands on the petiole between the lower pair of leaflets; branches and petioles pubescent; lower flowers solitary in the axils of the leaves, upper ones disposed in a naked terminal raceme. ⊙. S. Native of Ceylon (Burm. zeyl. t. 97.) and Egypt, also of Jamaica, where it has probably been introduced. Collad. mon. p. 77. and 117. Jacq. ecl. 1. t. 53. Flowers copper-coloured or yellow, pentandrous. The seeds are used in ophthalmia, when reduced to powder.

Absus Cassia. Fl. June, July. Clt. 1777. Pl. 2 to 3 feet.

114 C. HÍSPIDA (Collad. mon. p. 118.) leaves with 2 pairs of ovate-roundish, glabrous, dotless leaflets; petioles glandless; branches and legumes hispid; racemes terminal, naked, elongated. ⊙. S. Native of Cayenne. C. A'bsus, Aubl. guian. 1. p. 381. exclusive of the synonymes. C. hispídula, Vahl. ecl. amer. 3. p. 10. Sepals acuminated.

Hispid Cassia. Pl. 1 to 2 feet.

115 C. THONNI'NGII (D. C. prod. 2. p. 500.) leaves with 2 pairs of ovate, acute, ciliated, viscid, pilose leaflets; petioles glandless; stems peduncles, and calyxes hispid and clammy; lower flowers axillary and solitary, upper ones disposed in a terminal raceme. ⊙. S. Native of Guinea. C. viscòsa, Vahl. herb. but not of Kunth. Flowers copper-coloured, drying brown.

Thonning's Cassia. Fl. June, July. Clt. 1824. Pl. 1½ ft.

116 C. VISCÒSA (H. B. et Kunth, nov. gen. amer. 6. p. 360.) leaves with 2 pairs of obovate, emarginate, ciliated leaflets, and are as well as the petioles glandular, clammy, and pilose; branches, pedicels, and calyxes clothed with clammy pili; racemes terminal and lateral, many-flowered. ♄. S. Native of New Granada, near Contreras and Ibagne. Flowers yellow.

Clammy Cassia. Shrub 5 to 6 feet.

117 C. PAUCIFLÒRA (H. B. et Kunth, l. c.) leaves with 2 pairs of elliptic, obtuse, clammy leaflets; petiole glandless; branches and pedicels clammy; racemes terminal, few-flowered. ♄. S. Native of Mexico, near La Venta del Peregrino. C. brachystàchya, Moc. et Sesse, fl. mex. icon. ined. Very like the preceding species.

Few-flowered Cassia. Shrub 2 to 3 feet.

118 C. LOTOI'DES (H. B. et Kunth, l. c.) leaves with 2 pairs of obovate, glabrous leaflets, which are rounded at the apex; petioles glandless; branches and pedicels clothed with clammy hairs; racemes terminal. ♄. S. Native of Cumana, near Caripe, and in sand on the banks of the Orinoco. Procumbent. Flowers yellow, large.

Lotus-like Cassia. Fl. June, July. Clt. 1820. Sh. procumb.

SECT. VI. CHAMÆCRI'STA (a name given by Breynius to this section). Breyn. prod. 2. p. 29. D. C. in Collad. mon. p. 118. prod. 2. p. 500.—Grimáldia, Schrank, ex Biroli, cat hort. bot. taur. 1815. p. 36. Sepals acuminated, nearly equal. Stamens 10, or only 5-7 from abortion. Anthers oblong, glabrous, opening by 2 pores at the apex. Legumes flat, compressed, dehiscent, destitute of pulp. Seeds vertical, compressed, ovate, or nearly square.—Herbs or subshrubs. Stipulas many-nerved at the base. Pedicels bearing 2 acute bracteoles each, axillary, sometimes joined with the branches at the base, and therefore may be said to be supra-axillary. Flowers and fruit erect. Leaflets lapping over each other, when in sleep or at night.

§ 1. *Bauhiniànæ* (plants whose leaves appear like those of *Bauhínia*). *D. C. prod. 2. p. 501. Leaves usually with 1 or 2 pairs of leaflets, rarely with 3-4 pairs.*

119 C. BAUHINIÆFÒLIA (Kunth, mim. p. 123. t. 37.) leaves with 1 pair of obovate, emarginate, obliquely cordate leaflets, with the margins undulately repand, and puberulous on both surfaces; petioles glandless, and are as well as the branches clothed with soft pubescence; stipulas cordate, acuminated; peduncles 1-3, axillary, 1-flowered, bibracteate, pilose at the apex as well as the calyxes. ♄. S. Native on the sandy banks of the Orinoco. H. B. et Kunth, nov. gen. amer. 6. p. 364.

Bauhinia-leaved Cassia. Shrub 2 to 3 feet.

120 C. COTINIFÒLIA; glabrous; leaves with 1 pair of roundish, retuse, coriaceous, repand leaflets; racemes bristly, simple, and panicled. ♄. S. Native of Brazil. Sello. (v. s. herb. Lamb.)

Cotinus-leaved Cassia. Shrub 6 to 10 feet.

121 C. DIPHY'LLA (Lam. dict. 1. p. 642.) leaves with 1 pair of obovate, 5-7-nerved leaflets, which are unequal at the base, and quite glabrous, as well as the branches; stipulas lanceolate, cordate, ciliated at the base, permanent; petiole ending in an awn. ♄. S. Native of Porto Rico, Cayenne, and about Acapulco. Cav. icon. 6. t. 600.

Two-leaved Cassia. Fl. May, July. Clt. 1781. Shrub 1 to 2 feet.

122 C. BIFOLIA'TA (D. C. in Collad. mon. 120. t. 9. f. B.) leaves with 1 pair of leaflets, which are as well as the branches and petioles pilose; leaflets obovate, 3-5-nerved at the base; stipulas cordate, lanceolate, ciliated; petiole without any awn. ♄. S. Native of Brazil, very common about Rio Janeiro. C. pentándra, Raddi, pl. bras. add. p. 20. Flowers pentandrous, ex Raddi. C. nummulària, Vahl. ined. C. rotundifòlia, Pers. is perhaps the same, ex Juss. Legume puberulous.

Bifoliate Cassia. Fl. June, July. Clt. 1820. Sh. 1 to 2 ft.

123 C. FABAGINIFÒLIA (H. B. et Kunth, nov. gen. amer. 6. p. 363.) leaves with 1 pair of obovate, rather retuse, obliquely cordate, ciliated, glabrous leaflets; petioles glandless, and are as well as the branches beset with soft hairs; pedicels 1-2-together, axillary, 1-flowered, bibracteate, glabrous. ♄. S. Native of Mexico, on the burning mount Jorullo.

Fabago-leaved Cassia. Shrub 1 to 2 feet.

124 C. CULTRIFÒLIA (H. B. et Kunth, nov. gen. amer. 6. p. 363.) leaves with 1 pair of oblong-lanceolate, falcately-ensiform, glabrous leaflets, which are denticulately ciliated at the apex; petioles furnished with 1 gland beneath the leaflets; branches marked by a pilose line; pedicels axillary, solitary, 1-flowered, hairy, bibracteate. ♄. S. Native on the banks of the river Orinoco.

Knife-leaved Cassia. Shrub 1 to 2 feet.

125 C. LINEARIFÒLIA; leaves with 1 pair of long, linear, coriaceous, glabrous, acuminated leaflets; sepals acute. ♄. S. Native of Brazil. Sello. (v. s. herb. Lamb.)

Linear-leafletted Cassia. Shrub 2 to 3 feet.

126 C. PU'LCHRA (H. B. et Kunth, nov. gen. 6. p. 362.) leaves with 2 pairs of obovate-oblong, glabrous leaflets, which are rounded at the apex; petiole furnished with 1 gland beneath the leaflets; branches marked with 2 rows of stiff hairs; pedicels axillary, solitary, 1-flowered, bibracteate, hispid. ♄. S. Native of South America, near San Carlos del Rio Negro.

Fair Cassia. Shrub 1 to 2 feet.

127 C. GRA'CILIS (Kunth, mim. p. 120. t. 36.) leaves with 2 pairs of obovate-oblong, obtuse, glabrous leaflets; branches also glabrous; petiole bearing 1 gland beneath the leaflets; pedicels solitary, axillary, 1-flowered, bibracteate, glabrous, twice the length of the leaves. ♄. S. Native on the banks of the river Orinoco. H. B. et Kunth, nov. gen. amer. 6. p. 360. Legume glabrous, rather twisted.

Slender Cassia. Fl. June, July. Clt. 1817. Sh. 1 to 2 ft.

128 C. ROTUNDIFÒLIA (Pers. ench. 1. p. 456.) leaves with 2 pairs of roundish leaflets; branches rather villous; stipulas small, ovate, acuminated, about equal in length to the petioles; pedicels axillary, 1-flowered, elongated. ♄. S. Native of Brazil. Legume pubescent, flat, 10-12-seeded, length of pedicel.

Round-leafletted Cassia. Shrub 1 to 2 feet.

129 C. PERSOÒNII (Collad. mon. p. 119.) leaves and branches glabrous; leaves with 2 pairs of obovate veiny leaflets; stipulas lanceolate, adpressed, about equal in size to the leaflets. ♄. S. Native of Cayenne. C. lanceolàta, Pers. ench. 1. p. 456. but not of Forsk.

Persoon's Cassia. Shrub 1 to 2 feet.

130 C. UNIFLÒRA (Spreng. neue entd. 1. p. 291.) leaves with 2 pairs of glabrous, obovate-lanceolate, veiny leaflets; branchlets pubescent; petioles glandular in the middle; stipulas cordate-lanceolate; pedicels axillary, 1-flowered, 10-times longer than the petioles. ♄. S. Native of Brazil. Flowers reddish. According to Neuw. reis. bras, vol. 2. the leaflets are shining and silky beneath, with a gland on the petiole between the lower pair. The flowers corymbous, and the legumes covered with yellow hairs. This is perhaps the same or perhaps a different species.

One-flowered Cassia. Shrub 1 to 2 feet.

131 C. BRE'VIPES (D. C. in Collad, mon. p. 119. t. 9. f. A.) leaves with 2 pairs of glabrous leaflets; young branches and petioles tomentose; leaflets oblong; stipulas cordate-lanceolate, many-nerved at the base; petioles glandless; pedicels axillary, 1-flowered, rather shorter than the petioles. ♄. S. Native of Panama.

Short-pedicelled Cassia. Shrub 1 to 2 feet.

132 C. KUNTHIA'NA (Schlecht. et Cham. in Linnæa. 5. p. 599.) stems trailing, filiform, puberulous; leaves distich, with 3 pairs of approximate leaflets; rachis ending in a bristle-like mucrone; leaflets obliquely-obovate, mucronulate, 3-nerved, and reticulately veined, glabrous, obsoletely ciliated; petiole pubescent, bearing a gland between the lower pair of leaflets; stipulas cordate, ovate, acuminated, pungent, many-nerved, ciliated; peduncles axillary, solitary, bibracteate, pubescent on the inner side, exceeding the leaves. ♄. S. Native of Mexico, on hills near Hacienda de la Laguna.

Kunth's Cassia. Shrub procumbent.

133 C. FOLIÒSA; branches pubescent; leaves with 3-4 pairs of elliptic, obtuse, mucronate, glabrous leaflets; pedicels 2-3, axillary; sepals acute; legumes flat, lanceolate; stipulas linear-subulate. ♄. S. Native of Peru. (v. s. in herb. Lamb.)

Leafy Cassia. Shrub.

134 C. TENE'LLA (H. B. et Kunth, nov. gen. amer. 6. p. 365.) leaves with 2-4 pairs of oblong, glabrous leaflets; stems procumbent, puberulous; petioles bearing 1 gland, puberulous; pedicels puberulous, axillary, solitary, 1-flowered, bibracteate. ♄. S. Native on the banks of the river Orinoco, near San Borja.

Weak Cassia. Fl. June, July. Clt. 1820. Sh. procumbent.

135 C. MUCRONA'TA (Spreng. syst. 2. p. 341.) leaves with 3 pairs of oblong-elliptic, mucronate, glabrous leaflets, with an urceolate gland between the lower pair; peduncles axillary, 1-flowered. ♄. S. Native of Brazil.

Mucronate-leaved Cassia. Shrub 1 to 2 feet.

§ 2. *Mimosìdeæ* (from *Mimòsa*, and *idea*, like; plants with the habit of *Mimòsa*). *D. C. prod. 2. p. 502. Leaves with from 5 to 50 pairs of leaflets.*

136 C. LINEA'TA (Swartz, fl. ind. occ. p. 726.) erect; leaves with 5 pairs of oblong, obtuse, mucronulate leaflets, which are pubescent beneath, but glabrous above as well as the petioles and branches, with a sessile gland at the base of the petiole; pedicels 1-flowered, axillary, and lateral; legumes hairy. ♄. S. Native of Jamaica, among rubbish.

Lined-leaved Cassia. Fl. Ju. Jul. Clt. 1818. Sh. 1 to 3 ft.

137 C. CUNEA'TA (D. C. in Collad. mon. p. 121.) erect; leaves with 5 pairs of obovate-cuneated, very blunt, mucronate leaflets, which are pubescent beneath as well as the branches and petioles, with a sessile gland at the base of the petiole; pedicels axillary, aggregate; legumes pubescent, spirally twisted. ♄. S. Native of South America.

Cuneate-leafletted Cassia. Shrub 1 to 2 feet.

138 C. PROSTRA'TA (Humb. et Bonpl. in Willd. enum. 441.) prestrate; leaves with 5-7 pairs of oblong-linear, cultriform, obtuse, mucronate leaflets; petiole pilose, bearing a pedicellate gland at the base; pedicels axillary, solitary, 1-flowered, glabrous; legumes pubescent. ♃. S. Native of South America, near the Orinoco. Stipulas and petioles ciliated at the base. H. B. et Kunth, nov. gen. amer. 6. p. 365.

Prostrate Cassia. Fl. May, Aug. Clt. 1819. Pl. prostrate.

139 C. PYGMÆ'A (D. C. mem. soc, nat. gen. 2. p. 2. t. 131.) prostrate; leaves with 4-6 pairs of linear, mucronate leaflets,

which are pubescent as well as the branches and petioles; petiole bearing a pedicellate gland at the base; pedicels solitary, axillary, 1-flowered, longer than the leaves,, bibracteate above the middle; legumes rather pubescent. ♃. S. Native of St. Domingo.

Pygmy Cassia. Pl. prostrate.

140 C. PILÒSA (Lin. spec. 540.) erect; leaves with 5 pairs of oblong, ciliated leaflets, ending in a bristle; petioles glandless; stems straight, and are as well as the petioles beset with long, spreading, stiff hairs; pedicels axillary, 1-flowered, solitary, bibracteate at the base, longer than the leaves. ♃. S. Native of Jamaica. Swartz, obs. 160.

Pilose Cassia. Fl. June, July. Clt. 1818. Pl. 1 to 2 feet.

141 C. GRA'MMICA (Spreng. neue entd. 3. p. 55.) erect; leaves with 6-7 pairs of canescent, pubescent leaflets; branches and petioles clothed with velvety hairs: leaflets oblong, mucronate, veiny beneath, with a pedicellate gland on the petiole below the lower pair of leaflets; pedicels axillary, solitary, 1-flowered, length of petiole; legumes pubescent. ♄. S. Native of Cuba and St. Domingo.

Written-veined Cassia. Pl. 1 to 2 feet.

142 C. SE'RPENS (Lin. spec. 541.) plant rather procumbent; leaves with 7 pairs of oblong-linear, mucronate leaflets; petioles and branches glabrous, with a sessile gland on the petiole beneath the leaflets; pedicels 2-3-together in a fascicle, supra-axillary, 1-flowered, shorter than the petioles; legumes smoothish, apiculated by the style. ⊙. S. Native of Jamaica. Swartz, obs. 161. Collad. mon. 128. Flowers small.

Creeping Cassia. Pl. procumbent at the base.

143 C. FASCICULA'TA (Michx. fl. bor. amer. 1. p. 262.) leaves with 8-9 pairs of oblong-linear, mucronate leaflets, with a sessile gland on the petiole; pedicels in lateral fascicles; legumes smooth, rather arched. ♃. G. Native of Pennsylvania, Virginia, and Carolina. Ell. sketch. 473.

Fascicled-flowered Cassia. Pl. 1 to 2 feet.

144 C. TRIFLÒRA (Jacq. hort. schœnbr. t. 480.) erect; leaves with 6-10 pairs of oblong, obtuse, mucronulate, glabrous, rather ciliated leaflets, with a sessile gland on the petiole beneath the lower pair; petioles and branches puberulous; pedicels 3 in a fascicle, supra-axillary, bibracteolate above the middle, shorter than the petioles; bracteoles and stipulas linear-lanceolate, [illegible]y-nerved. ⊙. ? S. Native country unknown. C. venòsa, Castign. ex Zucc. cent. 1. p. 68. Flowers large.

Three-flowered Cassia. Fl. June, July. Clt. 1816. Pl. 1 ft.

145 C. POLYADE'NA (D. C. mem. soc. hist nat. gen. 2. p. 2. t. 132.) erect; leaves with 6-8 pairs of oblong, obtuse, glabrous leaflets, which are cuneated at the base; branches and petioles glabrous; glands 2-4 on the petiole, sessile, placed beneath and among the pairs of leaflets; pedicels 2-3-together, in a fascicle, supra-axillary, bibracteolate above the middle, shorter than the petioles; bracteoles and stipulas acute and small. ⊙. ? S. Native of Guadaloupe. Nearly allied to *C. glandulòsa*, but differs in the glands being sessile.

Many-glanded Cassia. Pl. 1½ foot.

146 C. BURMA'NNI (D. C. prod. 2. p. 502.) erectish? leaves with 7-9 pairs of oblong, awnedly mucronate, glabrous, rather ciliated leaflets, with a sessile gland at the base of the petiole; pedicels axillary, bracteolate, in fascicles; legumes glabrous, but puberulous at the sutures. ♄. G. Native of the Cape of Good Hope. C. flexuòsa, Burm. prod. fl. cap. p. 12. exclusive of the synonymes.

Burmann's Cassia. Fl. June, July. Clt. 1810. Pl. 1 foot.

147 C. VIRGA'TA (Swartz, fl. ind. occ. p. 728.) erect; leaves with 10 pairs of ovate-lanceolate, mucronate leaflets, which are rather villous beneath, with a pedicellate gland on the petiole beneath the lower pair; pedicels hairy, 1-flowered, axillary, longer than the petioles. ♄. S. Native of Jamaica and St. Domingo.

Twiggy Cassia. Fl. June, Jul. Clt. 1810. Sh. 2 to 3 feet.

148 C. SWA'RTZII (Wicks. obs. fl. st. Barth, p. 411.) branches pubescent; leaves with 9-12 pairs of obliquely linear, glabrous leaflets, which are obtuse and mucronate at the apex; petiole furnished with a gland at the base; stipulas lanceolate, acuminated, pubescent on the outside; sepals acuminated. ♄. S. Native of the island of St. Bartholomew. Flowers large. Legume compressed, marginated, a little curved, glabrous, 8-10-seeded. Allied to *C. virgàta.*

Swartz's Cassia. Shrub 1 foot.

149 C. BREVIFÒLIA (Lam. dict. 1. p. 651.) plant diffuse; leaves with 10-12 pairs of oblong, glabrous, obtuse, somewhat 3-nerved leaflets; petiole glandless; stipulas lanceolate-linear, acuminated; pedicels 1-flowered, axillary, twice the length of the leaves, bibracteolate above the middle. ♄. S. Native of Madagascar. Leaflets a line long.

Short-leafletted Cassia. Shrub 1 foot.

150 C. NI'CTITANS (Lin. spec. 549. exclusive of the synonyme of Rumph.) erectish; leaves with 8-12 pairs of oblong-linear, obtuse, mucronate leaflets; petioles villous, bearing a somewhat pedicellate gland beneath the lower pair of leaflets; pedicels supra-axillary, very short; legumes pubescent. ⊙. G. Native of the West Indies, Carolina, and Pennsylvania. Lin. hort. cliff. t. 36.—Pluk. t. 314. f. 5. Grimáldia assúrgens, Schrank. Flowers pentandrous.

Twinkling Cassia. Fl. July. Clt. 1800. Pl. 1 foot.

151 C. CHAMÆCRISTA (Lin. spec. 542. exclusive of the synonyme of Comm.) erect; leaves with 10-12 pairs of oblong-linear, mucronate leaflets, with a sessile gland on the petiole, beneath the lower pair; pedicels 2-3-together, in a fascicle, supra-axillary, shorter than the petioles; legumes rather hispid. ♄. S. Native of the West Indies, Carolina, and Virginia. Abbot. insect. Georg. t. 94. Curt. bot. mag. 107. C. pulchélla, Salisb. prod. p. 326. Flowers small. The leaves are a good substitute for senna.

Var. β, *stricta* (Schrank, hort. mon. t. 34.) leaves with 10 pairs of leaflets; flowers nearly axillary. ⊙. S. Native of Jamaica.

Ground-crista or Dwarf Cassia. Fl. June, Sept. Clt. 1699. Pl. 1 foot.

152 C. GLANDULÒSA (Lin. spec. 542.) erect; leaves with 10-12 pairs of oblong, mucronate, glabrous leaflets, with a pedicellate gland on the petiole beneath the lower pair, and some between the leaflets; pedicels aggregate, supra-axillary; legume smoothish. ⊙. S. Native of the West Indies. Collad. mon. p. 129.

Glandular Cassia. Fl. July, Aug. Clt. 1822. Pl. 1 foot.

153 C. CINE'REA (Schlecht. et Cham. in Linnæa. 5. p. 599.) a much-branched procumbent shrub, clothed with grey adpressed down; leaves with 12-15 pairs of linear, rather cultriform, obliquely semi-cordate leaflets, with a marginal mucrone each; petiole furnished with a gland beneath the lower pair of leaflets; stipulas ovate-lanceolate, acuminated, 5-nerved; pedicels solitary or twin, axillary, or supra-axillary, bibracteate; stamens all fertile. ♄. S. Native of Mexico, on the sea-shore between Tecoluta and Villa Rica. Legume 4-12-seeded, black.

Cinereous Cassia. Shrub procumbent.

154 C. PAVONIA'NA; stem pubescent, simple; leaves with 10-20 pairs of linear, cuspidate, nerved leaflets; stipulas subulate, nerved; peduncles 1-2-flowered, bracteate; petiole bearing a gland beneath the lower pair of leaflets. ♄. S. Native of Peru. (v. s. in herb. Lamb.)

Pavon's Cassia. Pl. 2 feet.

155 C. mimosoídes (Lin. spec. 543.) erect; leaves with 10-12 pairs of linear, mucronate leaflets, with a pedicellate gland on the petiole between the lower pair; pedicels axillary, 1-2-together, 1-flowered, much shorter than the petioles; branches pubescent; legumes glabrous. ⊙.? S. Native of Java and Ceylon.

Mimosa-like Cassia. Fl. Sept. Clt. 1806. Pl. 2 feet.

156 C. calycioi'des (D. C. in Collad. mon. 125. t. 20. f. B.) erect; leaves with 10-13 pairs of linear, mucronate leaflets, which are lined with nerves beneath, with a pedicellate gland on the petiole beneath the lower pair; branches, petioles, and legumes pilose; peduncles axillary, divided nearly to the base into 2 or 3 1-flowered pedicels. ⊙. S. Native of Cayenne.

Calycium-like Cassia. Pl. 1 foot.

157 C. flavi'coma (H. B. et Kunth, nov. gen. amer. 6. p. 366.) branches clothed with soft, yellow villi; leaves with 12-13 pairs of linear-oblong, pubescent leaflets, with a stipitate gland immediately under the lower pair; pedicels 1-2, rather supra-axillary, beset with villi. ♄. S. Native of South America, on the banks of the Orinoco.

Yellow-haired Cassia. Shrub 1 to 2 feet.

158 C. ramosíssima (H. B. et Kunth, nov. gen. amer. 6. p. 367.) branches tomentose; leaves with 12-15 pairs of linear-oblong glabrous leaflets, with rather scabrous margins, and with the nerve pilose beneath; petiole bearing a stipitate gland beneath the lower pair of leaflets; pedicels usually solitary, supra-axillary, villously pubescent. ♄. S. Native of Mexico, on the mount Jorullo. Legume unknown.

Much-branched Cassia. Shrub 1 to 2 feet.

159 C. tristícula (H. B. et Kunth, nov. gen. amer. 6. p. 367.) branches hairy; leaves with 14-16 pairs of oblong-linear, cultriform, pilose leaflets, with a stipitate gland on the petiole beneath the lower pair; pedicels solitary or twin, pilose, hardly supra-axillary; legumes pilose. ♄. S. Native of New Granada, near Fusagasuga, and of Mexico, near Jalapa. C. hírta, H. W. no. 7988.

Darkish Cassia. Shrub 1 to 2 feet.

160 C. Felipe'nsis (H. B. et Kunth, nov. gen. amer. 6. p. 368.) branches hairy, tomentose; leaves with usually 12 pairs of linear-oblong, acutely piliferous, glabrous, rather ciliated leaflets, with a small sessile gland on the petiole beneath the lower pair, and some also between the pairs; pedicels 1-2-together, pubescent, hardly supra-axillary. ♄. S. Native of South America, in the province of Jaen de Bracamoros, near San-Felipe.

San-Felipe Cassia. Shrub 1 to 2 feet.

161 C. propínqua (H. B. et Kunth, nov. gen. amer. 6. p. 369.) branches densely clothed with yellow pubescence; leaves with 10-14 pairs of oblong-linear glabrous leaflets, which are a little ciliated on the margins; petiole bearing a stipitate gland immediately under the ultimate pair of leaflets; pedicels 3-4-together, pubescent, supra-axillary; legumes pubescent, 8-10-seeded. ♄. S. Native of Cumana, near Caripe, and on mount Cocollar, and of Mexico. Very like *C. Æschynómene.*

Related Cassia. Shrub 3 to 4 feet.

162 C. Cape'nsis (Thunb. prod. 79. fl. cap. ed. Schultes, 1. p. 388.) erect; leaves with 12-18 pairs of linear leaflets, ending each in a somewhat hooked point, and with a sessile gland at the base of the petiole; branchlets villous; pedicels axillary, solitary, 1-flowered, bibracteolate in the middle. ♄. G. Native of the Cape of Good Hope, among grass. Collad. mon. p. 124. t. 19. B. Lodd. bot. cab. 511.

Cape Cassia. Fl. June. Clt. 1810. Shrub 1 foot.

163 C. pu'mila (Lam. dict. 1. p. 651.) plant diffusely procumbent; leaves with 12-15 pairs of linear, rather mucronate, ciliated leaflets, with a pedicellate gland on the petiole beneath the lower pair; pedicels nearly axillary, 1-flowered, solitary, bibracteate above the middle, much shorter than the petioles; branches and legumes pubescent. ⊙. S. Native of the East Indies. C. procumbens, Lin. spec. ed. 1. p. 380. but not, ed. 2. Collad. mon. p. 127.—Pluk. alm. t. 120. f. 1.

Dwarf Cassia. Fl. June, July. Clt. 1816. Pl. proc.

164 C. procu'mbens (Willd. spec. 2. p. 530.) procumbent; leaves with many pairs of leaflets; petioles glandless. ⊙. H. Native of Virginia and Carolina. Lin. spec. ed. 2. p. 543.

Procumbent Cassia. Fl. June, July. Clt. 1806. Pl. proc.

165 C. diffu'sa (D. C. mem. soc. hist. nat. gen. 2. p. 130.) plant diffusely procumbent, smoothish; leaves with 8-15 pairs of linear mucronate leaflets, with a pedicellate gland on the petiole beneath the lower pair; pedicels supra-axillary, solitary, bibracteate in the middle, much shorter than the petioles; legumes glabrous. ⊙. S. Native of Porto-Rico.

Diffuse Cassia. Shrub proc.

166 C. pedicella'ris (D. C. prod. 2. p. 504.) branches pubescent; leaves with 15-20 pairs of glabrous, linear, mucronate leaflets, with a pedicellate gland on the petiole beneath the lower pair; pedicels 1-flowered, solitary, length of the leaves; legumes glabrous. ♄. S. Native of St. Domingo. Nearly allied to *C. diffúsa*, but the flowers are 3 times the size.

Pedicellate Cassia. Shrub diffuse.

167 C. ripa'ria (H. B. et Kunth, nov. gen. amer. 6. p. 269.) branches pubescent; leaves with 16-19 pairs of linear glabrous leaflets, which are adpressedly ciliated on the margins; petiole bearing a stipitate gland beneath the ultimate pair of leaflets; pedicels 1-2, pilose, supra-axillary; legumes pilose. ♄. S. Native on the banks of the river Magdalena, near Mompex.

River-side Cassia. Shrub 1 to 2 feet.

168 C. Æschynómene (D. C. in Collad. mon. p. 127. t. 17.) plant rather diffuse; leaves with 18-20 pairs of linear, mucronate, glabrous leaflets; petiole smoothish, bearing a sub-sessile gland beneath the lower pair of leaflets; pedicels supra-axillary, aggregate, short; flowers heptandrous. ⊙. S. Native of St. Domingo. Breyn. cent. t. 24. Legume rather puberulous.

Æschynomene-like Cassia. Fl. June, July. Clt. 1810. Sh. 1 ft.

169 C. stipula'ta; stem, petioles, and peduncles thickly beset with horizontal, stiff, yellowish hairs; leaves with 18-20 pairs of lanceolate, cuspidate, hairy, nerved leaflets; stipulas ovate, cuspidate, nerved, oblique at the base, tapering muc[illegible] the apex. ♄. S. Native of Peru. (v. s. in herb. Lamb.)

Stipulate Cassia. Shrub 1 to 2 feet.

170 C. patella'ria (D. C. in Collad. mon. p. 125. t. 16.) erect, clothed with villous pubescence; leaves with 18-20 pairs of linear cuspidate leaflets, with 1 or 2 sessile glands along the petiole; pedicels supra-axillary, short, in fascicles; calyx and legumes hairy. ⊙. S. Native of Cayenne and Panama.

Little-Dish Cassia. Pl. 1 to 2 feet.

171 C. Parkeria'na (D. C. prod. 2. p. 565.) erect, puberulous; leaves with 20 pairs of oblong, mucronate, glabrous leaflets, with a pedicellate turbinate gland on the petiole beneath the lower pair; peduncles supra-axillary, branched, many-flowered; legumes shining, rather pilose. ♄. S. Native about Demerara. Habit of *C. Leschenaultiàna*, but differs in the glands being pedicellate.

Parker's Cassia. Fl. Aug. Sept. Clt. 1817. Sh. 1 to 2 feet.

172 C. Otterbe'inii (Mey. prim. esseq. 169.) leaves with 20 pairs of oblong-linear glabrous leaflets, with a pedicellate gland on the petiole between the lower pair: petioles, pedicels, and branches clothed with canescent pili; pedicels 2-3-together, extra-foliaceous; legumes shining, rather pilose. ♄. S. Native of Guiana, in bushy places near Essequebo.

Otterbein's Cassia. Shrub 1 to 2 feet.

173 C. a'spera (Muhl. cat. ex Ell. sketch. p. 474.) erect, hispid; leaves with 24 pairs of linear-lanceolate ciliated leaflets; petiole bearing a turbinate gland beneath the lower pair of leaflets; peduncles few-flowered, supra-axillary; flowers either heptandrous or enneandrous, with 3 of the stamens longer than the rest. ⊙. H. Native of Georgia, in the Island of Eding. Habit of *C. nictitans*.

Rough Cassia. Fl. July, Aug. Clt. 1818. Pl. 1 to 2 feet.

174 C. Leschenaultia'na (D. C. mem. soc. hist. nat. gen. 2. p. 132.) erect; leaves with 20-25 pairs of oblong-linear cuspidate leaflets, which are blunt at both ends; petiole bearing a sessile gland beneath the lower pair of leaflets, and ending in an awn at the apex, and is, as well as the branches, pubescent; pedicels in fascicles; supra-axillary; flowers heptandrous. ⊙. H. Native of Bengal. Stamens very unequal. Pedicels when in fruit about 3-4 lines long. Stipulas ending in long taper points, many-nerved at the base, 8 lines long. Calyx smoothish.

Leschenault's Cassia. Shrub 1 to 2 feet.

175 C. Wallichia'na (D. C. l. c.) erect; leaves with 20-25 pairs of oblong-linear mucronate leaflets, which are obtuse at both ends; petioles bearing a sessile gland beneath the lower pair of leaflets, and ending in a bristle at the apex, and is, as well as the branches and calyxes, pubescent; pedicels in fascicles, supra-axillary; flowers decandrous. ⊙. H. Native of Nipaul. C. dimidiàta, Roxb. hort. beng. p. 32. D. Don, prod. fl. nep. 247. Stamens nearly equal. Stipulas 4-6 lines long. Sometimes there are 2 glands on the petiole, one between each of the 2 lower pairs of leaflets.

Wallich's Cassia. Fl. June, July. Clt. 1817. Pl. 1 foot.

176 C. angusti'ssima (Lam. dict. 1. p. 650.) erect; leaves with about 30 pairs of very small, linear, mucronate leaflets; stipulas lanceolate-setaceous; peduncles twin or 2-parted, and are hairy as well as the branches. ⊙. S. Native of Java and Amboyna, ex Rumph. amb. 6. t. 67. f. 1.

Very-narrow-leafletted Cassia. Fl. July, Aug. Clt. 1820. Pl. 1 foot.

177 C. flexuòsa (Lin. spec. 513. but not of Burm.) erect; leaves with 25-35 pairs of oblong-linear 3-nerved leaflets; stipulas obliquely cordate, acuminated; pedicels axillary, usually solitary. ⊙. S. Native of Brazil. Breyn. cent. 65. t. 23.

Flexuous-stemmed Cassia. Fl. July, Aug. Clt. 1810. Pl. 1 [illegible] feet.

178 C. Guinee'nsis; stem erect, simple, flexuous; leaves with 4 pairs of oval-lanceolate, entire, acute, glabrous leaflets; pedicels 1-flowered, axillary, and terminal. ♄. S. Native of Guinea, in the Island of St. Thomas.

Guinea-stamened Cassia. Shrub 1 foot.

179 C. microphy'lla (Willd. spec. 2. p. 529.) erect; leaves with about 50 pairs of oblong-linear leaflets; petioles narrowly margined between the pairs of leaflets, and bearing a sessile gland beneath the lower pair of leaflets; pedicels solitary, supra-axillary; legumes villous. ♄. S. Native of the Island of Santa-Cruz. Stem branched, pubescent. Stipulas lanceolate, acuminated. Perhaps many species are confused under this name.

Var. β, *Guineénsis* (D. C. prod. 2. p. 505.) leaves with about 40 pairs of leaflets; petiole not margined; pedicels solitary. ⊙. S. Native of Guinea. C. geminàta, Vahl. ex herb. Puer.

Var. γ, *hecatophýlla* (D. C. in Collad. mon. p. 128. t. 18.) glands usually twin beneath the leaflets; pedicels 2-3, aggregate; legumes at length smoothish. ⊙. S. Native of Tobago.

Var. δ, *Senegalénsis* (D. C. l. c.) leaves with about 40 pairs of leaflets; petiole a little marginate; legumes smoothish. ⊙. S. Native of Senegal, at Richard-Tole.

Small-leafletted Cassia. Fl. June, Sept. Clt. 1810. Pl. 1 ft.

180 C. arena'ria (H. B. et Kunth, nov. gen. amer. 6. p. 370.) branches flexuous, tetragonal, puberulous; leaves with 45-50 pairs of linear glabrous leaflets, with rather hispid scabrous margins, lower ones and stipulas ciliated; petiole bearing 2 glands beneath the lower pair of leaflets; peduncles 1-2, pilose, axillary. ♄. S. Native on the banks of the Orinoco, near Maypures, in sandy shady places.

Sand Cassia. Fl. June, May. Clt. 1819. Shrub 1 to 2 ft.

† *Species not sufficiently known.*

181 C. tetraphy'lla (Coll. mon. 130.) leaves with 2 pairs of ovate leaflets; stems procumbent; flowers solitary, axillary; legumes hairy. ⊙. S. Native of Mexico, about Vera Cruz. C. procúmbens, Mill. dict. no. 20. but not of Lin. Perhaps the same as *C. hispida*.

Four-leafletted Cassia. Pl. proc.

182 C. Desvau'xii (Coll. mon. 131.) leaves with 2 pairs of glabrous, veiny, ovate-lanceolate leaflets; stem shrubby; legumes villous. ♄. S. Native of South America. C. tetraphýlla, Desv. journ. bot. 1814. p. 72. but not of Mill.

Desvaux's Cassia. Shrub.

183 C. latifòlia (Meyer, prim. esseq. 166.) leaves with 2 pairs of oblong glabrous leaflets, with a large gland between the lower pair, and a small one between the superior pair. ♄. S. Native of Guiana. Flowers large, yellow.

Broad-leafletted Cassia. Shrub 6 to 8 feet.

184 C. gla'bra (Coll. mon. 131.) leaves with 2 pairs of obliquely ovate-roundish, obtuse, quite glabrous, veiny leaflets; branches angular, glabrous. ♄. S. Native of Brazil. C. venòsa, Desv. journ. bot. 1814. p. 72. but not of Zucc.

Glabrous Cassia. Shrub.

185 C. arbore'scens (Mill. dict. no. 15. but not of Vahl.) leaves with 2 pairs of oblong-ovate leaflets, which are villous beneath; flowers corymbose; stem erect, arboreous; legumes compressed. ♄. S. Native of Mexico, about Vera Cruz.

Arborescent Cassia. Tree 20 to 30 feet.

186 C. auri'ta (Coll. mon. p. 131.) leaves with 2 pairs of oblong-lanceolate, eared leaflets, with a large ovate gland between the lower pair. ♄. S. Native of Brazil. Vand. fl. lus. et bras. in Rœm. script. p. 104.

Eared-leafletted Cassia. Shrub or tree.

187 C. Cube'nsis (Hoffmans. verz. 1824. p. 209.) leaves with 2-3 pairs of ovate, acuminated, ciliated, rather pilose leaflets, which are unequal at the base, outer ones the largest, with a gland on the petiole between the lower pair; legumes slender, terete, obtuse, somewhat incurved. ♄. S. Native of Cuba.

Cuba Cassia. Shrub 6 to 8 feet.

188 C. mona'ntha (D. C. prod. 2. p. 506.) leaves with 3 pairs of ovate, acuminated, villous leaflets; flowers solitary, axillary; legumes erect, terete; stem erect, herbaceous. ⊙. S. Native of Mexico, about Campeachy. C. uniflòra, Mill. dict. no. 5.

One-flowered Cassia. Pl. 1 foot.

189 C. Mille'ri (Coll. mon. p. 132.) leaves with 3 pairs of obtuse emarginate leaflets; stems pilose; flowers solitary, axillary, longer than the petioles; legumes flat. ♄. S. Native of Jamaica. C. emarginàta, Mill. dict. no. 13. but not of Lin.

Miller's Cassia. Shrub.

190 C. villòsa (Mill. dict. no. 14.) leaves with 3 pairs of oblong-oval, equal, villous leaflets; legumes articulated; stem erect, arboreous. ♄. S. Native of Mexico, about Campeachy. Flowers small, straw-coloured.

Villous-leaved Cassia. Tree 14 to 16 feet.

191 C. homophy'lla (Hoffmans. verz. 1824. p. 209.) leaves with 3-4 pairs of elliptic-oblong, obtuse, glabrous leaflets, outer ones hardly larger than the others; petiole furnished with 1 or 2 subulate sessile glands between 1 or 2 of the lower pairs of

leaflets. ♄. S. Native country, flowers, and fruit unknown. Said to be allied to C. *occidentàlis.*

Equal-leafletted Cassia. Shrub.

192 C. HOUSTONIA'NA (Coll. mon. p. 132.) leaves with 4 pairs of oblong-ovate leaflets; stems procumbent; peduncles axillary, 2-flowered. ⊙. S. Native of Jamaica. C. biflòra, Mill. dict. no. 14. but not of Lin.

Houston's Cassia. Pl. proc.

193 C. MACRADE'NA (Collad. mon. p. 132.) leaves with 4 pairs of oblong, eared, mucronate leaflets, bearing a large orbicular gland at the base of the petiole. ♄. S. Native of Brazil. Vand. in Rœm. script. p. 104.

Long-glanded Cassia. Shrub.

194 C. PUBI'GERA (Lag. gen. et spec. p. 14. no. 184.) leaves with 4 pairs of rather hairy, ovate, acuminated leaflets, outer ones lanceolate, with a conical, somewhat pedicellate gland at the base of the petiole.—Native of Guayaquil.

Pubigerous Cassia. Shrub.

195 C. ARACHOÌDES (Burch. cat. no. 1680. ex trav. 1. p. 341.) leaves with 4-5 pairs of obovate leaflets, which are rounded or obcordate at the apex; stems herbaceous, trailing; racemes simple, axillary; legumes oval-orbicular, membranous, flat.—Native of the Cape of Good Hope.

Arachis-like Cassia. Pl. trailing.

196 C. SINOUEA'NA (Gailliaud, fl. a meroe, 1826.) branches tomentose at the apex; leaves with 7 pairs of obtuse interglandular leaflets, pubescent on the back and margins. ♄. G. Native of Egypt, about Singue.

Singue Wild-senna. Shrub.

197 C. ASCHRE'K (Forsk. descrip. p. 86.) leaves with 4-5 pairs of oval-oblong, glabrous, obtuse, acuminated leaflets, with a subulate gland between each pair; legumes flat. ⊙.? G. Native of Arabia at Mor, where it is called *Aschrek.*

Aschrek Cassia. Pl. 1 foot?

198 C. PLUMIE'RI (D. C. prod. 2. p. 506.) leaves with 5 pairs of ovate-lanceolate glabrous leaflets; legumes compressed, long, straight, pendulous, torose at the seeds. ♄. G. Native of Guadaloupe. Plum. ed. Burm. t. 77. C. planisíliqua, Lam. dict. 1. p. 645. but not of Lin.

Plumier's Cassia. Tree.

199 C. FRUTE'SCENS (Mill. dict. no. 2.) leaves with 5 pairs of ovate glabrous leaflets, outer ones the longest; stem shrubby; legumes long, terete. ♄. S. Native of Jamaica.

Shrubby Cassia. Shrub 5 to 6 feet.

200 C. HÍRTA (Willd. enum. suppl. 23.) leaves with 5 pairs of oblong hairy leaflets, with an oblong gland on the petiole between the lower pair; stipulas subulate; branches hairy. ♄. S. Native country unknown.

Hairy Cassia. Shrub.

201 C. SA'BAK (Gailliaud, fl. a meroe, 1826.) branches smooth, ferruginous; corolla an inch and a half; flowers numerous. ♄. S. Native of Egypt, on mount Aqaro, where it is called *Sabak*, and where the inhabitants use the husks of the pods to tan leather.

Sabak Cassia. Shrub.

202 C. SUMATRA'NA (Roxb. ex Horn. hort. hafn. suppl. p. 135.) leaves with 4-8 pairs of elliptic coriaceous leaflets, which are retuse and mucronate at the apex. ♄. S. Native of Sumatra.

Sumatra Cassia. Shrub.

203 A. EGLANDULÒSA (Dum. Cours. bot. cult. ed. 2. vol. 6. p. 34.) leaves with 7 pairs of ovate-orbicular, mucronate, glabrous leaflets, which are palest beneath; petioles glandless. ♄. S. Native country unknown.

Glandless Cassia. Shrub 4 to 6 feet.

204 C. TUBERCULA'TA (Collad. mon. p. 133.) leaves with 7-8 pairs of oblong acuminated leaflets, lower ones the smallest; petiole glandless; stem angular, tubercled. ♄. S. Native of Brazil. Vand. in Rœm. script. p. 104.

Tubercled-stemmed Cassia. Shrub.

205 C. DECÍPIENS (Desv. journ. bot. 1814. p. 73.) leaves with usually 8 pairs of linear-lanceolate, acute, quite glabrous leaflets; legumes compressed, elongated, somewhat reniform. ♄. S. Native of America.

Deceiving Cassia. Shrub.

206 C. SOPHEROÌDES (Collad. mon. p. 134.) leaves with 8-10 pairs of lanceolate, acute, glabrous leaflets, with rather villous margins; petiole bearing an oblong gland at the base; legumes compressed. ♄. S. Native of the East Indies. C. Sophèra, Lam. dict. 1. p. 649. but not of Lin.

Sophera-like Cassia. Shrub 6 to 8 feet.

207 C. CHAMÆCRISTOÌDES (Collad. mon. p. 134.) leaves with many pairs of linear leaflets; stems procumbent, frutescent; flowers large, solitary, axillary; legumes glabrous. ♄. S. Native of Mexico, about Vera Cruz. C. chamæcrísta, Mill. dict. no. 17. but not of Lin.

Chamæcrista-like Cassia. Shrub proc.

208 C. HORNEMA'NNI (D. C. prod. 2. p. 507.) erect; leaves with many pairs of elliptic, ciliated, mucronate leaflets, bearing one sessile gland on the petiole. ⊙. S. Native country unknown. C. venòsa, Horn. hort. hafn. suppl. p. 46. but not of Zucc.

Hornemann's Cassia. Pl. 1 to 2 feet.

209 C. MULTÍJUGA (Rich. in act. soc. hist. nat. par. 108.) arboreous, quite glabrous; leaves with 20-25 pairs of oblong elliptic leaflets, which are white beneath; panicle terminal, multiple. ♄. S. Native of Cayenne.

Many-paired-leafletted Cassia. Tree 20 to 30 feet.

210 C. DÍSCOLOR (Herb. Desv. Hamilt. prod. p. 38.) stem shrubby; leaves with usually 6 pairs of obovate, oblong, rather emarginate, glabrous leaflets, cinereous beneath; flowers terminal, sub-racemose; legumes broad, oblong, compressed. ♄. S. Native of Jamaica.

Discoloured-leaved Cassia. Shrub.

211 C. HIRSU'TA (Herb. Desv. Hamilt. prod. p. 38.) stem shrubby; leaves with usually 6 pairs of ovate, obtuse, mucronulate leaflets, which are tomentose beneath; flowers axillary, spicate; legume glabrous, compressed, very long, and linear. ♄. S. Native of Jamaica.

Hairy Cassia. Shrub.

Cult. All the species of *Cássia* are of easy culture; they thrive best in a mixture of loam and peat, and cuttings of the shrubby kinds root readily in sand under a hand-glass; those of the stove species in heat. The *C. Marylándica* being the only hardy perennial species, should be grown in a sheltered situation in peat soil, and it may either be increased by seeds or by dividing the plant at the root in spring.

CCLXXIII. DELA'RIA (Delar, evidently the name of some botanist). Desv. obs. legum. ex in Schlecht. Linnæa. 2. p. 510.

LIN. SYST. *Decándria, Monogýnia.* Calyx spathaceous, 5-toothed, marcescent. Vexillum large, spreading. Stamens 10, fertile. Ovary sessile or stipitate. Stigma acute. Legume elongated, few-seeded.—Shrubs, with alternate simple leaves.

1 D. OVALIFÒLIA (Desv. l. c.) leaves oval-elliptic, canescent beneath; flowers axillary; legumes hairy, usually twin. ♄. S. Native of Brazil. Cássia simplicifòlia, Desv. journ. bot. 1814, p. 72. D. C. prod. 2. p. 505.

Oval-leaved Delaria. Shrub.

2 D. PYRIFÒLIA (Desv. l. c.) ♄. S. Native of Guinea. Nothing further is known to us of this plant.

Pear-leaved Delaria. Shrub.

Cult. A mixture of loam and peat is the soil best suited to the species of *Delària*, and cuttings will root readily if planted in a pot of sand, with a hand-glass placed over them in heat.

CCLXXIV. CHAMÆFI'STULA (*chamæ*, a word usually applied in botany to signify false, and *fistula*, a pipe; in reference to the cylindrical pods; but it has nothing to do with the true *Fístula*, which is the *Cathartocárpus Fístula*). Cássia, section II. Chamæfístula, D. C. in Collad. mon. p. 87. D. C. prod. 2. p. 490.—Chamæcássia, Breyn. prod. 2. p. 28.

Lin. syst. *Decándria, Monogýnia.* Sepals 5, very obtuse, hardly joined at the base, more or less unequal. Petals 5, unequal. Stamens 10, free, unequal, the 3 lower ones longest, the 4 middle ones short and straight, and the 3 superior ones bearing difformed abortive anthers. Anthers opening by 2 pores at the apex. Ovary stipitate. Legumes terete, hardly dehiscent, slender, membranous, divided by transverse dissepiments into 1-seeded divisions internally, and filled with pulp. Seeds elliptic, compressed, horizontal.—Trees or shrubs, with abruptly pinnate leaves, bearing glands on the petioles. Flowers of all yellow.

* *Leaves with 2 pairs of leaflets. Petiole bearing a gland between the lower pair of leaflets.*

1 C. bacilla'ris; leaves with 2 pairs of ovate, obtuse, oblique leaflets, with a gland on the petiole between the lower pair; racemes axillary, pedunculate; legumes cylindrical, acute. ♄. S. Native of Surinam. Cássia bacillàris, Lin. fil. suppl p. 231. Houst. rel. t. 17. Jacq. fragm. t. 85. f. 4.? Cathartocárpus Bacíllus, Lindl. bot. reg. t. 881. Legume a foot long, terete.

Rod Bastard-cassia. Fl. Ju. Jul. Clt. 1782. Tr. 12 to 14 ft.

2 C. speciòsa; leaves with 2 pairs of rather coriaceous unequal-sided leaflets, which are shining above and glabrous, but densely clothed with tomentose pubescence beneath, ultimate pair twice the size of the other, obovate-oblong, with a cylindrical gland on the petiole between the lower pair; corymbs terminal. ♄. S. Native of Brazil. Cássia mícans, Nees. in fl. 1821. p. 329. C. speciòsa, Schrad. in gœtt. anz. 1821. p. 718. Ovary nearly terete, on a short stipe, thickly clothed with yellow hairs. Style short, glabrous, uncinate, thick. Anthers large.

Showy Chamæfistula. Fl. June, July. Clt. 1816. Tree.

3 C. inæquila'tera; leaves with 2 pairs of ovate, rather acuminate, glabrous leaflets, which are unequal-sided at the base, with a sessile gland on the petiole between the lower [illegible] racemes axillary, pedunculate; legumes incurved. ♄. S. tive of St. Martha. C. inæquilátera, Bert. ined. ex. D. C. prod. 2. p. 490. Very like the following species, but differs in being glabrous.

Unequal-sided-leafletted Chamæfistula. Tree 20 feet.

4 C. macrophy'lla; leaves with 2 pairs of elliptic-oblong, bluntish leaflets, which are glabrous above, but clothed with soft hairs beneath as well as the branchlets and petioles, with an obtuse gland on the petiole between the lower pair of leaflets; racemes axillary, pedunculate; legumes incurved. ♄. S. Native of New Granada, at the mouth of the river Sinu near Carthagena. Cássia macrophýlla, Kunth, mim. p. 126. t. 38. nov. gen. amer. 6. p. 340. Lateral leaflets nearly equal at the base.

Long-leaved Chamæfistula. Tree.

5 C. pube'rula; leaves with 2 pairs of unequal-sided, elliptic-oblong, acute leaflets, which are glabrous above, but clothed with adpressed pubescence beneath, as well as on the branches and petioles, lower pair smaller, ovate-roundish, with an oblong-conical gland on the petiole between the lower pair; racemes axillary, pedunculate. ♄. S. Native of New Granada. Cássia pubérula, H. B. et Kunth, nov. gen. amer. 6. p. 341.

Puberulous Chamæfistula. Tree.

6 C. oxyphy'lla; leaves with 2 pairs of unequal-sided, acuminately-mucronate leaflets, which are pubescent above, but clothed with soft tomentose pubescence beneath, superior pair oblong, lower small and ovate, bearing an oblong, clavate gland on the petiole between the lower pair; racemes few-flowered. ♄. S. Native of New Andalusia, on Mount Cocollar. Cássia oxyphýlla, Kunth, mim. p. 129. t. 39. H. B. et Kunth, nov. gen. amer. 6. p. 342.

Sharp-leafletted Chamæfistula. Tree 50 feet.

7 C. melanoca'rpa; leaves with 2 pairs of ovate-lanceolate, acuminated leaflets, which are shining above and quite glabrous beneath, as well as the branches and petioles, lower pair one half smaller than the outer pair; gland cylindrical, acute, situated on the petiole between the lower pair of leaflets; racemes pedunculate, axillary; legumes straight, terete. ♄. S. Native of Jamaica. Cássia melanocárpa, Bert. ined. ex. D. C. prod. 2. p. 491. Legume smooth, black, on a short stipe within the calyx, obtuse, mucronulate by the style, rather torulose.

Black-fruited Chamæfistula. Tree 20 to 30 feet.

8 C. pro'minens; leaves with 2 pairs of ovate-elliptic, acuminated, glabrous leaflets, lower pair the smallest, with a prominent gland between; branches and peduncles pubescent; racemes forming a large, terminal, corymbous panicle. ♄. S. Native of Brazil. Sello. Legume unknown. (v. s. herb. Lamb.)

Prominent-glanded Chamæfistula. Tree.

9 C. Ruizia'na; leaves with 2 pairs of broad, elliptic, obtuse, glabrous leaflets, which are oblique at the base, with a large obtuse gland between the lower pair on the petiole; racemes twin, short, corymbous, axillary. ♄. S. Native of Guiaquil. Cássia macrophýlla, Ruiz et Pav. in herb. Lamb.

Ruiz's Chamæfistula. Tree 20 to 30 feet.

10 C. oblìqua; leaves with 2 pairs of elliptic, acuminated, glabrous leaflets, with a prominent gland on the petiole between the lower pair; peduncles about the length of the leaves; flowers corymbosely umbellate. ♄. S. Native of Peru. Cássia oblíqua, Ruiz et Pav. in herb. Lamb. Legume unknown. Lower pair of leaflets the smallest.

Oblique-leafletted Chamæfistula. Tree.

11 C. e'legans; glabrous; leaves with 2 pairs of oblique, elliptic, acuminated, coriaceous leaflets, lower pair the smallest, with a prominent ovate-conical gland on the petiole between each pair. ♄. S. Native of Peru. Legumes unknown. Perhaps a species of *Cássia*.

Elegant Chamæfistula. Tree.

* * *Leaves with 3 or more pairs of leaflets.*

12 C. astroi'tes; clothed in every part with stellate, flocky tomentum; leaves with 3-4 pairs of leaflets, floral ones with only 2 pairs; leaflets obliquely ovate-lanceolate, acuminated, ultimate ones the largest, with a clavate gland on the petiole, between the lower pair, or one between each of the two lower pairs; stipulas setaceous; racemes axillary, pedunculate, corymbose; bracteas filiform. ♄. S. Native of Mexico, in Plan del Rio. Cássia astroìtes, Schlecht. et Cham. in Linnæa. 5. p. 597. Legume elongated, somewhat moniliform.

Starry-haired Chamæfistula. Tree.

13 C. corymbòsa; leaves with 3 pairs of oblong-lanceolate, rather falcate leaflets, which are glabrous as well as the branches, with an oblong gland on the petiole between the lower pair; peduncles 3-5-flowered; legumes cylindrical, 4-times longer than the pedicel. ♄. G. Native of Buenos Ayres. Cássia corymbòsa, Lam. dict. 1. p. 644. Jacq. fragm. t. 101. f. 1. Curt. bot. mag. 633. C. crassifòlia, Ort. dec. 10. p. 122. Cássia falcàta, Dum. Cours. bot. cult. ed. 2. vol. 6. p. 35.

Corymbose-flowered Chamæfistula. Shrub 6 to 10 feet.

14 C. infla'ta; leaves with usually 3 pairs of obovate-roundish, glabrous leaflets, which are glaucous beneath, with a clavate gland on the petiole between the lower pair; racemes panicled; legumes inflated. ♄. S. Native of South America,

on the banks of the river Magdalena. Cássia inflàta, Spreng. syst. 2. p. 336.

Inflated-podded Chamæfistula. Shrub.

15 C. CONTÓRTA; erect, branched; leaves with 3 pairs of obovate, pubescent, mucronate leaflets; pedicels axillary, solitary, 1-flowered; legume linear, subterete, twisted. ♄. S. Native of Guinea, in the island of St. Thomas. Flowers large, yellow.

Twisted-podded Chamæfistula. Shrub.

16 C. CROTALARIOI'DES; leaves with 3-4 pairs of oval, rather mucronate, pubescent leaflets, with a sessile elongated gland on the petiole, between each of the pairs of leaflets, except the upper one; branches pubescent; legumes ovate-oblong, puberulous, mucronate. ♄. S. Native of South America. Cássia crotalarioìdes, Kunth, mim. t. 40. Sepals oblong, bluntish, 3-nerved. Stipulas linear, subulate, elongated. Perhaps a species of *Cássia*.

Crotalaria-like Chamæfistula. Shrub 1 to 2 feet.

17 C. FLORIBU'NDA; leaves with 3-5 pairs of oblong-lanceolate, glabrous leaflets, with an oblong gland on the petiole between the lower pair; branches glabrous; peduncles many-flowered; legumes nearly cylindrical, 3-times the length of the pedicel. ♄. S. Native of New Spain. Cássia floribúnda, Cav. ex. Collad. mon. p. 88. Cássia corymbòsa, Ort. dec. p. 124. but not of Lam.

Bundle-flowered Chamæfistula. Fl. June, July. Clt. 1818. Tree or shrub.

18 C. HERBERTIA'NA; leaves with 5 pairs of lanceolate, acuminated leaflets, which are smoothish above but pubescent beneath as well as the branches and petioles; petiole bearing small, sessile glands, one between each pair of leaflets, except the 2 extreme pairs; racemes axillary and terminal, sub-corymbose. ♄. S. Native of Barbadoes. Cássia Herbertiàna, Lindl. bot. reg. 1422. Flowers large, straw-coloured.

Herbert's Chamæfistula. Fl. Aug. Sept. Clt. 1828. Shrub 9 to 10 feet.

19 C. LÆVIGA'TA; leaves with 3-5 pairs of ovate-lanceolate, acuminated, glabrous leaflets, with an oblong, acutish gland between each of the pairs on the petiole; branches glabrous. ♄. S. Native of New Spain. Cássia lævigàta, Willd. enum. 441. Cássia septentrionàlis, Zucc. cent. no. 69. Cássia grandiflòra, Desf. cent. hort. par. but not of Pers. Cássia elégans, H. B. et Kunth, nov. gen. amer. 6. p. 342. Hern. mex. p. 376. f. 1.?

Smooth Chamæfistula. Shrub 6 to 12 feet.

20 C. PE'NDULA; leaves with 4 pairs of oblong, rounded leaflets, which are glaucous beneath, and glabrous on both surfaces as well as the branches; petiole bearing a clavate gland between the lower pair of leaflets; racemes axillary, many-flowered; legumes terete, rather torulose, glabrous. ♄. S. Native of New Granada, near Guadua. Cássia péndula, Willd. enum. 1. p. 440. H. B. et Kunth, nov. gen. amer. 6. p. 343.

Pendulous-racemed Chamæfistula. Fl. July, Aug. Clt. 1820. Shrub 10 to 12 feet.

21 C. INDE'CORA; leaves with 4 pairs of obovate-oblong leaflets, which are rounded at the apex, glabrous above, but clothed with soft pubescence beneath as well as the branches and petioles; petiole bearing a gland between the lower pair of leaflets; peduncles axillary, many-flowered; legumes compressed, puberulous. ♄. S. Native of Caraccas. Cássia indécora, H. B. et Kunth, nov. gen. amer. 6. p. 343. Legume 5-6 inches long, divided internally into about 75 cells.

Indecorous Chamæfistula. Tree.

22 C. TORÒSA; leaves with 4-7 pairs of ovate-lanceolate, glabrous leaflets, with a gland at the base of the petiole; branches glabrous; legumes cylindrical, torulose. ♄. G. Native of China. Cássia toròsa, Cav. descrip. pl. p. 131. Cássia Chinénsis, Jacq. icon. rar. t. 73. but not of Lam. Cássia torulòsa and Cássia I'ndica, Poir. suppl. 2. p. 126. and p. 127.

Torose-podded Chamæfistula. Fl. June, July. Clt. 1816. Shrub 6 feet.

23 C. CHINE'NSIS; leaves with 3-5 pairs of oval, acutish leaflets, which are smoothish as well as the branches; petiole bearing a solitary gland; peduncles very short, 3-4-flowered. ♄. G. Native of China. Cássia Chinénsis, Lam. dict. 1. p. 644. but not of Jacq. Cássia grandiflòra, Pers. ench. 1. p. 457. but not of Desf.

China Chamæfistula. Fl. June. Clt. 1807. Sh. 4 to 6 ft.

24 C. GIGA'NTEA; leaves with 4-5 pairs of oval leaflets, which are attenuated at the base, and obtusely, somewhat emarginate and mucronate at the apex, glabrous as well as the branches; petiole glandless; racemes axillary, rather velvety, the upper ones disposed in a kind of panicle. ♄. S. Native of Jamaica, where it is cultivated under the name of *Cássia arboréscens*. Cássia gigántea, Bert. ined. ex. D. C. prod. 2. p. 492. Sepals roundish. Pedicels crowded, an inch long. Bracteas subulate. Legumes unknown.

Giant Chamæfistula. Tree 20 to 30 feet.

25 C. EXCE'LSA; leaves with 10-20 pairs of elliptic-oblong leaflets, which are unequal at the base, mucronate at the apex, smoothish above and shining, but pubescent beneath as well as the petioles and peduncles; corymbs of flowers panicled. ♄. S. Native of Brazil. Cássia excélsa, Schrad. in gœtt. anz. p. 717. Cássia fastigiàta, Nees. et Neuw reis. bras. ex. flora, 1821. p. 308. and p. 329.

Tall Chamæfistula. Tree.

26 C. COROMANDELIA'NA; leaves with 6-10 pairs of lanceolate acute leaflets, which are glabrous as well as the branches; petiole bearing an ovate thick gland near its base; legumes terete, smooth. ♄. S. Native of the East Indies. Cássia Coromandeliàna, Jacq. fragm. 67. t. 100, [illegible] like *C. toròsa*.

Coromandel Chamæfistula. Fl. June, Jul. Clt. 1823. Tr.

27 C. SOPHE'RA; leaves with 8-10 pairs of lanceolate, acute, nearly equal leaflets, which are glabrous as well as the branches; petiole bearing an oblong gland at the base. ♄ [illegible] Native of India in shady woods, as well as of Egypt and China. Cássia Sophèra, Lin. spec. 542.—Rumph. amb. 5. t. 97. f. [illegible]—Rheed. mal. 2. t. 52.—Burm. zeyl. t. 98. Racemes corymbous. Flowers large, pale yellow. Perhaps numerous species are con[illegible] under the name of *C. Sophèra*.

Sophera Chamæfistula. Fl. Jul. Sept. Clt. 1658. Sh. 4 to 10 ft.

Cult. See *Cássia* for culture and propagation, p. 450.

CCLXXV. CATHARTOCA'RPUS

(καθαιρω, *cathairo*, to purge, and καρπος, *karpos*, the fruit; in reference to the pulp contained in the pods being cathartic). Pers. ench. 1. p. 459.—Bactyrilòbium, Willd. enum. 440.—Cássia, Gærtn. fruct. 2. t. 147. Cássia, sect. 1. Fístula, D. C. in Collad. mon. p. 83. prod. 2. p. 489.

LIN. SYST. *Decándria, Monogýnia*. Sepals very blunt, hardly joined at the base, more or less unequal. Petals 5, unequal. Stamens 10, free, unequal, the 3 lower ones longest, the 4 middle ones short and straight, 3 upper ones bearing abortive, difformed anthers. Anthers ovate, opening by 2 chinks at the apex. Ovary stipitate. Legumes terete, or a little compressed, indehiscent, woody, with elevated sutures, transversely many-celled inside, the cells 1-seeded, and filled with cathartic pulp. Seeds elliptic, rather compressed, horizontal. Trees with abruptly pinnate leaves and pendulous or erect racemes of large yellow flowers. The trees much resemble the *Laburnum* when in full flower in their native countries.

1 C. GRA'NDIS (Pers. ench. 1. p. 459.) leaves with 10-20

pairs of oval-oblong leaflets, which are equal at the base, mucronate at the apex, puberulous above, but clothed with soft tomentum beneath, when young tomentose; petiole glandless; racemes axillary, shorter than the leaves; legumes compressed, wrinkled, very long. ♄. S. Native of the Caribbee islands, Guiana, Brazil, and between Turbaco and Carthagena, &c. Cássia grándis, Lin. fil. suppl. 230. Cássia móllis, Vahl. symb. 3. p. 57. Jacq. fragm. t. 85. f. 3. in fruit. Cássia Brasiliàna, Lam. dict. 1. p. 649.—Breyn. cent. t. 21. but not t. 14. Legumes a little compressed, a foot and a half long.

Great Purging-cassia. Clt. 1820. Tree 30 to 40 feet.

2 C. ferrugi'neus; leaves with 13-20 pairs of oblong-linear, short-acuminated leaflets, which are cuneated on the upper side at the base, and clothed with tomentose pubescence beneath; petiole glandless; racemes about equal in length to the leaves, erect; branches angularly furrowed. ♄. S. Native of Brazil. Bactyrilòbium ferrugíneum, Schrad. in Gœtt. anz. 1821. p. 713. Cássia ferruginea, Schrad. in litt. 1825. Hardly distinct from the preceding species, according to Nees. in flor. 1821. p. 328.

Rusty Purging-cassia. Tree 30 to 40 feet.

3 C. moscha'tus; leaves with 14-18 pairs of oblong leaflets, which are rounded at the apex, and clothed with soft pubescence on both surfaces; petiole glandless; legumes cylindrical. ♄. S. Native of South America, near Mompox, on the banks of the river Magdalena. Cássia moschàta, H. B. et Kunth, nov. gen. amer. 6. p. 358. The pulp in the fruit has a musky scent according to Bonpland.

Musky Purging-cassia. Tree 40 feet.

4 C. speciòsus; leaves with 14 pairs of oblong acutish leaflets, which are smoothish above but clothed with soft pubescence beneath; petiole glandless; racemes many-flowered; legumes terete, rather compressed, undulately annulated. ♄. S. Native of South America, on the banks of the river Magdalena, near the town of Teneriffe. Cássia speciòsa, H. B. et Kunth, nov. gen. amer. 6. [illegible]. Cássia Humboldtiàna, D.C. prod. 2. p. 489.

Showy Purging-cassia. Clt. 1826. Tree 40 feet.

5 C. margina'tus; leaves with 12-15 pairs of oval-oblong, unequal leaflets, which are obtuse, emarginate, and mucronate at the apex, clothed with velvety down beneath, as well as the branches and petioles; racemes axillary, much shorter than the leaves. ♄. S. Native of Coromandel. Cássia marginàta, Roxb. hort. beng. p. 31. Cássia Roxbúrghii, D. C. prod. 2. p. 489.

Marginate-leaved Purging-cassia. Clt. 1810. Tree 20 ft.

6 C. Trinita'tis; leaves with 8-10 pairs of ovate-oblong, acuminated leaflets, which are rather puberulous, and shining a little above, but paler, and clothed with rather villous down beneath; petioles glandless, and are as well as the branches and peduncles clothed with fine velvety down; panicle terminal. ♄. S. Native of the island of Trinidad. Cássia Trinitàtis, Reichb. in Sieb. pl. exsic. trin. no. 57.

Trinidad Purging-cassia. Clt. 1820. Tree 20 to 30 feet.

7 C. Sieberia'nus; leaves with 8-10 pairs of ovate-oblong shining leaflets, which are pale and beset with very minute pubescence beneath; petioles glandless; branches, peduncles, and calyxes clothed with fine velvety down; racemes loose, bracteate. ♄. S. Native of Senegal. C. Javánica affinis, Sieb. pl. exsic. seneg. no. 48. Cássia Sieberiàna, D. C. prod. 2. p. 489.

Sieber's Purging-cassia. Tree 20 to 30 feet.

8 C. conspi'cuus (G. Don, in edin. phil. journ. 1824.) leaflets ovate-lanceolate, acuminated, and emarginate, 3-nerved at the base, white beneath; stipulas subulate; racemes pendulous, loose; legumes terete, with elevated sutures. ♄. S. Native of Sierra Leone, where the pods are called "Monkey drum-sticks." The tree has much the appearance of Laburnum when in flower.

Conspicuous Purging-cassia. Fl. Feb. Clt. 1793. Tree 20 to 30 feet.

9 C. Java'nicus (Pers. ench. 1. p. 459.) leaves with 12-15 pairs of ovate, obtuse, glabrous leaflets; petioles glandless; racemes axillary; legumes nearly cylindrical, very long, and transversely torose. ♄. S. Native of Java and the Moluccas, &c. Cássia Javánica, Lin. spec. 542. exclusive of the synonymes.—Rumph. amb. 2. t. 22. Cássia Bacíllus, Gærtn. fruct. 1. p. 318. Flowers flesh-coloured. Legumes 2 feet long, rather thick, containing a black cathartic pulp as the rest of the species, which is given to horses, hence its name, *Horse-cassia*, in the East Indies.

Java Purging-cassia. Clt. 1779. Tree 30 to 40 feet.

10 C. exce'lsus; leaves with 7 pairs of ovate-oblong, acutish leaflets, beset with minute scattered hairs on both surfaces; petioles glandless. ♄. G. Native of South America, near Porto-Cabello, and in the valleys of Araguen. Cássia excélsa, H. B. et Kunth, nov. gen. amer. 6. p. 339. but not of Schrad. Cássia Bonplandiàna, D. C. prod. 2. p. 490. Flowers and fruit unknown. Nearly allied to *C. Fistula.*

Tall Purging-cassia. Tree 30 to 40 feet.

11 C. Atte'leh; leaves bipinnate, glandless, glabrous; leaflets ovate-oblong, glaucous-green; legumes long, cylindrical; seeds covered with green pulp when mature. ♄. G. Native of Egypt, at Abo Qoulgui, in the province of Qamanay, where it is called *Atteleh.* Cássia Attèleh, Gailliaud, in fl. meroe, 1826. Nearly related to *C. Fistula.*

Atteleh Purging-cassia. Tree 20 feet.

12 C. Fi'stula (Pers. ench. 1. p. 459.) leaves with 4-6 pairs of ovate, rather acuminated, glabrous leaflets; petioles glandless; racemes loose, bractless; legumes cylindrical, rather obtuse, smooth. ♄. S. Native of the East Indies, from whence it has been introduced to South America and the West Indies. Cássia Fístula, Lin. spec. 540. Gærtn. fruct. 2. t. 147. f. 1. Woodv. med. bot. t. 164. Regn. bot. with a figure, Lam. ill. t. 332. Neck. voy. ægypt. p. 21. t. 4.—Rumph. amb. 2. t. 21. Plench. icon. t. 327. Pods cylindrical, with elevated sutures, 1-2 feet long, containing a black sweet pulp. This pulp is an easy and gentle laxative. There are two sorts of this drug in the shops, one brought from the East Indies, the other from the West. The pods of the latter are generally large, rough, thick, rounded, and the pulp nauseous; those of the former are smaller, smoother, the pulp blacker, and of a sweeter taste, and are preferred to the other. Such pods should be chosen as are heavy and new, and do not make any rattling noise, from the seeds being loose within, when shaken, indicating that the pulp is dried up. The pulp should be of a bright shining black colour, and have a sweet taste. The greatest part of the pulp dissolves both in water and alcohol, and may be extracted from the pod by either. In the shops they boil the bruised pods in water, and evaporate the solution to a due consistence. Vauquelin has analyzed the pulp, and found it to consist of parenchyma, gluten, gelatine, gum, extractive, and crystallizable sugar. In medicine, the pulp from its saccharine and extractive constituents is a gentle laxative, and is recommended in a dose of some drachms in costive habits. In larger quantities it generally excites nausea, although some recommend it.

Fistula-podded Purging-cassia or Pudding Pipe-tree. Fl. June, July. Clt. 1731. Tree 30 to 50 feet.

13 C. rhombifòlius; leaves with 3-4 pairs of ovate-roundish, very blunt, glabrous leaflets; petioles glandless; racemes loose. ♄. S. Native of the Island of Timor. Cássia rhombifòlia, Roxb. hort. beng. p. 31. Cássia Fístula, var. β. ? ovàta, D. C. prod. 2. p. 490.

Rhomb-leafletted Purging-cassia. Tree 20 to 30 feet.

14 C. læ'ta; leaves with 4 pairs of thin elliptic-oblong leaflets, which are rather hairy above, and clothed with soft hairy pubescence beneath; petioles glandless; peduncles 4-8-flowered. ♄. S. Native near Guayaquil, on the sea shore. Cássia læ'ta, H. B. et Kunth, nov. gen. amer. 6. p. 340. Legume unknown.

Mild Purging-cassia. Tree 30 to 40 feet.

15 C. fistuloìdes; leaves bipinnate, with 2 pairs of pinnæ, each pinna bearing 6 pairs of leaflets; racemes erect; legumes terete, obtuse. ♄. S. Native of Mexico. C. fístula, Moc. et Sesse, fl. mex. icon. ined. Cássia fistuloìdes, Collad. mon. p. 87. t. 1. This is a very doubtful species of *Cathartocárpus* from the form of the leaves.

Fistula-like Purging-cassia. Tree 20 feet.

Cult. See *Cássia* for culture and propagation, p. 450.

CCLXXVI. EXO'STYLIS (from εξω, *exo*, without, and στυλος, *stylos*, a style; in allusion to the style being much exserted beyond the other parts of the flower). Schott. in Spreng. syst. append. 406.

Lin. syst. *Decándria, Monogýnia.* Calyx clavate, 5-cleft, 3 of the segments revolute. Petals 5, nearly equal, conniving imbricately, inserted in the middle of the throat of the calyx. Stamens 10, nearly equal, dilated at the base; anthers sagittate, cuspidate. Style elongated, simple. Legume thick, many-seeded.—A tree, with impari-pinnate leaves, and racemes of rose-coloured flowers.

1 E. venu'sta (Schott, l. c.) A tree, with villous branches, impari-pinnate leaves, ovate, rather pilose leaflets, and subracemose bracteate peduncles. ♄. S. Native of Brazil.

Beautiful Exostylis. Tree.

Cult. See *Copaifera* for culture and propagation, p. 456.

CCLXXVII. METROCY'NIA (an anagram of *Cynometra*, to which genus the present is nearly allied). Pet. Th. gen. mad. no. 76. D. C. prod. 2. p. 507.

Lin. syst. *Decándria, Monogýnia.* Sepals 5, joined together into a campanulate tube at the base, with the lobes long and coloured. Petals 5. Stamens 10; filaments hairy, with the anthers inserted on their tops. Ovary pedicellate, hairy. Style length of stamens. Legume short, somewhat reniform, 1-seeded, warted or plaited.—A shrub from Madagascar, with abruptly-pinnate leaves, bearing few pairs of leaflets. Flowers disposed in dense spikes. This genus is very nearly allied to *Schótia* and *Cynomètra* according to M. Du Petit Thouars.

1 M. Commersònii (D. C. prod. 2. p. 507.) ♄. S. Native of Madagascar. Shrub smooth. Leaves with 2 pairs of leaflets, the lower pair at the base of the petiole, the upper pair at the apex. Leaflets coriaceous, elliptic-obovate, emarginate.

Commerson's Metrocynia. Shrub 4 to 6 feet.

Cult. See *Copaífera* for culture and propagation, p. 456.

CCLXXVIII. AFZE'LIA (in honour of Adam Afzelius, M.D. professor of botany in the university of Upsal in Sweden, who in his younger days resided many years at Sierra Leone, where he collected a large herbarium of the vegetables of that country, very few of which he published). Smith, in Lin. trans. 4. p. 221. D. C. prod. 2. p. 507.

Lin. syst. *Decándria, Monogýnia.* Calyx tubular, with a 4-cleft deciduous limb. Petals 4, unguiculate, upper one largest. Stamens 10, 8 of which are fertile, and the 2 superior ones sterile. Style subulate. Stigma acute. Legume ligneous, many-celled. Seeds arillate at the base; aril cup-shaped, one-half the length of the seed. Embryo straight, at the base of the seed, with a somewhat inclosed radicle and fleshy cotyledons. Flowers disposed in racemes, blood-coloured. This genus is not well known.

1 A. Africa'na (Smith, l. c.) 8 of the stamens fertile. ♄. S. Native of Sierra Leone. Seeds black, with scarlet aril, which becomes yellow on drying. Leaves abruptly pinnate.

African Afzelia. Tree.

2 A. Pancòvia (D. C. prod. 2. p. 507.) 7 of the stamens fertile. ♄. S. Native of Guinea. Pancòvia bíjuga, Willd. spec. 2. p. 285. Smith in Rees' cycl. vol. 26. Afzèlia bíjuga, Spreng. syst. append. 170. Leaves with 2 pairs of leaflets.

Pancovius's Afzelia. Tree.

Cult. See *Copaífera* for culture and propagation, p. 456.

CCLXXIX. MELANO'XYLON (from μελας μελανος, *melas melanos*, black, and ξυλον, *xylon*, wood; wood black). Schott, in Spreng. syst. append. p. 406.

Lin. syst. *Decándria, Monogýnia.* Calyx deeply 5-cleft. Petals 5, nearly equal. Stamens 10, hairy. Legume compressed, falcate. Seeds furnished with a winged arillus each.

1 M. Bra'una (Schott, l. c.) ♄. S. Native of Brazil. A tree, with reddish brown wood, impari-pinnate leaves, oblong-lanceolate leaflets, which are hairy beneath, and panicled racemes of flowers. Flowers clothed with rusty tomentum.

Brauna Melanoxylon. Tree.

Cult. For culture and propagation see *Copaífera*, p. 456.

CCLXXX. ACO'SMIUM (from ακοσμια, *acosmia*, want of ornament; a tree without beauty). Schott, in Spreng. syst. append. 406.

Lin. syst. *Decándria, Monogýnia.* Calyx campanulate, 4-5-cleft. Petals 5, spreading. Stamens 10, inserted in the bottom of the calyx. Ovary elongated, perhaps a legume.

1 A. lentiscifòlium (Schott, l. c.) ♄. S. Native of Brazil. A shrub, with impari-pinnate leaves, elliptic-lanceolate shining leaflets, and yellow flowers. Racemife[illegible] branches leafless. Sweètia tamarindifòlia, Spreng. syst. 2. p. 21[illegible]

Lentiscus-leaved Acosmium. Shrub.

Cult. For culture and propagation see *Copaife*[illegible] p. 456.

CCLXXXI. SCHO'TIA (so named by Jacquin in [illegible]our of Richard Van der Schot, his companion in his travels). [illegible] coll. 1. p. 93. Lam. ill. t. 331. D. C. prod. 2. p. 507.—Sc[illegible] Thunb.

Lin. syst. *Decándria, Monogýnia.* Sepals 5, coloured, joined together at the base. Petals 5, lateral ones incumbent. Stamens 10; filaments glabrous; anthers glandless. Ovary pedicellate. Style filiform. Legume unknown.—Trees, with rigid branches, abruptly-pinnate leaves, few-flowered racemes, and vermilion-coloured flowers.

Sect. I. Schòtia (see genus for derivation). Calyx tubular at the base, with 5 erect lobes. Fruit unknown. Leaves abruptly pinnate.

1 S. speciòsa (Jacq. icon. rar. 1. t. 75. Andr. bot. rep. t. 348.) leaves with 7-10 pairs of oval-lanceolate, acuminated leaflets, ending each in a spine-like mucrone; stipulas subulate, ♄. S. Native of Senegal and the Cape of Good Hope. Guayàcum A'frum, Lin. spec. 547. S. A'fra, Thunb. prod. 79. Theodòra speciòsa, Med. mon. p. 16. t. 1. Flowers scarlet.

Showy Schotia. Fl. July, Dec. Clt. 1759. Sh. 5 to 6 feet.

2 S. tamarindifòlia (Afz. ex bot. mag. t. 1153.) leaves with 8-10 pairs of ovate, bluntish, mucronate or awnless leaflets, rather gibbous in front at the base. ♄. S. Native of the Cape of Good Hope. Ait. hort. kew. ed. 2. vol. 3. p. 33. Flowers crimson. Legume broad, large, arched, reticulately veiny, and with the sutures thickened.

Tamarind-leaved Schotia. Fl. May, Sept. Clt. 1795. Shrub 5 to 6 feet.

3 S. STIPULA'TA (Ait. hort. kew. ed. 2. vol. 3. p. 33.) leaves with 5 pairs of oval, acute, mucronate leaflets; stipulas dimidiately ovate, falcate, mucronate. ♄. G. Native of the Cape of Good Hope. Flowers crimson.

Stipulaceous Schotia. Fl. May, Sept. Clt. 1794. Sh. 5 to 6 ft.

4 S. ALA'TA (Thunb. fl. cap. ed. Schult. 1. p. 389.) leaves with usually 4 pairs of cuneiform cut, usually convolute leaflets, which are reflexed at the apex. ♄. G. Native of the Cape of Good Hope. Flowers axillary, pedunculate. Petiole furnished with a narrow wing.

Winged Schotia. Fl. June, July. Clt. 1816. Sh. 4 to 6 feet.

SECT. II. SCHOTIA'RIA (an alteration from the generic name). D. C. prod. 2. p. 508. Legume turgid. Leaves simple.

5 S. SIMPLICIFÒLIA (Vahl. ined. D. C. prod. 2. p. 508.) leaves oval, emarginate, obtuse, quite smooth, shining, quite entire, 3-nerved, and reticulately veined; racemes terminal; rachis, calyxes, and pedicels clothed with short velvety down; stamens exceeding the petals, and the petals exceeding the calyx. ♄. S. Native country unknown. Legume turgid according to Vahl.

Simple-leaved Schotia. Shrub 4 to 6 feet.

SECT. III. OMPHALOBIOÌDES (from *Omphalobium*, a genus in Connaràceæ, and *idea*, like; resembles that genus in habit). D. C. prod. 2. p. 508. Sepals only connected a very little at the base. Filaments somewhat monadelphous at the very base. Legume on a short pedicel, oval, compressed, almost indehiscent, 1-celled, and 2-seeded. Seed girded by an ample aril at the base.

6 S. LATIFÒLIA (Jacq. fragm. 23. t. 15. f. 4.) leaves with 2-4 pairs of obovate, very blunt, mucronate leaflets; sepals 4; petals oblong, hardly atten[illegible]ous, 4 times longer than the calyx; legume 2-seeded. ♄. G. Native of the Cape of Good Hope. Omphalòbium Schòtia, Jacq. ecl. icon. ined. Petals and stamens purple and white. Seeds orbicular, brown, furnished with a yellow arillus.

Broad-leaved Schotia. Fl. May, July. Clt. 1810. Sh. 6 ft.

Cult. The species of this genus are very elegant when in flower. They succeed best in a cool part of a stove, as the green-house is rather too cold for them in winter, although they are natives of the Cape of Good Hope. The soil best suited for them is a mixture of loam, peat, and sand, and ripened cuttings will root readily if planted in a pot of sand, with a hand-glass placed over them in a moderate heat.

CCLXXXII. COPAI'FERA (from *Copaiba*, the Brazilian name for the balsam of Capevi, and *fero*, to bear; trees producing the balsam of Capevi). Lin. gen. no. 542. Desf. mem. mus. p. 375. H. B. et Kunth, nov. gen. amer. 7. p. 265. D. C. prod. 2. p. 509. Hayne, pl. offic. ex Schlecht. Linnæa. vol. 1. p. 425.—Copàiva, Jacq. amer. 133.

LIN. SYST. *Decándria, Monogýnia.* Calyx bractless. Sepals 4, connected at the very base, spreading, small, and equal. Petals wanting. Stamens 10, distinct, nearly equal; anthers oblong. Style filiform. Legume stipitate, obliquely elliptic, coriaceous, somewhat compressed, 2-valved, 2-ovulate, 1-seeded. Seed elliptic, wrapped in a fleshy arillus. Embryo straight, with a sublateral radicle.—Trees, natives of the tropical parts of America, with impari-pinnate leaves, and coriaceous, somewhat unequal, ovate leaflets. Flowers white, disposed in panicles.

* *Leaves impari-pinnate; leaflets reticulated with ribs.*

1 C. BEYRÍCHII (Hayne in Schlecht. Linnæa. 1. p. 425.) leaves with 2-3 pairs of equal-sided leaflets, each ending in a long emarginate acumen, lower ones oblong, upper ones lanceolate, hardly with pellucid dots. ♄. S. Native of Brazil. Hayne, pl. offic. t. 12.

Beyrich's Balsam of Capevi tree. Tree 20 to 30 feet.

2 C. GUIANE'NSIS (Desf. mem. mus. 7. p. 376.) leaves with 2-4 pairs of equal-sided leaflets, each ending in a long apiculated point, lower ones ovate, upper ones oblong, full of pellucid dots. ♄. S. Native of Guiana, near the Rio Negro. Hayne, pl. offic. t. 13.

Guiana Balsam of Capevi tree. Clt. 1817. Tree 30 to 40 ft.

3 A. MA'RTII (Hayne, l. c.) leaves with 2-3 pairs of ovate, equal-sided, dotless leaflets, ending each in a short emarginate acumen. ♄. S. Native of Brazil. Hayne, pl. offic. t. 15.

Martius's Balsam of Capevi tree. Tree 30 to 40 feet.

4 C. JACQUINIA'NA (Hayne, l. c.) leaves with 2-5 pairs of ovate, incurved, unequal-sided, bluntly acuminated leaflets, full of pellucid dots. ♄. S. Native of Martinique, Trinidad, &c. Hayne, t. 14. C. officinàlis, Lin. spec. 557. Jacq. amer. t. 86. Lam. ill. t. 342. Woodv. med. bot. 3. t. 137. H. B. et Kunth, nov. gen. 7. t. 659. The trees which produce the *balsam of Capevi*, or *Copaiva*, are natives of the Spanish West India Islands, and of some parts of South America, and the resinous juice flows in considerable quantities from incisions made in the trunk. The juice is clear and transparent, of a whitish or pale yellow colour, an agreeable smell, and a bitterish pungent taste. It is usually about the consistence of oil, or a little thicker; when long kept it becomes nearly as thick as honey, retaining its clearness; but it has never been observed to grow dry or solid, as other resinous juices do. The best resin of Copaiva comes from Brazil. Pure resin of Copaiva dissolves entirely in alcohol; the solution has a very fragrant smell. Distilled with water it yields a large quantity of a limpid essential oil, but no benzoic acid; it is therefore not a balsam, but a turpentine, a combination of resin and volatile oil. In medicine the resin of Copaiva is a useful tonic, but in some degree irritating. In large doses it proves purgative, and promotes urine, and is supposed to clean and heal exulcerations in the urinary passages more effectually than any of the other resinous fluids. The resin has been principally celebrated in chronic catarrh, gleets, and the fluor albus, and externally as a vulnerary. The dose of this medicine rarely exceeds 20 or 30 drops, though some authors direct 60 or upwards. It may be conveniently taken in the form of an emulsion, into which it may be reduced by triturating it with oil of almonds, with a thick mucilage of gum-arabic, or with the yolk of eggs, till they are well incorporated, and then gradually adding a proper quantity of water.

Jacquin's Balsam of Capevi tree. Tree 30 to 40 feet.

5 C. BÍJUGA (Hayne, l. c.) leaves with 2 pairs of incurved, oval, bluntly-acuminated, unequal-sided leaflets, which are full of pellucid dots. ♄. S. Native of Brazil. Hayne, pl. offic. t. 16.

Two-paired-leafletted Balsam of Capevi-tree. Tree 30 to 40 feet.

6 C. MULTÍJUGA (Hayne, l. c.) leaves with 6-10 pairs of somewhat incurved, unequal-sided leaflets, ending each in a long apiculated acumen, lower ones ovate-oblong, upper ones lanceolate, all full of pellucid dots. ♄. S. Native of Brazil. Hayne, pl. offic. t. 17. f. c.

Many-paired-leafletted Balsam of Capevi tree. Tree 30 to 40 feet.

** *Leaves impari-pinnate; leaflets reticulately veined.*

7 C. JUSSI'EI (Hayne, l. c.) leaves with 5-6 pairs of incurved, nearly equal-sided leaflets, each ending in a long mucronate acumen, lower ones ovate-lanceolate, upper ones oval-oblong, all full

of pellucid dots; petioles glabrous. ♄. S. Native of Peru. Hayne, pl. offic. t. 17. *f.*

Jussieu's Balsam of Capevi tree. Tree 30 to 40 feet.

8 C. **nítida** (Mart. mss. Hayne, l. c.) leaves with 2-4 pairs of incurved, unequal-sided, obtusely-acuminated leaflets, with hardly any pellucid dots, lower ones broad-ovate, upper ones oblong-ovate; petioles and peduncles glabrous. ♄. S. Native of Brazil. Heyne, pl. offic. t. 17. *a.*

Shining-leaved Balsam of Capevi tree. Tree 30 to 40 feet.

9 C. **la'xa** (Hayne, l. c.) leaves with 3-4 pairs of equal-sided, somewhat incurved, emarginate leaflets, lower ones ovate-cordate, upper ones ovate-oblong, all full of pellucid dots; petioles pubescent; peduncles villously tomentose. ♄. S. Native of Brazil. Hayne, pl. offic. t. 18.

Loose Balsam of Capevi tree. Tree 40 feet.

10 C. **Langsdórfii** (Desf. mem. mus. 7. p. 376. Hayne, l. c.) leaves with 3-5 pairs of equal-sided, obtuse leaflets, lower ones ovate, upper ones ovate-elliptic, all full of pellucid dots; petioles and peduncles pubescent. ♄. S. Native of Brazil. Hayne, pl. offic. t. 19.

Langsdorff's Balsam of Capevi tree. Tree 30 to 40 feet.

11 C. **coria'cea** (Mart. mss. Hayne, l. c. p. 427.) leaves with 2-3 pairs of elliptic, equal-sided, emarginate dotless leaflets; petioles and peduncles nearly glabrous. ♄. S. Native of Brazil. Hayne, pl. offic. t. 20.

Coriaceous-leaved Balsam of Capevi tree. Tree 40 feet.

12 C. **cordifòlia** (Hayne, l. c.) leaves with usually 5 pairs of nearly equal-sided, emarginate, dotless leaflets, lower ones ovate-cordate, upper ones elliptic-obovate; petioles and peduncles clothed with pubescent tomentum. ♄. S. Native of Brazil. Hayne, pl. offic. t. 21.

Heart-leafletted Balsam of Capevi tree. Tree 30 to 40 feet.

13 C. **Sellòi** (Hayne, l. c.) leaves with 3-4 pairs of somewhat unequal-sided, hardly dotted leaflets, lower ones ovate, upper ones lanceolate; petioles and peduncles tomentose. ♄. S. Native of Brazil. Hayne, pl. offic. t. 22.

Sello's Balsam of Capevi tree. Tree 30 to 40 feet.

14 C. **oblongifòlia** (Hayne, l. c.) leaves with 6-8 pairs of elliptic-oblong, nearly equal-sided, emarginate leaflets, full of pellucid dots; petioles and peduncles pubescent. ♄. S. Native of Brazil. Hayne, pl. offic. t. 23. *a.*

Oblong-leafletted Balsam of Capevi tree. Tree 30 to 40 feet.

15 C. **trapezifòlia** (Hayne, l. c.) leaves with 4-7 pairs of ovate-trapeziform leaflets, which are for the most part emarginate, full of pellucid dots; petioles pubescent. ♄. S. Native of Brazil.

Var. α, crassiúscula (Hayne, l. c.) leaflets for the most part alternate, thicker, full of pellucid dots. Hayne, l. c. t. 23. *b.*

Var. β, tenélla (Hayne, l. c.) leaflets for the most part opposite, thinner, and very full of pellucid dots. Hayne, l. c. t. 23.

Trapezium-leaved Balsam of Capevi tree. Tree 30 to 40 ft.

† *A species not sufficiently known.*

16 C. **dispe'rma** (Willem. herb. maur. p. 34.) fruit 2-seeded. ♄. S. Native of the Mauritius.

Two-seeded Balsam of Capevi tree. Tree.

Cult. Sandy loam is the best soil for the species of *Copaífera.* Ripened cuttings will root if planted in a pot of sand plunged in heat, under a hand-glass.

CCLXXXIII. CYNOME'TRA

(from κυων, *kyon*, a dog, and μητρα, *metra*, a matrix; shape and consistence of pods). Lin. gen. 519. Lam. ill. t. 331. D. C. prod. 2. p. 509.—Cynomòrium. Rumph. amb. 1. p. 163. but not of Lin.

Lin. syst. *Decándria, Monogýnia.* Calyx bractless, deciduous, with a very short tube, and a 4-parted limb; the lobes reflexed and pencilled at the apex. Petals 5, oblong, equal. Stamens 10, distinct; anthers bifid at the apex. Legumes half round, fleshy, indehiscent, 1-celled, 1-seeded, tubercled on the outside. Seed filling the cell, and fixed to the middle of the suture. Embryo straight, with thickish, roundish cordate cotyledons.—Trees, with bifoliate leaves and red flowers rising from the main trunk of the trees. Legumes brown, edible.

§ 1. *Genuìnæ* (*genuinus*, genuine; this division contains the genuine species). *Leaves with one pair of leaflets.*

1 C. **caulifløra** (Lin. spec. 547.) trunk floriferous; leaflets emarginate at the apex. ♄. S. Native of the East Indies. Lam. ill. t. 331. f. 1.—Rumph. amb. 1. t. 62. Peduncles rising in fascicles from the trunk, bracteolate, with many pedicels rising in racemes from the roundish bracteas, sometimes short and few-flowered, sometimes elongated and many-flowered. Perhaps two species are confused under *C. cauliflòra.* Flowers white.

Stem-flowered Cynometra. Clt. 1804. Tree 30 to 40 feet.

2 C. **ramiflòra** (Lin. spec. 547.) branches floriferous; leaflets acuminated at the apex. ♄. S. Native of the East Indies. Lam. ill. t. 331. f. 2.—Rumph. amb. 1. t. 63.—Rheed. mal. 4. t. 31. Flowers white. Seed compact, whitish, covered with a thin pellicle, having an astringent taste, but without any smell.

Branch-flowered Cynometra. Tree 60 feet.

§ 2. *Dùbiæ* (from *dubius*, doubtful, this division contains doubtful species of the genus). *Leaves with many pairs of leaflets.*

3 C. **polya'ndra** (Roxb. cor. 3. t. 286.) branches floriferous; peduncles axillary, short, many-flowered; leaves abruptly pinnate, with 2-3 pairs of leaflets. ♄. S. Native of the East Indies, on the mountains of Silhet. Flowers white, polyandrous. Legume fleshy, not tubercled on the outside. This tree is perhaps generically distinct from *Cynometra*, from the stamens being 40-50 in number in each flower, and probably hypogynous, and therefore it comes near to *Swártzia.*

Polyandrous Cynometra. Tree 40 feet.

4 C. **pinna'ta** (Lour. coch. p. 268.) racemes terminal; leaves impari-pinnate. ♄. G. Native of Cochin-china. Leaflets lanceolate, glabrous. Calyx 5-parted. Stamens 10. Legume very thick, yellow, not tubercled on the outside. Perhaps [illegible] distinct genus.

Pinnate-leaved Cynometra. Tree 60 feet.

Cult. For culture and propagation see *Copaífera.*

CCLXXXIV. IN'TSIA

(*Intsi* is the name of *I. Madagascariénsis* in Madagascar). Pet. Th. gen. nov. mad. p. 22. no. 75. D. C. prod. 2. p. 509.

Lin. syst. *Enneándria, Monogýnia.* Calyx campanulate at the base, 5-parted. Petal one, unguiculate, opposite the ovary. Stamens 9, 3 of which are fertile, longer, and declinate. Legume oblong, compressed, 3-4-seeded. Seeds oblong, with the intervals between the seeds filled with medulla.—Tall trees, with pinnate leaves.

1 I. **Madagascarie'nsis** (D. C. prod. 2. p. 509.) leaves with 2 pairs of leaflets, and an odd one; flowers corymbose; stamens 9, 6 of which are sterile. ♄. S. Native of Madagascar, where it is called *Intsi.*

Madagascar Intsia. Tree 60 feet.

2 I.? **Amboine'nsis** (D. C. prod. 2. p. 509.) leaves abruptly-pinnate, with 2 pairs of leaflets; flowers somewhat panicled; sterile filaments 3. ♄. S. Native of the Moluccas. Caju-Bessi or Metrosíderos Amboinénsis, Rumph. amb. 3. p. 21. t. 10. This tree is placed in the present genus by M. Du Petit

Thuars, but not without some doubt, and Loureiro refers it to *Baryxylum*.

Amboyna Intsia. Tree 60 feet.

Cult. For culture and propagation see *Copaifera*, p. 456.

CCLXXXV. EPE'RUA (the tree is called in Guiana *Vovapa-Tabaca*, and the fruit *eperu*, signifying a sabre, from the shape of the pods). Aubl. guian. 1. p. 369. t. 142. D. C. prod. 2. p. 510.—Rotmánnia, Neck. elem. no. 1284.—Panzèra, Willd. spec. 2. p. 540.

Lin. syst. *Monadélphia, Decándria.* Sepals 4, thick, and concave, connected together into a permanent urceolate tube at the base, with the sides incumbent, upper one the broadest. Petal 1, roundish, fringed, inserted in the middle of the calyx. Stamens 10, long; filaments thickened, and rather villous at the base, and joined into a short monadelphous ring. Ovary stipitate. Style long, filiform. Legume compressed, dry, coriaceous, falciform, 2-valved, 1-4-seeded, when young it is tomentose.—A tree, with abruptly-pinnate leaves, bearing 2-3 pairs of ovate, acuminated, shining leaflets. Panicle pendulous, on a long peduncle, constantly composed of numerous distant racemes. Flowers red.

1 E. FALCA'TA (Aubl. l. c.) ♄. S. Native of Guiana, in woods, where it is called *Vouapa*, according to Delessert's herbarium. Dimórpha falcàta, Smith in Rees's cycl. no. 3. The inhabitants of Guiana make handles to their hatchets of the wood of this tree.

Falcate-podded Eperua. Tree 40 to 50 feet.

Cult. For culture and propagation see *Copaifera*, p. 456.

CCLXXXVI. PARIVO'A (the Guiana name of [illegible] tree). Aubl. guian. 2. p. 756. t. 303. D. C. prod. 2. p. 510 Adlèria, Neck. elem. no. 1286.—Dimórpha, Willd. spec. 3. p. 971.

Lin. syst. *Diadélphi*[illegible] 2 bracteoles on the [illegible]side, 3-5-cleft; tube urceolate; segments thick and blunt. Petal 1, large, roundish, convolute, inserted in the calyx. Stamens 10; filaments long, 9 of which are joined together at the base, and the tenth loose. Ovary stipitate. Style long, filiform. Legume thick, compressed, oval, 2-valved, 1-seeded.—A tree, with abruptly-pinnate leaves, bearing 3-4 pairs of ovate, acuminated, shining leaflets. Flowers purple, in short racemes. Perhaps sufficiently distinct from *Epérua*.

1 P. GRANDIFLÒRA (Aubl. l. c.) ♄. S. Native of Cayenne, along the banks of rivers. Dimórpha grandiflòra, Willd. l. c. Rudge in Lin. trans. 9. p. 180. t. 20. Petal almost 2 inches long, purple. The trunk of the tree is more than 2 feet in diameter, and the wood is reddish, solid, and compact; and is used in Cayenne for various important purposes.

Great-flowered Parivoa. Clt. 1821. Tree 30 feet.

Cult. For culture and propagation see *Copaifera*, p. 456.

CCLXXXVII. ANTHONO'TA (from ανθος, *anthos*, a flower, and νωτος, *notos*, the back; in reference to the flower being only furnished with one petal, which is behind). Beauv. fl. d'ow. 1. p. 70. t. 42. D. C. prod. 2. p. 510.

Lin. syst. *Decándria, Monogýnia.* Bractea 2-lobed, situated under the calyx. Calyx petaloid, 4-cleft, 3 of the lobes are lanceolate and acute, the fourth broader and emarginate. Petal one, standing on a long claw, with a spoon-shaped emarginate limb. Stamens 10, free, 3 of which are very long, and 7 shorter than the calyx. Ovary sessile, compressed, ovate. Style filiform, crowned by a somewhat bifid stigma. Legume compressed, flat, hardly dehiscent, 1-celled, many-seeded, somewhat reticulated from transverse wrinkles. Seeds orbicular, flat.—A glabrous shrub, without stipulas. Leaves abruptly-pinnate, with 2-3 pairs of coriaceous, elliptic-oblong, acuminated leaflets; petiole terete. Racemes axillary, very short. This genus is allied to *Oútea*, *Vouàpa* and *Parivòa*.

1 A. MACROPHY'LLA (Beauv. l. c.) ♄. S. Native of Western Africa, between Waree and Buonopozo, along the banks of rivulets. Leaflets 8-10 inches long.

Long-leafletted Anthonota. Shrub 6 to 8 feet.

Cult. For culture and propagation see *Copaifera*, p. 456.

CCLXXXVIII. OU'TEA (*Joutay* is the name of *O. paniculàta* in Guiana). Aubl. guian. 1. p. 28. Juss. gen. 347. Vahl. enum. 2. p. 38.—Macrolòbium, spec. Schreb. et Willd.

Lin. syst. *Triándria, Monogýnia.* Calyx 5-cleft, furnished with 2 opposite bracteas at the base. Petals 5, 4 of which are very minute or almost wanting, the fifth large, and undulately plicate. Stamens 3-4, long, free, when 4 the fourth is sterile. Ovary pedicellate, terminated by a long style. Legume compressed, 1-celled (1-seeded? ex ovarium).—Trees, natives of Guiana, with abruptly-pinnate leaves, and racemes of flowers.

1 O. MULTI'JUGA (D. C. prod. 2. p. 510.) leaves with 3-5 pairs of obovate-cuneated, oblong, very blunt, retusely emarginate leaflets. ♄. S. Native of French Guiana. Stamens 3. Perhaps sufficiently distinct from the following species.

Many-paired-leafletted Outea. Tree.

2 O. GUIANE'NSIS (Aubl. guian. 1. p. 28. t. 9.) leaves with 2 pairs of elliptic-oblong obtuse leaflets. ♄. S. Native of French Guiana. Stamens 4, of which one is sterile and villous. Lam. ill. t. 26. Macrolòbium pinnàtum, Willd. spec. 1. p. 186. Macrolòbium U'tea, Gmel. syst. 93.

Guiana Outea. Clt. 1825. Tree 50 feet?

3 O. BI'JUGA (D. C. prod. 2. p. 511.) leaves with 2 pairs of leaflets; flowers triandrous, and with 6 sterile filaments. ♄. S. Native of the East Indies. Macrolòbium bíjugum Coleb. Lin. trans. vol. 12. p. 359. t. 17.

Two-paired-leafletted Outea. Clt. 1823. Shrub 10 feet.

Cult. For culture and propagation see *Copaifera*, p. 456.

CCLXXXIX. VOUA'PA (the name of the first species in Guiana). Aubl. guian. 1. p. 25. Juss. gen. p. 350. D. C. prod. 2. p. 511.—Macrolòbium species, Schreb. et Willd. Macrolòbium, Vahl. enum. 2. p. 37.—Kruegèria, Neck. elem. no. 1389.

Lin. syst. *Triándria, Monogýnia.* Calyx 4-cleft, furnished with 2 opposite bracteoles at the base. Petal one, flat. Stamens 3. Legume pedicellate, coriaceous, 1-seeded.—Trees, natives of Guiana, bearing only one pair of leaflets. Flowers disposed in racemes. This genus is perhaps not sufficiently distinct from *Oútea*.

1 V. BIFÒLIA (Aubl. guian. 1. p. 25. t. 7.) leaflets sessile, ovate, acuminated, oblique; bracteas with one elevated nerve each; lobes of calyx spreading, about equal in length to the corolla; legumes winged on one side. ♄. S. Native of Guiana and of Maranham in Brazil, where we have seen it in great plenty. Macrolòbium hymenæoìdes, Willd. spec. 1. p. 186. Macrolòbium Vuàpa, Gmel. syst. 1. p. 93. M. bifòlium, Pers. ench. 1. p. 39. Petals violaceous.

Two-leafletted Vouapa. Clt. 1823. Tree 60 feet.

2 V. SIMÌRA (Aubl. guian. 1. p. 26. t. 8.) leaflets petiolulate, somewhat obovate-lanceolate, equal at the base; legumes oval, with smooth margins. ♄. S. Native of Guiana, where it is called *Simira*. Macrolòbium sphærocárpum, Willd. spec. 1. p. 186. Macrolòbium Simìra, Gmel. syst. 1. p. 93. Vouàpa violàcea, Lam. ill. no. 420. Petals violaceous.

Simira Vouapa. Tree 40 to 50 feet.

3 V. STAMÍNEA (D. C. prod. 2. p. 510.) leaflets sessile, lanceolate-oblong, bluntish; segments of calyx reflexed; stamens 3 times the length of the corolla; legumes obsoletely margined

on one side. ♄. S. Native of Guiana, in the Island of Arowabisch. Macrolòbium staminèum, Meyer. esseq. 18.

Stamineous Vouapa. Tree 30 to 40 feet.

4 V. phaseloca'rpa (Hayne, get. darst. vesch. ex Schlecht. Linnæa. vol. 5. p. 20.) leaflets sessile, obovate-oblong, rounded, and emarginate at the apex, and unequal at the base; legumes channelled on both margins. ♄. S. Native of Brazil?

Phaselus-fruited Vouapa. Tree.

Cult. For culture and propagation see *Copaifera*, p. 456.

CCXC. HYMENÆ'A (from *Hymen*, the god of marriage; in reference to the twin leaflets). Lin. gen. no. 512. Gærtn. fruct. 2. p. 305. t. 144. Lam. ill. t. 330. D. C. prod. 2. p. 511.—Coùrbaril, Plum. gen. t. 36.

Lin. syst. *Decándria, Monogýnia.* Calyx furnished with 2 bracteoles at the base, tubular, coriaceous; tube urceolate; limb 5-parted, the 2 lower segments for the most part joined, all deciduous. Petals 5, unequal, sessile, lower one usually boat-shaped. Stamens 10, distinct, inflated in the middle. Ovary pedicellate, beardless. Style filiform. Legume woody, ovate-oblong, indehiscent, 1-celled, many-seeded, filled with dry farinaceous, filamentose pulp. Embryo straight, with fleshy cotyledons, and a globose radicle.—Trees, with bifoliate leaves, and corymbs of white or yellowish flowers.

* *Leaflets glabrous.*

1 H. venòsa (Vahl. eclog. 2. p. 31.) leaflets oblong, unequal-sided, but equal at the base, ending each in a long obtuse acumen. ♄. S. Native of Cayenne. Flowers of panicle sessile. Calyx silky, shining.

Veiny-leaved Locust-tree. Tree 40 feet.

2 H. latifòlia (Hayne, gat. dars. vesch. ex Schlecht. Linnæa. 5. p. 18.) leaflets roundish-ovate, nearly equal-sided, equal at the base, but emarginate at the apex. ♄. S. Native of South America. H. obtusifòlia, Willd. herb.

Broad-leafletted Locust-tree. Tree.

3 H. confertiflòra (Mart. mss. Hayne, l. c.) leaflets ovate, unequal-sided, but equal at the base, ending in a long obtuse acumen. ♄. S. Native of Brazil.

Crowded-flowered Locust-tree. Tree.

4 H. confertifòlia (Hayne, l. c.) leaflets oblong, unequal-sided, and unequal at the base, ending in a short acumen. ♄. S. Native of Brazil.

Crowded-leaved Locust-tree. Tree.

5 H. cou'rbaril (Lin. spec. 537.) leaflets oblong-ovate, unequal-sided, and unequal at the base, ending in a long acumen; legume oblong, compressed, yellowish, shining. ♄. S. Native of South America. Vahl. eclog. 2. p. 30. Lam. ill. t. 330. f. 1. D. C. legum. mem. xii. t. 26. f. 120. germ. Jacq. amer. pict. p. 63. t. 264. f. 65. Flowers of panicle pedicellate. Petals yellow, striped with purple. Stamens purple. The filamentose white substance contained in the pods is as sweet as honey, and is eaten by the Indians with great avidity. It is purgative when fresh gathered, but loses this quality as it grows old. Between the principal roots of the tree exudes a fine transparent resin, white, yellowish or red, which is collected in large lumps, and is called gum-anime. It makes the finest varnish that is known, superior even to the Chinese lac; for this latter use it is dissolved in the highest rectified spirits of wine. It burns readily, and with a clear flame, emitting a grateful and fragrant smell, for which reason it is sometimes ordered by way of fumigation in the chambers of persons labouring with asthmas or suffocative catarrhs. Its vapours not only strengthen the head, but all parts of the body affected with cold. Some apply it outwardly, dissolved in oil or spirits of wine, to strengthen the nerves. An oil may be distilled from it, useful in palsies, in cramps, and contractions of the sinews. The solution in spirits has been thought not inferior to guiacum in venereal cases. The inner bark is an excellent vermifuge in spirit or decoction. The wild bees are fond of building their nests in this tree. The timber of old trees is reckoned excellent, and is in great request for wheel-work in sugar-mills, particularly for cogs to the wheels, being extremely hard and tough; it is so heavy that a cubic foot weighs a hundred pounds; it also takes a fine polish. *Courbaril* is the name of the tree in some parts of South America.

Courbaril Locust-tree or Gum-anime-tree. Tree 40 to 60 ft.

6 H. stilboca'rpa (Hayne, l. c.) leaflets oblong, unequal-sided, and unequal at the base, ending in a short acumen; legume nearly cylindrical, smooth, and shining. ♄. S. Native of South America.

Shining-fruited Locust-tree. Tree.

7 H. Candollea'na (H. B. et Kunth, nov. gen. amer. 6. p. 323. t. 566.) leaflets oblong, unequal-sided, but equal at the base, and emarginate at the apex. ♄. S. Native of Mexico, about Acapulco. Peduncles terminal, many-flowered. Flowers pedicellate. Calyx 4-parted, clothed with fine canescent down.

De Cando[illegible]'s Locust-tree. Tree 30 feet.

8 H. stigo[illegible]a'rpa (Mart. mss. Hayne, l. c.) leaflets somewhat cordate-[illegible]ng, unequal-sided, and unequal at the base, obtuse at the [illegible]; legume oblong, compressed, beset with white dots. ♄. S. [illegible]ive of Brazil.

Dotted-fruited Locust-tree. Tree.

** *Leaflets clothed with villous tomentum.*

9 H. rotunda'ta (Hayne, l. c.) leaflets semicordate, ovate, unequal-sided, and unequal at the base, rounded at the apex. ♄. S. Native of South America.

Roun[illegible]-leafletted Locust-tree. Tree.

10 H. [illegible]lfersia'na (Hayne, l. c.) leaflets oblong, unequal-sided, [illegible] at the base; lower leaflets [illegible]what semi-cordate; corymbs axill[illegible] and terminal. ♄. S. Native of South America.

Olfers's Locust-tree. Tree.

11 H. Martia'na (Hayne, l. c.) leaflets nea[illegible] elliptic, unequal-sided, retuse, and very unequal at the base; [illegible]rymbs terminal. ♄. S. Native of Brazil.

Martius's Locust-tree. Tree.

12 H. Selloia'na (Hayne, l. c.) leaflets oblong-oval, une[illegible]-sided, very blunt, unequal at the base; corymbs terminal. ♄. Native of Brazil.

Sello's Locust-tree. Tree.

Cult. For culture and propagation see *Copaifera*, p. 456.

CCXC. (*a*) TRACHYLO'BIUM (from τραχυς, *trachys*, rough, and λοβος, *lobos*, a pod; pods rough on the outside). Hayne, gat. dars. veschr. ex Schlecht. Linnæa. vol. 5. p. 19.

Lin. syst. *Decándria, Monogýnia.* Calyx bibracteolate at the base, tubular, coriaceous; tube urceolate; limb 5-parted, with the segments deciduous, 2 upper ones usually connected. Petals 3, nearly equal, on long claws. Stamens 10, free. Ovary pedicellate, bearded. Legume coriaceous, suberose, indehiscent, 1 or few-seeded, filled with solid pulp.—Trees, with bifoliate leaves, and panicles of white flowers.

1 T. Martia'num (Hayne, l. c.) leaflets sessile, coriaceous, nearly veinless, ovate-lanceolate, unequal-sided, and unequal at the base, ending in an emarginate acumen. ♄. S. Native of Brazil. Hymenæ'a verrucòsa, Lam. dict. p. 306. T. Tanroujou, Juss. gen. in a note, p. 351. Panicle divaricate; peduncles many-flowered. Legume warted. Ovary stipitate, 5-ovulate.

Martius's Trachylobium. Clr. 1808. Tree.

2 T. Hornemannia'num (Hayne, l. c.) leaflets on very short petiolules, coriaceous, oblong, unequal-sided, and unequal at

the base, ending in a long obtuse acumen. ♄. S. Native of South America.

Hornemann's Trachylobium. Tree.

3 T. GÆRTNERIA'NUM (Hayne, l. c.) leaflets on short petiolules, very coriaceous, nearly veinless, oval-ovate, unequal-sided, abruptly acuminated, and unequal at the base. ♄. S. Native of Madagascar. Hymenæ'a verrucòsa, Gærtn. fruct. 2. p. 306. t. 139. f. 7.

Gærtner's Trachylobium. Tree.

4 T. LAMARCKIA'NUM (Hayne, l. c.) leaflets on short petioles, rather coriaceous, reticulately veined, oval-ovate, unequal-sided, and unequal at the base, ending in a short acumen. ♄. S. Native of Madagascar? Hymenæ'a verrucòsa, Lam. ill. t. 330. f. 2.

Lamarck's Trachylobium. Tree.

5 T. FLORIBU'NDUM; leaflets oblong, unequal at the base, coriaceous, ending in a blunt acumen; panicles axillary, branched; flowers pedicellate; legumes ovate, hairy, 1-2-seeded. ♄. S. Native of South America, near Angostura. Hymenæ'a floribúnda, H. B. et Kunth, nov. gen. amer. 6. p. 323. t. 567.

Bundle-flowered Trachylobium. Tree 60 feet.

Cult. For culture and propagation see *Copaífera*, p. 456.

CCXCI. SCHNE'LLA (meaning unknown). Raddi, mem. pl. bras. add. p. 32. D. C. prod. 2. p. 512.

LIN. SYST. *Decándria, Monogýnia.* Calyx coriaceous, campanulate, 5-toothed. Petals 5, unguiculate, nearly equal. Stamens 10. Style wanting. Legume truncate. Leaves 2-lobed, like those of *Bauhinia.* It is said by the author to be a genus intermediate between *Hymenæ'a* and *Bauhínia.*

1 S. MICROSTA'CHYA (Raddi, l. c.) lobes of leaves ovate, obtuse; branches cirrhiferous. ♄. ◡. S. Native of Brazil, near Rio Janeiro, in hedges. Young branches, calyxes, peduncles, and petioles clothed with rusty tomentum.

Small-spiked Schnella. Shrub cl.

2 S. MACROSTA'CHYA (Raddi, l. c. f. 4.) lobes of leaves [illegible] roundish; flowers in spikes; spikes axillary and terminal, very long. ♄. ◡. [illegible] Native of Brazil, about Rio Janeiro, on the high mountains.

Long-spiked Schnella. Shrub cl.

3 S. SMILA'CINA; climbing; branches cirrhiferous; leaves undivided, ovate, acuminated, 5-nerved, glabrous; racemes spicate, elongated. ♄. ◡. S. Native of Brazil. Caulótrepus smilácinus, Schott, in Spreng. syst. append. p. 406.

Smilax-like Schnella. Shrub cl.

Cult. For culture and propagation see *Bauhínia.*

CCXCII. BAUHI'NIA (named by Plumier in memory of the two famous botanists of the 16th century, John and Caspar Bauhin, brothers; the leaves being simple but 2-lobed, which circumstance, it is said, gave occasion to Plumier to name this genus from the two brothers). Plum. gen. t. 13. Lin. gen. no. 511. Lam. ill. t. 329. D. C. legum. mem. xiii. prod. 2. p. 512.

LIN. SYST. *Decándria, Monogýnia.* Sepals 5, irregularly connected together into a 5-cleft calyx, or cleft laterally, membranous. Petals 5, spreading, oblong, rather unequal, upper one usually distant from the rest. Stamens 10, sometimes 9 of which are sterile and monadelphous (f. 58. *c.*), and the tenth loose and fertile (f. 58. *e.*), sometimes all are monadelphous at the base, with all or only 5 or 3 of them fertile; the rest sterile. Ovary long, pedicellate. Legume 1-celled, 2-valved, many-seeded. Seeds compressed, oval, with the endopleura tumid. Embryo straight, with an ovate radicle, and flat cotyledons.—Shrubs, with 2-lobed leaves, constantly composed of 2-joined leaflets at the top of the petiole, sometimes nearly altogether free, sometimes nearly joined together to the apex, but usually joined together more or less, and with an awn in the recess. Flowers disposed in racemes.

SECT. I. CASPA'RIA (in memory of Caspar Bauhin, see genus). Kunth, ann. sc. nat. 1. p. 85. nov. gen. amer. 6. p. 317. D. C. prod. 2. p. 512.—Bauhínia, Cav. but not of Kunth. Stamens 10, of which 9 are monadelphous, short, and sterile (f. 58. c.), the tenth one long and antheriferous, and almost free from the rest. Ovary stipitate. Racemes terminal, simple, leafless.

1 B. DIVARICA'TA (Lin. spec. 535.) leaves obtuse at the base; leaflets hardly connected to the middle, free parts oblong, acute, 2-nerved, diverging; petals lanceolate. ♄. S. Native of South America. Lin. hort. cliff. p. 156. t. 15. Flowers white.

Divaricate-lobed-leaved Mountain-ebony. Fl. June, Sept. Clt. 1742. Shrub 5 to 6 feet.

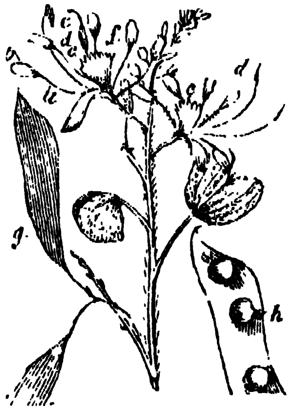
2 B. LAMARCKIA'NA (D. C. prod. 2. p. 512.) leaves cordate at the base, glabrous above, pubescent on the nerves beneath; leaflets joined together to the middle, 2-nerved, free parts bluntish, and rather diverging; petals lanceolate. ♄. S. Native of South America. B. divaricàta, Lam. dict. 1. p. 389. exclusive of the synonyme, ex Desf. cat. hort. par. p. 211. B. retùsa, Poir. suppl. 1. p. 699. but not of Roxb. Flowers white.

Lamarck's Mountain-ebony. Clt. 1818. Shrub 6 feet.

3 B. SPATHA'CEA (Moc. et Sesse, fl. mex. icon. ined. ex D. C. prod. 2. p. 512.) leaves glabrous, emarginately cordate both at the base and apex; leaflets connected beyond the middle, 2-nerved, free parts oval, obtuse; petals lanceolate. ♄. S. Native of New Spain. Flowers white, 4-petalled according to the figure. Calyx spathaceous.

Spathaceous-calyxed Mountain-ebony. Clt. 1823. Sh. 6 ft.

FIG. 58.



4 B. SUBROTUNDIFO'LIA (Cav. icon. 5. t. 406.) leaves hardly cordate at the base, clothed with hairy tomentum beneath; leaflets connected to the middle, ovate, obtuse, almost semi-orbicular; petals oblong, on long claws (f. 58. *b.*). ♄. S. Native of Calava, near Manilla, and in the vicinity of Acapulco. The plant from the Philippine Islands [illegible] much more tomentose than that found in the vicinity of Acapulco. Petals red.

Roundish-leaved Mountain-ebony. Shrub 6 feet.

5 B. LUNA'RIA (Cav. icon. t. 407.) leaves glabrous; leaflets free, or joined to the middle, 3-nerved, ovate-roundish; racemes simple, tomentose; claws of petals very long and pilose. ♄. S. Native of the vicinity of Acapulco and Calava. Petals red.

Moon-leaved Mountain-ebony. Clt. 1820. Shrub 6 feet.

6 B. PES-CA'PRÆ (Cav. icon. t. 404.) leaves glabrous, glaucous beneath, coriaceous, cordate at the base; leaflets connected beneath the middle, oblong, 3-nerved, the free parts nearly parallel when young, but at length diverging at the apex; petals oblong, on long claws, and are hairy as well as the sterile stamens. ♄. S. Native of Mexico, about Acapulco, on the sea-shore. Caspària pes-càpræ. H. B. et Kunth, nov. gen. amer. 6. p. 318. Petals reddish.

Goat's-foot-leaved Mountain-ebony. Shrub 6 feet.

7 B. AURI'TA (Ait. hort. kew. 2. p. 48.) leaves glabrous, cordate at the base; leaflets connected the fourth part of their length, oblong-lanceolate, nearly parallel, 6-8-nerved; petals ovate, on short stipes. ♄. S. Native of Jamaica. Mill. fig. t. 61. B. divaricàta β, Lin. spec. 535. Flowers white.

Eared Mountain-ebony. Fl. Aug. Sept. Clt. 1756. Shrub 4 to 6 feet.

8 B. PORRE'CTA (Swartz, prod. p. 66.) leaves cordate at the

base, with the nerves on the under side as well as the petioles and branches puberulous; leaflets connected to about the middle, ovate, acuminated, 3-4-nerved, nearly parallel; petals lanceolate. ♄. S. Native of Jamaica and St. Domingo. Sims, bot. mag. 1708. Jacq. schœnbr. t. 100. Plum. ed. Burm. t. 44. f. 2. Petals white.

Stretched-out Mountain-ebony. Clt. 1737. Sh. 10 to 12 ft.

9 B. LATIFÒLIA (Cav. icon. t. 405.) leaves ovate or cordate at the base, young ones, petioles, and branchlets puberulous; leaflets connected beyond the middle, broadly ovate, 3-nerved, acute, and rather diverging at the apex; petals lanceolate, stipitate, a little undulated. ♄. S. Native of New Spain. In a specimen sent from the Botanic Garden at Madrid to De Candolle, the pedicels, calyxes, and ovaries were downy. Flowers white.

Broad-leaved Mountain-ebony. Clt. 1818. Shrub 5 to 6 ft.

10 B. CA'NDIDA (Ait. hort. kew. 2. p. 49.) leaves cordate at the base, pale and pubescent beneath; leaflets connected a little beyond the middle, ovate-oblong, bluntish; sepals smooth, ending in a long taper point. ♄. S. Native of Java and other parts of the East Indies. Flowers white.

White-flowered Mountain-ebony. Fl. May, June. Clt. 1777. Shrub 4 to 6 feet.

11 B. ACUMINA'TA (Lin. spec. 536.) leaves rather cordate at the base, smoothish; leaflets connected beyond the middle, ovate, acuminated, parallel, 4-nerved; sepals attenuated; petals broadly ovate, hardly stipitate. ♄. S. Native of Malabar.—Rheed. mal. t. 34. B. acuminàta, Burm. ind. 94. exclusive of the synonymes of R. Brown and Sloane. Bauhìnia, Burm. zeyl. 45. Flowers pure white, void of scent.

Acuminated-leaved Mountain-ebony. Clt. 1808. Sh. 5 to 6 ft.

SECT. II. PAULE'TIA (in honour of John James Paulet, M.D. who published a work at Paris in 1791, entitled Tabula plantarum fungosarum). Cav. icon. 5. p. 5. D. C. prod. 2. p. 513. Stamens 10, somewhat monadelphous at the very base, all fertile, or the 5 alternate ones are sterile, and the other 5 fertile. Ovary stipitate.

* *Prickly or spiny shrubs.*

12 B. PAULE'TIA (Pers. ench. 1. p. 455.) spines stipular; leaves glabrous, ovate at the base; leaflets ovate, obtuse, parallel, 4-nerved, connected beyond the middle; peduncles axillary, 2-flowered, constituting a leafy raceme; petals and sepals linear, acute; the 5 fertile stamens very long. ♄. S. Native of the vicinity of Panama. Paulètia aculeàta, Cav. icon. t. 410. P. spinòsa, Poir. suppl. 1. p. 599. B. Panaménsis, Spreng. syst. 2. p. 384. Petals yellowish red.

Paulet's Mountain-ebony. Clt. 1820. Shrub 6 to 8 feet.

13 B. GLANDULÒSA (D. C. prod. 2. p. 513.) spines stipular; leaves nearly orbicular, rather cordate, membranous, pubescent beneath, and full of glandular dots; leaflets connected, semi-ovate, 4-nerved, obtuse, divaricate; flowers 1-3, opposite the leaves; calyx hairy on the outside; petals oblong-lanceolate. ♄. S. Native of New Barcelona. Paulètia glandulòsa. H. B. et Kunth, nov. gen. amer. 6. p. 314. Flowers white. Fruit unknown. Allied to *B. Paulètia.*

Glandular Mountain-ebony. Shrub.

14 B. GRANDIFLÒRA (Juss. in Poir. suppl. 1. p. 600.) spines stipular; leaves roundish, cordate at the base, tomentose beneath; leaflets connected to the middle, ovate, obtuse, 3-4-nerved; branchlets and calyxes pubescent; peduncles axillary, 1-3-flowered, constituting a raceme; bracteoles ending in a setaceous acumen; stamens shorter than the petals. ♄. S. Native of Peru. Hook, bot. misc. 1. p. 218. t. 91. Flowers white.

Great-flowered Mountain-ebony. Clt. 1820. Shrub.

15 B. LEPTOPE'TALA (Moc. et Sesse, fl. mex. icon. ined. D.C. prod. 2. p. 513.) spines stipular; leaves cordate at the base, glabrous; leaflets ovate, acuminated, 3-nerved, parallel, connected beyond the middle; peduncles axillary, 2-flowered, constituting a leafy raceme; petals linear, acute; 5 fertile stamens very long. ♄. S. Native of New Spain. Flowers greenish. Very nearly allied to *B. Paulètia.*

Slender-petalled Mountain-ebony. Clt. 1818. Sh. 4 to 6 ft.

16 B. ACULEA'TA (Lin. spec. 535.) spines stipular; leaves rather cordate at the base, glabrous; leaflets ovate, obtuse, 3-nerved, connected nearly to the apex; petals lanceolate, deeply crenated; stamens 9-10, incurved. ♄. S. Native of South America. Plum. ed. Burm. t. 44. f. 1. Jacq. amer. p. 119. t. 177. ed. pict. p. 60. t. 260. f. 31. Flowers large, white, with a somewhat unpleasant scent, like *Savin.*

Prickly Mountain-ebony. Fl. June, Aug. Clt. 1737. Sh. 4 to 6 feet, climbing.

17 B. ROTUNDA'TA (Mill. dict. no. 7.) spines stipular; leaves somewhat cordate at the base; lobes rounded; petals 3 inches long, about the length of the stamens; flowers lateral. ♄. S. Native of Carthagena, in New Spain. Flowers large, white.

Rounded-leaved Mountain-ebony. Tree 20 feet.

18 B. FORFICA'TA (Link, enum. 1. p. 404.) stem prickly; leaves cordate at the base, glabrous; leaflets connected to the middle, stretched out, 4-nerved; petals lanceolate. ♄. S. Native of Brazil. Flowers white. Stamens not described.

Pincer-leaved Mountain-ebony. Clt. 1823. Sh. 4 to 6 feet.

19 B. EMARGINA'TA (Mill. dict. no. 5.) stem prickly; leaves cordate at the base, tomentose beneath; leaflets orbicular, connected almost to the apex. ♄. S. Native of New Spain, at Carthagena. Flowers large, terminal, of a dirty white colour.

Emarginate-leaved Mountain-ebony. Shrub 4 to 6 feet.

* * *Unarmed shrubs.*

20 B. INE'RMIS (Pers. ench. 1. p. 455. but not of Forsk.) leaves ovate at the base, ferruginous beneath; leaflets oblong, acute, 4-nerved, parallel, connected a little beyond the middle; racemes terminal, leafless, simple; petals linear; stamens 10, fertile; anthers glabrous. ♄. S. Native of Mexico, about Acapulco. Paulètia inérmis, Cav. icon. t. 409. H. B. et Kunth, nov. gen. amer. 6. p. 316. Flowers white.

Unarmed Mountain-ebony. Clt. 1810. Shrub 6 to 8 feet.

21 B. RUFE'SCENS (Lam. dict. 1. p. 391. ill. 321. f. 2.) leaflets distinct, semiorbicular, 3-nerved, glabrous; petals lanceolate; stamens 10, fertile; anthers hairy. ♄. S. Native of Senegal and Gambia and the Cape of Good Hope, as well as of the Mauritius. B. rubéscens, Pers. ench. 1. p. 455. Flowers pale red.

Rufescent Mountain-ebony. Clt. 1810. Shrub 5 to 6 feet.

22 B. PARVIFLÒRA (Vahl. symb. 3. p. 55.) leaves roundish, glabrous above and shining, but glaucous beneath and pilose on the nerves; leaflets distinct, roundish, 3-nerved; racemes leafless, longer than the leaves; petals linear; stamens 10, villous at the base. ♄. S. Native of the East Indies. Calyx spathaceous, villous before expansion. Perhaps a climbing shrub.

Small-flowered Mountain-ebony. Clt. 1808. Shrub 5 to 6 ft.

23 B. MADAGASCARIE'NSIS (Desv. journ. bot. 1814. 1. p. 74.) leaves cordate at the base, quite smooth; leaflets obtuse, 3-nerved, rather ascending; stamens 10, the 5 alternate ones very short; petals on long claws, oval, acute. ♄. S. Native of Madagascar. Leaves about an inch long. Flowers white.

Madagascar Mountain-ebony. Clt. 1826. Sh. 5 to 6 feet.

24 B. U'NGULA (Jacq fragm. 22. t. 15. f. 1.) leaves ovate at the base, clothed with soft villi; leaflets connected beyond the middle, ovate, obtuse, parallel, 3-nerved; flowers axillary; petals elliptic, unguiculate; stamens 10? fertile. ♄. S. Na-

tive of Caraccas. B. aculeàta, Jacq. amer. 119. t. 177. f. 2. Flowers white.

Clawed-petalled Mountain-ebony. Clt. 1817. Sh. 5 to 6 ft.

25 B. UNGULA'TA (Lin. spec. 535.) leaves ovate at the base; leaflets connected to the middle, oval-oblong, parallel, with the inner side straight; petals subulate; stamens 10, alternate 5 short. ♄. S. Native of South America. Flowers white.

Ungulated-petalled Mountain-ebony. Clt.? Tr. 18 to 20 ft.

26 B. VARIEGA'TA (Lin. spec. 535.) leaves cordate at the base, glabrous; leaflets broadly-ovate, obtuse, 5-nerved, connected beyond the middle; petals ovate, nearly sessile; stamens 10, the 5 longest fertile. ♄. S. Native of Malabar. Rheed. mal. 1. t. 34. Calyx bursting lengthwise. Flowers in loose, terminal racemes. Petals red marked with white, and yellow at the base.

Var. β, *Chinénsis* (D. C. prod. 2. p. 514.) leaves rounded at the base; petals acute, lilac, with 1 purple spot at the base of each. ♄. S. Native of China. Braam. icon. chin. t. 26.

Variegated-flowered Mountain-ebony. Fl. June, July. Clt. 1690. Tree 20 feet.

27 B. CUCULLA'TA (Desv. journ. bot. 1814. 1. p. 74.) leaves roundish, pubescent on the nerves; leaflets ovate, obtuse, 4-nerved, rather ascending; flowers axillary. ♄. S. Native of the East Indies. Nearly allied to *B. variegàta*, but the flowers are said to be smaller. Calyx bursting lengthwise.

Cucullate-leaved Mountain-ebony. Shrub.

28 B. TOMENTÒSA (Lin. spec. 536.) leaves ovate or roundish at the base, under surface villous as well as the petioles, branches, stipulas, peduncles, bracteas, and calyxes; leaflets connected beyond the middle, oval, obtuse, 3-4-nerved; peduncles 1-3-flowered; petals obovate, obtuse; stamens 10, fertile, unequal. ♄. S. Native of Ceylon. Burm. zeyl. p. 44. t. 18. Petals pale yellow, with a red spot at the claw. The native practitioners of India prescri[illegible] flowers of this plant in certain dysenteric affections.

Tomentose Mountain-ebony. Clt. 1808. Shrub 6 to 12 ft.

29 B. PUBESCENS (D. C. legum. mem. xiii.) leaves rather cordate at the base, pubescent beneath and on the petioles; leaflets connected beyond the middle, oval, obtuse, 4-nerved, nearly parallel; peduncles 3-4-flowered; calyx glabrous, spath[illegible]s; petals obovate; stamens 10, fertile. ♄. S. Native of Jamaica. Flowers large, white, much crowded.

Pubescent Mountain-ebony. Clt. 1823. Shrub 4 to 6 feet.

30 B. PI'CTA (D. C. prod. 2. p. 515.) leaves roundish-elliptic, membranous, glabrous; leaflets connected, semi-ovate, acutish, spreading, 5-nerved; racemes terminal, solitary; calyx clothed with rusty tomentum; petals oblong. ♄. S. Native of South America, on the banks of the river Magdalena. Paulètia pícta, H. B. et Kunth, nov. gen. amer. 6. p. 316. Flowers white, spotted with red.

Painted-leaved Mountain-ebony. Shrub.

31 B. MULTINE'RVIA (D. C. prod. 2. p. 515.) leaves elliptic, rounded at the base, membranous, shining above, but rather pilose beneath, the nerves ferruginous; leaflets semi-ovate, obtuse, approximate, 5-nerved: flowers racemose; calyx clothed with rusty tomentum; petals linear. ♄. S. Native of Caraccas and on Montana de Capaya. Paulètia multinérvia, H. B. et Kunth, nov. gen. amer. 6. p. 316. Flowers snow white. Legume 8-12 inches long. Perhaps the stem is unarmed.

Many-nerved-leaved Mountain-ebony. Clt. 1817. Tr. 20 ft.

32 B. GLAUCE'SCENS (D. C. l. c.) leaves reniform, profoundly cordate, membranous, glaucescent beneath, scattered with minute hairs; leaflets roundish, spreading, 4-nerved. ♄. S. Native of Cumana, on mountains near Caripe. Paulètia? glaucéscens, H. B. et Kunth, nov. gen. amer. 6. p. 316. Perhaps a separate section, and unarmed. Flowers and fruit unknown.

Glaucescent Mountain-ebony. Clt. 1817. Tr. 20 to 30 ft.

33 B. RETICULA'TA (D. C. legum. mem. xiii.) leaves coriaceous, cordate at the base, glabrous, minutely reticulated between the nerves; leaflets broadly ovate, obtuse, connected beyond the middle, diverging at the apex; flowers disposed in nearly sessile fascicles in the axils of the leaves; calyxes and ovaries tomentose; legumes broad, linear, glabrous. ♄. S. Native of Senegal and of Arabia, if *B. inérmis* of Forsk. descrip. p. 85. be the same as *B. platisiliqua*, Perr. in litt. Stamens 10, free, 8 of which are antheriferous. Petals nearly equal. Ovary stipitate. Legume twice the breadth of that of *B. purpùrea*.

Reticulated-leaved Mountain-ebony. Shrub.

34 B. ODORATI'SSIMA (Newm. mss. in herb. Lamb.) leaves broad, cordate; leaflets connected to the middle, 4-nerved, acuminated, coriaceous; racemes long, terminal. ♄. S. Native of Maranham. Flowers large, very sweet-scented.

Very-sweet-scented Mountain-ebony. Shrub.

SECT. III. SYMPHYÒPODA (from συμφυω, *symphyo*, to glue together, and πους ποδος, *pous podos*, a foot; in reference to the foot or stipe of the ovary). D. C. legum. mem. xiii. prod. 2. p. 515. Stamens monadelphous at the base, 3 fertile ones very long, the rest small, sterile, or almost abortive. Ovary stipitate, the stipe adhering to the tube of the calyx. Branches terete.

35 B. RACEMÒSA (Vahl. symb. 3. p. 56. t. 62.) branches terete; leaves cordate at the base, clothed with silky villi beneath as well as on the peduncles, petioles, branches, calyxes, and petals; leaflets broadly ovate, obtuse, connected to the middle, 5-nerved, rather diverging at the apex; racemes somewhat corymbose; petals obovate, obtuse; flowers triandrous. ♄. ◡. S. Native of the East Indies.

Racemose-flowered Mountain-ebony. Clt. 1790. Shrub cl.

36 B. TRIA'NDRA (Roxb. hort. beng. p. 31.) leaves roundish, glabrous; leaflets joined to the middle, 4-nerved; racemes axillary and terminal; legume stipitate, pubescent. ♄. S. Native of the East Indies. Flowers white. Stamens 3, antheriferous. (v. s. herb. Lamb.)

Triandrous Mountain-ebony. Clt. 1823. Shrub.

37 B. PURPU'REA (Lin. spec. 536.) branches terete; leaves cordate at the base, coriaceous, when young they are clothed with rufous tomentum, but at length becoming glabrous; leaflets connected much above the middle, broadly ovate, obtuse, 4-nerved; petals lanceolate, acute. ♄. S. Native of the East Indies and the island of Timor.—Rheed. mal. 1. t. 33. Petals red, one of them streaked with white on the claw. Legume linear, straight, a foot long, apiculated at one end by the style and at the other by the stipe.

Purple-flowered Mountain-ebony. Clt. 1778. Tree.

38 B. RETU'SA (Roxb. hort. beng. p. 31. but not of Poir.) branches terete; leaves cordate at the base, and emarginately retuse at the apex, coriaceous, glabrous; leaflets connected nearly to the apex, 5-nerved, broadly semi-ovate; panicle loose, terminal; stamens 3, antheriferous, the rest wanting. ♄. S. Native of Bengal. Flowers white. Petals ovate, unguiculate, 3-4 lines long.

Retuse-leaved Mountain-ebony. Clt. 1820. Shrub.

39 B. COROMANDELIA'NA (D. C. prod. 2. p. 515.) branches terete; leaves glabrous, cordate at the base; leaflets semi-oval, obtuse, parallel, connected to the middle, 4-nerved; raceme pubescent; petals ovate-lanceolate, acute; stamens 3, very long and antheriferous, the rest short and bristle-formed. ♄. S. Native of India, near Pondicherry.

Coromandel Mountain-ebony. Tree.

40 B. CORYMBÒSA (Roxb. hort. beng. p. 31.) branches terete, cirrhiferous; leaflets cordate at the base, the nerves on the under surface as well as the petioles, branches, and calyxes clothed

with rufous villi; leaflets semi-oval, obtuse, parallel, connected to the middle, 3-nerved; stamens 3; petals ovate, stipitate. ♄. ◡. S. Native of China and the East Indies. D. C. legum. mem. xiii. t. 70. B. scándens, Burm. fl. ind. 94. Flowers white.

Corymbose-flowered Mountain-ebony. Clt. 1818. Shrub cl.

41 B. PO'TTSII; leaves glabrous, roundish, cordate, 11-nerved; lobes obtuse; racemes terminal, corymbose; legumes clothed with rusty silky hairs, ending in a long tail; calyx cleft longitudinally above. ♄. S. Native of Pulo Penang. Potts. (v. s. herb. Lamb.)

Potts's Mountain-ebony. Shrub.

SECT. IV. PHA'NERA (from φανερος, *phaneros*, manifest; from the corolla and calyx spreading much). Lour. coch. p. 37. D. C. prod. 2. p. 516. Stamens 10, somewhat monadelphous at the base, 3 of which are very long and fertile, and 7 small and sterile. Ovary on a short stipe. Branches and stems compressed, climbing.

42 B. ANGUI'NA (Roxb. cor. 3. p. 82. t. 285.) stem climbing, regularly flexuous, compressed, cirrhiferous; leaves glabrous, cordate; leaflets 3-nerved, in the younger plants they are connected to the middle and very much acuminated, in the adult plants they are connected almost to the apex, and ending in a short acumen; panicle terminal. ♄. ◡. S. Native of Malabar, Silhet, and Chittagong.—Rheed. mal. 8. t. 30 and 31. B. scándens, Lin. spec. ed. 1. p. 374. exclusive of the synonyme of Rumph. Flowers small, white. Legume 1-2-seeded. Calyx urceolate, bluntly 5-cleft, girding the alabastrum of corolla like a cup before expansion.

Snake Mountain-ebony. Clt. 1790. Shrub cl.

43 B. LI'NGUA (D. C. prod. 2. p. 516.) stems climbing, angular; branches compressed, cirrhiferous; leaves clothed with rufous villi beneath, cordate; leaflets 3-nerved, semi-ovate, acuminated, connected almost to the middle; racemes few-flowered, erect. ♄. ◡. S. Native of Amboyna and the Moluccas, in woods by the sea-side. Fòlium língua, Rumph. amb. 5. p. 1. t. 1. B. scándens, Lin. spec. ed. 1. p. 374. exclusive of the synonyme of Rheede. Flowers at first whitish, but at length change to a yellowish colour. Petals lanceolate, acute.

Tongue-leaved Mountain-ebony. Shrub cl.

44 B. COCCÍNEA (D. C. prod. 2. p. 516.) stem compressed, unequal; branches climbing, cirrhiferous; leaves shining and rufous beneath, cordate; leaflets 4-nerved, semi-ovate, acuminated, connected to the middle; racemes on long peduncles, pendulous, large. ♄. ◡. G. Native of Cochin-china, in woods. Phánera coccínea, Lour. coch. p. 37. Petals ovate, scarlet. Legume many-seeded.

Scarlet-flowered Mountain-ebony. Shrub cl.

SECT. V. CAULOTRE'TUS (from καυλος, *kaulos*, a stem, and τρεω, *treo*, to fly; in reference to the stems twining to a great height on trees). Rich. herb. ex D. C. prod. 2. p. 516.—Bauhínia, Kunth, ann. sc. nat. p. 84. H. B. et Kunth, nov. gen. amer. 6. p. 319. but not of Cav. Stamens 10, all fertile and free, usually shorter than the petals. Calyx ventricose, 5-toothed, and somewhat 2-lobed. Ovary sessile. Stems usually climbing and compressed. Flowers white or yellowish.

* *Leaflets free to the base.*

45 B. SPLE'NDENS (H. B. et Kunth, nov. gen. amer. 6. p. 319.) stem climbing, cirrhiferous?; branches compressed, glabrous; leaflets free to the base, dimidiately ovate-oblong, 3-nerved, membranous, rather shining above, but clothed with fine, golden, shining down beneath. ♄. ◡. S. Native of South America, on the banks of the Orinoco. Flowers and fruit unknown.

Splendid-leaved Mountain-ebony. Shrub cl.

46 B. OUTI'MOUTA (Aubl. guian. 1. p. 375. t. 144.) stem sarmentose, compressed, cirrhiferous; leaflets free to the base, semi-ovate, acuminated, parallel, 4-nerved, clothed with adpressed silky down beneath; stipulas orbicular, oblique at the base, upper ones permanent; racemes dense, short. ♄. ◡. S. Native of French Guiana. B. Guianénsis, var. Lam. dict. 1. p. 391. Flowers white. The plant is called *Ya-Outimouta* in Guiana.

Outimouta Mountain-ebony. Shrub cl.

47 B. GUIANE'NSIS (Aubl. guian. 1. p. 377. t. 145.) stem sarmentose, compressed, cirrhiferous; leaflets free to the base, semi-ovate, acuminated, 4-nerved, parallel, smoothish beneath, and green on both surfaces; stipulas wanting, very small or deciduous. ♄. ◡. S. Native of Guiana, in woods. Flowers white?

Guiana Mountain-ebony. Clt. 1820. Shrub cl.

48 B. HETEROPHY'LLA (Kunth, mim. t. 46. H. B. et Kunth, nov. gen. amer. 6. p. 319.) stem erect, cirrhiferous; branches terete, and are as well as the calyxes clothed with rusty hairs; leaflets shining, membranous, clothed with adpressed pubescence beneath, obliquely-oblong, rather obtuse, rounded at the base, 4-nerved, lower ones connected to the middle, upper ones free; racemes terminal, solitary, leafless. ♄. ◡. S. Native of South America, in the valleys of Aragun and near Porto Cabello of Caraccas. Flowers white.

Variable-leaved Mountain-ebony. Clt. 1824. Shrub cl.

49 B. INTEGRIFÒLIA (Roxb. hort. beng. p. 90.) leaflets free, 4-nerved; racemes terminal, corymbose; stamens free; tendrils hooked; legumes flat, smooth. ♄. ◡. S. Native of the East Indies. (v. s. in herb. Lamb.)

Entire-leaved Mountain-ebony. Shrub cl.

* * *Leaflets connected to the middle.*

50 B. EMARGINA'TA (Roxb. in herb. Lamb.) leaves large, roundish, emarginate, with a mucrone in the recess, nerved, glabrous, or the leaflets are connected nearly to the apex, 4-nerved; panicles divaricate, terminal; stamens free. ♄. ◡. S. Native of the East Indies. (v. s. herb. Lamb.)

Emarginate-leaved Mountain-ebony. Shrub cl.

51 B. GLA'BRA (Jacq. amer. 119. t. 173. f. 3.) climbing; branches terete; leaves glabrous, cordate at the base; leaflets oval, obtuse, parallel, 4-nerved, connected to the midd[illegible] ◡. S. Native of Carthagena, in woods and among bu[illegible] Petals oval, attenuated at the base, yellowish-green, spott with purple inside. Ovary hairy.

Glabrous Mountain-ebony. Clt. 1810. Shrub cl.

52 B. SUAVE'OLENS (H. B. et Kunth, nov. gen. amer. 6. p. 320.) stem compressed, cirrhiferous; leaves membranous, cordate, pubescent beneath; leaflets semi-ovate, rounded at the apex, connected to the middle, 4-5-nerved; racemes terminal and axillary; calyx clothed with silky pubescence. ♄. ◡. S. Native of New Spain, on the banks of the river Guancabamba near Cavico. Petals white.

Sweet-scented-flowered Mountain-ebony. Shrub cl.

53 B. CUMANE'NSIS (H. B. et Kunth, nov. gen. amer. 6. p. 321.) stem sarmentose; branches glabrous; leaves cordate at the base, pubescent beneath; leaflets membranous, ovate, acutish, 4-nerved, hardly connected to the middle; racemes terminal, solitary, sometimes bifid or cirrhiferous. ♄. ◡. S. Native of Cumana, near Bordones. Lindl. bot. reg. 1133. Lœfl. itin. p. 218.? Moc. et Sesse, fl. mex. icon. ined. ex. D. C. prod. 2. p. 517. B. scándens Americàna, Lin. spec. ed. 2. p. 535. Flowers white.

Cumana Mountain-ebony. Shrub cl.

† *Species not sufficiently known.*

* *Leaflets connected together to the very apex, and therefore the leaves are simple and entire.*

54 B. RICHARDIA'NA (D. C. prod. 2. p. 517.) leaves cordate, 5-7-nerved, acute, quite smooth. ♄. S. Native of Guiana. Caulotrètus cordifòlia, Rich. ined. Perhaps this species belongs to Section IV. but differs from Section *Caulotrètus* in the ovary being stipitate. Flowers white.

Richard's Mountain-ebony. Shrub.

55 B. CINNAMÒMEA (D. C. prod. 2. p. 517.) leaves elliptic, obtuse at the base, quite glabrous, acuminated at the apex; 7-nerved, undivided; legume stipitate, compressed, linear, glabrous, straight. ♄. S. Native of Cayenne. Leaves 3 inches long and 2 broad. The middle nerve is usually double at the base, in consequence of the 2 joined leaflets. Petals 6-9 lines long. Legume 8-9 inches long, standing on a stipe an inch long.

Cinnamon Mountain-ebony. Shrub.

56 B.? DU'BIA; stems simple; leaves alternate, cordate, acuminated, glabrous, obsoletely 3-nerved; racemes terminal; petals very long, linear, reflexed; stamens numerous, very long, but shorter than the style. ♄. S. Native of Maranham. Flowers white.

Doubtful Mountain-ebony. Shrub 1 to 2 feet.

* * *Leaflets connected to the middle into a 2-lobed limb.*

57 B. LATISÍLIQUA (Cav. icon. t. 408.) leaves subcordate at the base, glabrous; leaflets semioval-oblong, acuminated, 5-nerved, connected a third part of their length, approximate at the upper part. ♄. S. Native of the Philippine Islands. Flowers racemose. Legume half a foot long, and an inch and a half broad, broadly winged at the seminiferous suture. Perhaps a proper genus.

Broad-podded Mountain-ebony. Shrub 6 to 8 feet.

58 B. MACROPHY'LLA (Poir. suppl. 1. p. 600.) leaves shining and glabrous above, [illegible] in a hooked beak, [illegible] beneath; leaflets large, hardly connected at the base, semi-ovate, 5-nerved, ending in a long acumen; legume oblong-elliptic, tumid at the sutures. ♄. S. Native of South America? B. chrysophylla, Vahl. ined. Leaflets 6-8 inches long, and 3-4 broad. Perhaps sufficiently distinct from *B. Outimouta*. Flowers unknown.

Long-leaved Mountain-ebony. Shrub.

59 B. RACEMÍFERA (Desv. journ. bot. 1814. 1. p. 74.) stem erect; leaves cordate, cuneated, or the lobes are short, obtuse, divaricate, and acuminated at the apex, 6-nerved; flowers disposed in racemose panicles; calyx villous, somewhat tripartite. ♄. S. Native of South America.

Raceme-bearing Mountain-ebony. Shrub.

60 B. ARMA'TA (Otto, pl. bras. no. 25. in flora, 1821. p. 602.) stem prickly, climbing; leaves 2-lobed; lobes ovate, acute. ♄. S. Native of Brazil.

Armed Mountain-ebony. Shrub cl.

61 B. FA'REK (Desv. journ. bot. 1814. 1. p. 74.) leaves cordate at the base; leaflets hardly connected a fourth part of their length, oblong, acutish, 4-nerved, nearly parallel; petals ovate-lanceolate, stipitate. ♄. S. Native of Abyssinia. Fàrek. Bruce, trav. 5. t. 18. exclusive of the synonyme. The stamens, according to the figure, are monadelphous and all fertile, but according to Desvaux they are diadelphous.

Farek Mountain-ebony. Shrub.

62 B. TAMARINDA'CEA (Gailliaud, voy. meroe. 1826.) leaves cordate, 2-lobed, nearly orbicular; nerves running through the whole upper surface of the leaves from a spacelate gland in the recess, with glands on the under surface at the origin of the confluent nerves; fruit thick, nerved, pulpy inside; seeds egg-shaped, in many series?—Native of Egypt, on mount Aqaro.

Tamarind-like Mountain-ebony. Shrub.

* * * *Leaflets free to the base.*

63 B. DIPHY'LLA (Symes, trav. ava. 1808. t. 7.) leaflets distinct to the base, unequal, obtuse, 5-nerved; tendrils simple, lateral. ♄. S. Native of the East Indies.

Two-leafletted Mountain-ebony. Shrub.

64 B. AMERICA'NA (Delaun. herb. amat. t. 315.) leaves ovate at the base; leaflets parallel at the apex. ♄. S. Native of South America. It differs from B. unguiculàta, Lin. in the stamens being diadelphous, only one of which is fertile.

American Mountain-ebony. Clt. 1800. Shrub 6 feet.

† † *The names of undescribed species, some of which are probably identical with some of those described above.*

1 *B. semibifida*, Roxb. hort. beng. p. 31. 2 *B. Malabárica*, Roxb. l. c. 3 *B. ferruginea*, Roxb. l. c. 4 *B. cordifòlia*, Roxb. l. c. p. 90. 5 *B. anatómica*, Link. enum. 1. p. 405. 6 *B. I'ndica*, Lodd. cat. 7 *B. microphýlla*, Hortul. 8 *B. speciòsa*, Hortul.

Cult. Some of the species of *Bauhinia* are very shewy when in bloom, and some are elegant climbers, well fitted for covering the rafters in stoves or stove conservatories. They all thrive well in a mixture of loam, peat, and sand. Cuttings should be taken off at a joint when the plants are in a growing state, neither too ripe nor too young, and planted in sand, with a hand-glass placed over them in a moist heat. The leaves of the cuttings should be allowed to remain on.

CCXCIII. CE'RCIS (from κερκις, *kerkis*, a shuttlecock; a name given by Theophrastus to this tree). Lin. gen. no. 510. Lam. ill. t. 328. Gærtn. fruct. t. 144. D. C. prod. 2. p. 518. —Siliquástrum, Tourn. inst. t. 414. Mœnch. meth.

LIN. SYST. *Decándria, Monogýnia.* Calyx urceolate at the base and gibbous, bluntly 5-toothed at the apex. Petals 5, unguiculate, all distinct, disposed in a papilionaceous manner; the wings or side petals the largest. Stamens 10, free, unequal. Ovary on a short stipe. Legume oblong, slender, compressed, 1-celled, many-seeded, somewhat winged on the seminiferous suture, and opening on the other suture. Seeds obovate, with tumid, somewhat albuminous endopleura. Embryo straight, with a short radicle, flat cotyledons, and an inconspicuous plumule.—Trees, with simple, many-nerved, cordate leaves, rising after the flowers have decayed. Pedicels 1-flowered, rising from the trunk and branches in fascicles.—This genus is allied to *Bauhinia*. The leaves are probably composed of 2 joined leaflets, forming an entire limb.

1 C. SILIQUA'STRUM (Lin. spec. 534.) leaves very blunt, emarginate, and quite glabrous. ♄. S. Native of the south of Europe, Levant, Spain, south of France, Italy near Rome, and on the Appenines. Duh. arb. ed. nov. t. 7. Sims, bot. mag. 1138. Mill. fig. 253. Siliquástrum orbiculàtum, Mœnch. meth. Flowers of a bright purple colour. There are also varieties with flesh-coloured and white flowers; they are frequently used in salads from their agreeable poignancy. The wood is very beautiful and veined with black, takes an excellent polish, and may be converted to many useful purposes.

Var. β, *parviflòra* (D. C. prod. 2. p. 518.) A shrub, with white spotted branches, and the flowers only about one-half the size of those of the species. ♄. S. Native of Bucharia. Perhaps a proper species.

Siliquastrum, Common Judas-tree, Red-bud or Love-tree. Fl. May, June. Clt. 1596. Tree 20 to 30 feet.

2 C. CANADE'NSIS (Lin. spec. 534.) leaves cordate, acuminate, villous in the axils of the veins beneath. ♄. S. Native from Canada to Virginia, along the banks of rivers. Mill. fig. t. 2. Siliquástrum cordàtum, Mœnch. meth. Flowers red, and are frequently put into salads by the inhabitants of North Ame-

rica, and the French in Canada pickle them. The wood is of the same colour and texture as that of the first species. The legumes stand on a long pedicel, and are apiculated at the apex by a longer style. The young branches dye wool of a very fine colour. The tree is called *red-bud* in America.

Var. β, pubéscens (Pursh, fl. amer. sept. p. 308.) leaves pubescent beneath.

Canadian Judas-tree. Fl. May, June. Clt. 1730. Tree 12 to 20 feet.

Cult. These trees are usually planted with other flowering trees and shrubs as ornaments to pleasure grounds, and for their singular beauty deserve a place in every garden and shrubbery; for when the trees have arrived at a pretty good size the branches are so thickly beset with flowers as scarcely to be seen, and the singular shape of their leaves makes a very agreeable variety in summer. They are generally raised from seeds, which should be sown about the end of March on a bed of light earth; they may also be propagated by layers, but plants raised from seeds thrive best.

CCXCIV. PALO'VEA (an alteration from the Guiana name of the shrub). Aubl. guian. 1. p. 365. t. 141. Lam. ill. t. 323. D. C. prod. 2. p. 518.—Ginnània, Scop. ex Schreb. gen. no. 691. Neck. elem. no. 1285.

Lin. syst. *Enneándria, Monogýnia.* Bracteoles 2 under the calyx, joined into a 2-lobed involucel; tube of calyx obconical, exserted from the involucel, with a 4-5-lobed limb; lobes spreading. Petals 3-4, deciduous, the inner one bearing something like a sterile anther. Stamens 9, exserted beyond the tube of the calyx; filaments free, very long, subulate, replicate before the expansion of the flowers, as in the order *Melastomàceæ.* Anthers when young linear, 2-celled, straight, fixed by the middle. Ovary stipitate, linear, compressed. Style filiform, glabrous, biplicate when young, crowned by a roundish stigma. Legume (ex Aubl.) oblong, compressed, 2-valved, 1-celled, 6-7-seeded.—A shrub, with alternate, elliptic, quite entire, glabrous leaflets, which are acuminated at both ends, and pedicellate flowers, which are disposed in umbels at the tops of the branches. Pedicels bracteate.

1 P. Guiane'nsis (Aubl. l. c.) ♄. S. Native of Guiana, in woods. Corolla red.

Guiana Palovea. Shrub 5 to 6 feet.

Cult. For culture and propagation see *Bauhínia*, p. 463.

CCXCV. ALOE'XYLON (from αλοη, *aloe*, of Dioscorides, the Aloe, and ξυλον, *xylon*, wood; this tree produces the aloes-wood of the shops). Lour. cochin. p. 267. D. C. prod. 2. p. 518.

Lin. syst. *Decándria, Monogýnia.* Calyx of 4 sepals or 4-parted; sepals acute, deciduous, lower one falcate, incurved, nearly twice the length of the rest. Petals 5, unequal, longer than the calyx. Stamens 10, distinct. Ovary compressed, curved. Style filiform. Legume woody, smooth, falcate, 1-seeded. Seed oblong, curved, arillate.—A tree, with erect branches, simple, alternate, lanceolate, quite entire, petiolate leaves, and terminal flowers. This genus is hardly known.

1 A. Agallòchum (Lour. l. c.) ♄. G. Native of Cochinchina, on the highest mountains, and the Molucca Islands.—Rumph. amb. 2. p. 29. t. 9. ex Lour. Cynomètra Agallòcha, Spreng. syst. 2. p. 327. The wood is white and scentless, and has long been used as a perfume. Aloes-wood is held in high estimation in the East on account of its fragrant odour as a perfume, for which purpose it is applied to clothes and apartments, and as a cordial medicine in fainting fits, and in cases of paralytic affection. By the Chinese and Heathen Moors it was used as incense in their sacrifices; and employed for setting the most precious jewels that are wrought in the East Indies. It was formerly deemed in that part of the world of greater value than gold, and various fables have been invented as to the origin of the tree that yields it. Some have feigned that it grew in Paradise, and that it was conveyed from thence by the rivers, which overflowed their banks, and swept off the trees in their way. Others pretend that it grows on inaccessible mountains, where it is guarded by wild beasts. The calambac or eagle-wood should not be confounded with the aloes-wood. See *Aquilària.*

Agallocha or Aloes-wood. Tree 60 feet.

Cult. For culture and propagation see *Bauhínia*, p. 463.

CCXCVI. AMA'RIA (meaning unknown). Seb. Mutis in sem. nuev. gran. 1810. p. 25. D. C. prod. 2. p. 519.

Lin. syst. *Monadélphia, Decándria.* Calyx cylindrical, rounded at the base, permanent, 5-cleft; lobes linear, cohering at the apex, and dehiscent on the sides. Petals 5, equal, obovate, spreading, keeled from the base to the apex. Stamens 10, subulate, erect, monadelphous at the base. Ovary oblong, stipitate; stipe adnate to the calyx. Style filiform, crowned by a capitate stigma. Legume very long, compressed, pedicellate, torose at the seeds, 1-celled, 2-valved, dehiscent. Seeds many, roundish, compressed.—American shrubs, with simple cordate leaves. This genus is unknown to European botanists, but it appears to be allied to *Jonèsia*, from the stipitate ovary, and in the stipe adhering to the calyx.

1 A. petiola'ta (Seb. Mutis. l. c.) leaves petiolate; flowers terminal. ♄. S. Native of New Granada, in the temperate parts.

Petiolate-leaved Amaria. Shrub 4 to 6 feet.

2 A. sessilifòlia (Seb. Mutis. l. c.) leaves sessile, almost stem-clasping; flowers axillary; peduncles many-flowered. ♄. S. Native of New Granada, in temperate places.

S[illegible] in the[illegible]et.

Cult. For culture and propagation see *B[illegible]hinia*, p. 463.

CCXCVII. BOWDI'CHIA (in honour of T. E[illegible]owdich, who was sent on a mission to Ashantee in Western Afric[illegible] H. B. et Kunth, nov. gen. amer. 6. p. 376. D. C. prod. 2. p. 5[illegible]

Lin. syst. *Decándria, Monogýnia.* Calyx turbinate, campanulate, 5-toothed; teeth acute, erect, 2 superior ones appr[illegible]mate. Petals 5, free, disposed in a kind of papilionaceous manner, lateral ones the longest. Stamens 10? free. Legume stipitate, 10-ovulate, compressed, membranous, winged on the seminiferous suture, 1-celled, indehiscent. Embryo straight.—An unarmed tree, with impari-pinnate leaves, clothed with rusty tomentum beneath, as also the branches. Flowers violaceous.

1 B. virgilioìdes (H. B. et Kunth, l. c.) ♄. S. Native of South America, near Barbula, Lavilla del Pao, and at the mouth of the Orinoco, where it is commonly called *Alcornoco.* Leaflets 13, lanceolate-oblong, obtuse at both ends.

Virgilia-like Bowdichia. Tree.

Cult. For culture and propagation see *Bauhínia*, p. 463.

CCXCVIII. CRU'DYA (— Crudy, the name of a person who communicated the first specimen of the tree to Schreber). Willd. spec. 2. p. 539. D. C. prod. 2. p. 519.—Crùdya et Cýclas, Schreb. gen. no. 711. and 712.—Apalatòa, Touchiròa, Vouràna, and Parivòa species, Aubl. guian. Touchiròa, Rich. mss.—Waldschmídtia, Neck. elem. no. 1445.

Lin. syst. *Octo-Decándria, Monogýnia.* Calyx bibracteate at the base, with the tube short and obconical, and the limb 4-cleft and spreading. Petals wanting. Stamens 8-10, exserted from the tube of the calyx, long, free, rather dilated at the base. Ovary ovate, hairy, rather stipitate. Style filiform. Legume coriaceous, thick, 1-2-seeded.—Guiana trees, with impari-pinnate glabrous leaves, alternate entire leaflets, and axillary simple racemes of flowers. The genus has the habit of *Swártzia*, but is not well known.

1 C. SPICA'TA (Willd. spec. 2. p. 539.) leaflets 9-13, oblong-lanceolate, equal at the base, acuminated at the apex. ♄. S. Native of Guiana, in woods. Apalatòa spicàta, Aubl. guian. 1. p. 383. t. 147. exclusive of fig. 5 and 6. ex Kœn. in ann. bot. 1. p. 358. t. 8. f. 5.

Spicate-flowered Crudya. Tree 30 feet.

2 C. AROMA'TICA (Willd. spec. 2. p. 540.) leaflets 3, elliptic, obtuse at the base and equal, but acuminated at the apex. ♄. S. Native of Guiana, in woods. Touchiròa aromática, Aubl. guian. 1. p. 385. t. 148. Lam. ill. t. 339. Racemes 4 times shorter than the leaves, hardly pedunculate. Flowers greenish. Legume 1-seeded, girded by a wing, ex Aubl. but his description is doubtful according to Richard. Wood aromatic.

Aromatic Crudya. Tree 40 to 50 feet.

3 C. PARIVÒA (D. C. prod. 2. p. 520.) leaflets 3, ovate, very unequal at the base, acuminated at the apex; racemes equal in length to the leaves, on long peduncles. ♄. S. Native of Guiana, in woods. Parivòa tomentòsa, Aubl. guian. 2. p. 759. and 304. Touchiròa Parivòa, Rich. herb. Flowers purple. The stamens are 10 and distinct, and the ovary is hairy.

Parivoa Crudya. Tree 20 feet.

4 C. VOUARA'NA (D. C. prod. 2. p. 520.) leaflets 6, ovate, acute; petiole angular. ♄. S. Native of Guiana, in woods. Vouaràna Guianénsis, Aubl. guian. suppl. p. 12. t. 374. Touchiròa Vouaràna, Rich. mss. Flowers unknown. *Vouarana* is the name of the tree in Guiana.

Vouarana Crudya. Tree 10 feet.

Cult. For culture and propagation see *Copaífera*, p. 456.

CCXCIX. DIA'LIUM (διάλιον, a name employed for the Heliotropium by some Greek writers; it comes from διαλύω, but the plant of the Greeks has nothing to do with the present). Burm. fl. ind. [illegible] Lin. mant. 24. D. C. prod. 2. p. 520.—Diàlium et [illegible], Schreb.—Arùna, Aublet. guian. 1. p. 15.—Cléyria, N. [illegible] elem. no. 897.

LIN. SYST. *Diándria, Monogýnia.* Calyx 5-parted or of 5 sepals; sepals oval, obtuse, concave, equal in length, 2 outer ones rather the broadest. Petals none. Stamens 2, inserted in the receptacle on the superior side of the flower; anthers thick, erect, 2-celled. Ovary ovate, sessile. Style subulate, bluntish. Legume pulpy inside, 1-2-seeded. Seeds compressed.—Trees, with impari-pinnate glabrous leaves, and panicled racemes of small flowers. This genus is nearly allied to *Codàrium.*

1 D. I'NDUM (Lin. mant. 24.) panicle simple, drooping; leaflets elliptic-oblong, acute; anthers 3 times the length of the filaments. ♄. S. Native of Java. D. Javánicum, Burm. ind. p. 12. exclusive of the synonyme of Rumph. D. I'ndum, Smith in Rees' cycl. vol. 11. no. 11. Calyx clothed with white velvety down on the outside.

Indian Dialium. Tree 20 to 30 feet.

2 D. DIVARICA'TUM (Vahl. enum. 1. p. 303.) panicle compound, erect; leaflets ovate, acuminated; anthers shorter than the filaments. ♄. S. Native of Guiana, in woods. Aroùna Guianénsis, Aubl. guian. 1. p. 16. t. 5. Arùna divaricàta, Willd. spec. 1. p. 49. Legume oval, compressed, indehiscent, dry. Leaflets exstipellate, the ultimate one longer and narrower than the others.

Divaricate Dialium. Tree 30 to 40 feet.

Cult. For culture and propagation see *Copaifera*, p. 456.

CCC. CODA'RIUM (from κωδιον, *kodion*, the hide of a beast; in reference to the consistence and hairiness of the pods). Sol. in Vahl. enum. 1. p. 302. ed. 2. p. 400. Afz. in Schrad. new. journ. 2. p. 233.

LIN. SYST. *Diándria, Monogýnia.* Calyx 5-parted; lobes equal, spreading; the tube permanent. Petal one, linear-lanceolate, flattish. Stamens 2, inserted in the calyx, free, erect; filaments longer than the anthers; anthers ovate, 2-celled. Legume clothed with black or brown velvety down, 2-valved, 1-seeded. Seeds surrounded by mealy pulp. Albumen, ex Afz. (perhaps endopleura) large, and shell-formed. Cotyledons elliptic. Radicle hemispherical. Plumule ligulate, acute.—Trees, native of Guinea, with impari-pinnate leaves, bearing 2-3 pairs of coriaceous leaflets. Flowers small, reddish, disposed in terminal branched panicles.

1 C. ACUTIFÒLIUM (Afz. l. c.) leaflets unequal, bluntly somewhat acuminated, the same colour on both surfaces, glabrous. ♄. S. Native of Guinea, particularly of Sierra Leone. C. nítidum, Vahl. enum. 1. p. 303. Diàlium Guineénse, Willd. in Rœm. arch. 1. p. 31. t. 6. Codàrium Solándri, Vahl. enum. p. 302. Hort. trans. 5. p. 460. The pulp in the pods is dry and mealy; it is eaten by the natives of Sierra Leone under the name of tamarinds, as well as that of the next species.

Acute-leaved Velvet-tamarind. Fl. Feb. Clt. 1793. Tree 12 to 20 feet.

2 C. OBTUSIFÒLIUM (Afz. l. c. Vahl. enum. 2. p. 401.) leaflets equal, rounded at the apex, the same colour on both surfaces, glabrous. ♄. S. Native of Sierra Leone, and other parts of Guinea.

Obtuse-leafletted Velvet-tamarind. Fl. Feb. Clt. 1824. Tree 12 to 20 feet.

3 C. DI'SCOLOR (D. C. prod. 2. p. 520.) leaflets elliptic-oblong, attenuated at both ends, glabrous above, but clothed with very minute velvety pubescence beneath. ♄. S. Native of Sierra Leone, and other parts of Guinea.

Discoloured-leaved Velvet-tamarind. Tree 14 to 20 feet.

Cult. For culture and propagation see *Copaifera*, p. 456.

CCCI. VATA'IREA (meaning not explained). Aubl. guian. 2. p. 755. t. 302. D. C. prod. 2. p. 521.

LIN. SYST. unknown. Flowers unknown. Legume coriaceous, roundish, compressed, ferruginous, wrinkled on one side, with membranous margins, 1-celled, indehiscent. Seed large, roundish, flattened. Embryo straight.—A tree, with impari-pinnate leaves, alternate, oval, glabrous, stiff leaflets, which are cinereous on the under surface. This genus is analogous to *Pterocárpus* from its fruit, but differs in the embryo being straight.

1 V. GUIANE'NSIS (Aubl. l. c.) ♄. S. Native of Guiana, on the banks of rivers. The tree is called *Graine à d'artre.*

Guiana Vatairea. Tree 50 feet.

Cult. See *Copaifera* for culture and propagation, p. 456.

Tribe XI.

DETARIEÆ (plants agreeing with *Detàrium* in important characters). D. C. legum. mem. xiii. prod. 2. p. 521. Calyx 4-lobed, globose before expansion; lobes valvate. Petals wanting. Stamens 10-25, perigynous, nearly free. Legume fleshy. Cotyledons thick.—African trees, with impari-pinnate leaves. This tribe agrees with *Swartzieæ* in the calyx, but with *Cassieæ* in the rest of the characters. It comes very near to the order *Amygdalàceæ* in the drupaceous fruit, and the icosandrous flowers.

CCCII. DETA'RIUM (*Detar* is the name of the tree in Senegal). Juss. gen. 365. D. C. prod. 2. p. 521.

LIN. SYST. *Decándria, Monogýnia.* Calyx 4-cleft; lobes valvate before expansion. Alabastrum globose. Petals wanting. Stamens 10; filaments distinct, alternate ones shortest. Ovary globose, hispid. Style and stigma one. Drupe orbicular, thick, soft, farinaceous, containing a large, hard, orbicular, compressed, nut, smooth on the sutures, reticulated with interwoven fibres in the valves, 1-celled, 1-seeded. Seed large, smooth, compressed, blackish, exalbuminous. Embryo straight, with thick, transversely oval cotyledons, a short radicle, and an ovate plumule.—A tree, with alternate and impari-pinnate leaves, ovate obtuse glabrous leaflets, which are velvety beneath. Racemes axillary, branched, shorter than the leaves.

1 D. Senegale'nse (Gmel. syst. 3. p. 700.) ♄. S. Native of Senegal and Gambia.

Senegal Detarium. Tree 40 feet.

Cult. See *Copaifera* for culture and propagation, p. 456.

CCCIII. CORDY'LA (from κορδυλη, *kordyle*, a club; shape of calyx before expansion). Lour. coch. p. 500. D. C. prod. 2. p. 521.—Cordýlia, Pers. ench. 2. p. 260.

Lin. syst. *Icosándria, Monogýnia.* Calyx campanulate, 4-cleft, pear-shaped before expansion; lobes acute, valvate in æstivation. Corolla none. Stamens 30-35, subulate, rather monadelphous at the very base. Ovary stipitate, ovate, acute. Style short. Legume stipitate, 1-celled, many-seeded. Seeds 6, ovate.—A tree, with impari-pinnate leaves, bearing 19-21 oblong, emarginate, glabrous leaflets, and axillary racemes of flowers, which are much shorter than the leaves. Stamens long, copper-coloured. Berry edible. This genus comes very near *Detàrium.*

1 C. Africa'na (Lour. l. c.) ♄. S. Native of the eastern coast of Africa.

African Cordyla. Tree 40 to 50 feet.

Cult. For culture and propagation see *Copaifera*, p. 456.

† *Genera belonging to Leguminòsæ, but are not sufficiently known, and are therefore not received among the tribes.*

CCCIV. CRUMI'NIUM (meaning not explained). Desv. obs. legum. in Schlecht. Linnæa. 2. p. 512.

Lin. syst. unknown. Calyx cup-shaped, truncate. Petals and stamens unknown. Legume compressed, flat, many-seeded, margined on both sides.

1 C. gigá'nteum (Desv. l. c.) ♄. ? S.

Giant Cruminium. Tree?

Cult. See *Copaifera* for culture and propagation, p. 456.

CCCV. PHYLLOLO'BIUM (from φυλλον, *phyllon*, a leaf, and λοβος, *lobos*, a pod; in reference to the flat membranous pods). Fisch. in Spreng. nov. prov. 33. D. C. prod. 2. p. 521.

Lin. syst unknown. Calyx campanulate, 5-cleft; teeth equal, subulate. Corolla papilionaceous; the vexillum a little larger than the rest of the petals. Legume turgid, compressed at the sutures, falcate, 6-10-seeded, 2-valved, opening only at one of the sutures.—A flexuous herb, beset with adpressed pubescence, with impari-pinnate leaves, bearing 6 pairs of oval glabrous leaflets. Racemes axillary, usually 6-flowered. Bracteas linear, shorter than the pedicels. Flowers greyish white. According to Sprengel this genus is allied to *Cajànus* and *Rudólphia*, but according to Link it is allied to *Indigófera* and *Tephròsia.*

1 P. Chine'nse (Fisch. l. c.) ♃. S. Native of China.

China Phyllolobium. Pl.

2 C. Zanzibare'nse (Boger. mss.) ♃. S. Native of Zanguebar.

Zanguebar Phyllolobium. Clt. 1826. Pl.?

Cult. A mixture of peat and sand will suit the species of this genus, and cuttings will root in the same kind of earth, with a hand-glass placed over them in heat.

CCCVI. AMPHINO'MIA (from αμφι, *amphi*, around, and νομος, *nomos*, order; flowers regular?). D. C. legum. mem. xiv. prod. 2. p. 522.—Hermánnia spec. Lin.—Connàris species, Thunb.

Lin. syst. *Monadélphia, Decándria.* Calyx ovate, ventricose, permanent, 5-cleft; segments lanceolate, spreading. Petals 5, unguiculate, spatulate. Filaments 10, monadelphous at the base; anthers minute. Ovary ovate, rugose. Style one, lateral, filiform, simple, obtuse. Legume roundish, crowned by the style, muricated, 1-celled, 2-valved; valves concave. Seeds numerous, fixed to the superior suture, many of which are abortive, and one of them roundish-reniform.—A decumbent hairy herb, with ovate stipulas, trifoliate leaves, obovate leaflets, and axillary and terminal peduncles, each bearing 3-4 bracteate flowers at the top. The description is taken from the figure of Thunb.

1 A. decu'mbens (D. C. l. c.) ♃. G. Native of the Cape of Good Hope. Hermánnia triphýlla, Lin. amœn. 6. p. 91. but not of Cav. Connàris decúmbens, Thunb. in Rœm. arch. 1. p. 1. t. 1.

Decumbent Amphinomia. Pl. decumbent.

Cult. A mixture of loam and peat will suit this plant, and cuttings will root in sand under a hand-glass.

CCCVII. SARCO'DUM (from σαρκωδης, *sarcodes*, fleshy; legume). Lour. coch. p. 462. D. C. prod. 2. p. 522. Sarcòdium, Pers. ench. no. 1752.

Lin. syst. *Diadélphia, Decándria.* Calyx cup-shaped, truncate at the apex above, but acutely 3-toothed on the lower side. Vexillum ovate, ascending; wings oblong, short, flat; keel falcate. Stamens diadelphous. Legume fleshy, terete, equal, many-seeded.—A climbing unarmed shrub, with pinnate leaves, bearing many pairs of woolly leaflets. Spikes terminal. Flowers rose-coloured.

1 S. [illegible] (Lour. l. c.) ♄. [illegible] Native of Cochin-china, in woods. Leaves perhaps abruptly or perhaps impari-pinnate; leaflets ovate-oblong, acuminated. [illegible]

Climbing Sarcodum. Shrub cl.

Cult. A mixture of loam, peat, and sand will suit this shrub, and ripened cuttings will root if planted in sand, with a hand-glass placed over them.

CCCVIII. VARE'NNEA (named by De Candolle to recall the useful works of M. Varenne de Fenille on agriculture, and vegetable physiology). D. C. legum. mem. xiv. prod. 2. p. 522.—Vibórquia, Orteg. dec. 5. p. 66. t. 9. but not of Thunb. nor Mœnch, nor Roth.

Lin. syst. *Monadélphia, Decándria.* Calyx tubularly campanulate, permanent, 5-toothed, the 2 superior teeth the broadest. Petals 5, disposed in a sub-papilionaceous manner, having the vexillum cuneiform and emarginate; wings spatulate and falcate, and the carina of 2 spatulate petals, which are concave above. Stamens 10, monadelphous, with the sheath cleft in front (ex Ortega), diadelphous, the tenth one free (ex icon. fl. mex. ined.) Ovary oblong. Style filiform, subulate. Stigma capitate. Legume oblong, compressed, flat, rather falcate, 1-seeded. Seed fixed to the top of the legume, oblong-reniform.—A shrub, with impari-pinnate leaves, bearing many pairs of ovate, entire, stipellate leaflets, the odd or terminal one obcordate, but often deficient. Racemes numerous, spicate, disposed in a panicle. Flowers small, white. The place which this genus should occupy in the order is uncertain. It is said to be allied to *Nissòlia* and *Pterocárpus.*

1 V. polysta'chya (D. C. prod. 2. p. 522.) ♄. S. Native of Mexico. Vibórquia polystàchya, Orteg. l. c. Moc. et Sesse, fl. mex. icon. ined. Leaves with about 20 pairs of leaflets. Flowers about 30, in a raceme.

Many-spiked Varennea. Shrub 1 to 2 feet.

Cult. See *Sarcòdum* for culture and propagation, p. 466.

CCCIX. CRAFO'RDIA (named apparently after some botanist or horticulturist of the name of Craford). Rafin. spech. 1. p. 159. D. C. prod. 2. p. 522.

Lin. syst. *Diadélphia, Decándria.* Calyx campanulate, 5-cleft; segments nearly equal. Corolla papilionaceous, with a large reflexed vexillum, adpressed wings, which are auricled at the base, and an obtuse keel, which is longer than the wings. Stamens 10, diadelphous. Ovary linear. Style filiform; stigma dot-formed, glabrous. Legume usually 2-seeded, linear, torulose, striated. Seed oblong-reniform.—A twining plant, with impari-pinnate leaves; leaflets oblong, mucronate, sessile. Peduncles longer than the leaves, somewhat spicate; bracteas scarious, subulate, permanent, ciliated. Flowers white. This genus is allied to *Galèga* and *Colùtea* according to the author, but from both and from *Tephròsia* it differs in the 2-seeded legume.

1 C. bractea'ta (Rafin. l. c.) ♃. F. Native of Pennsylvania, on the banks of the river Susquehannah.

Bracteate Crafordia. Pl. tw.

Cult. Peat or vegetable earth is a good soil for this plant, and cuttings will be easily rooted.

CCCX. AMMODE'NDRON (from αμμος, *ammos*, sand, and δενδρον, *dendron*, a tree; habitation of the shrub). Fisch. in D. C. legum. mem. xvi. prod. 2. p. 528. Led. fl. alt. 2. p. 110.

Lin. syst. *Decándria, Monogýnia.* Calyx 5-cleft, sub-bilabiate, permanent, at length reflexed. Corolla papilionaceous; wings and dipetalous keel equal and connivent. Stamens 10, distinct. Legume flat, membranous, 1-seeded from abortion, marginated by a wing, samaroid. Seed reniform, compressed.—A small, neat, silky shrub, having the petioles hardening into spines. Leaves bif[illegible]; leaflets lanceolate. Flowers [illegible]ple, disposed in racemes. This genus is closely allied to *Halimodéndron*, which genus it ought to have followed in the body of the order.

1 A. Sieve'rsii (Fisch. l. c.) ♄. H. Native of Siberia, in salt fields in the desert of Soongaria, and at the river Bekun. Leaflets lanceolate, silky white on both surfaces. Sophòra argéntea, Pall. act. petrop. 1792. p. 373. t. 8. Podalýria argéntea, Willd. spec. 2. p. 502.—Sophòra bifòlia, Pall. astr. p. 124. t. 91. Robínia argéntea, Sievers.

Sievers's Sand-tree. Shrub 2 to 4 feet.

Cult. For culture and propagation see *Halimodéndron*, p. 241.

CCCXI. LACA'RA (meaning unknown). Spreng. neue entd. 3. p. 56. D. C. prod. 2. p. 528.

Lin. syst. *Decándria, Monogýnia.* Calyx campanulate, 5-toothed. Petals 5, unequal, unguiculate, nerved, concave. Stamens 10, free, inserted in the bottom of the calyx, pilose at the base, longer than the petals. Anthers versatile. Capsule? pilose.—A shrub, with alternate, simple, quite entire, petiolate, coriaceous, unequal, triple-nerved leaves, and axillary racemes of flowers. The fruit of this genus is unknown.

1 L. tripline'rvia (Spreng. l. c.) ♄. S. Native of Brazil. Leaves a span long, and a hand in breadth.

Triple-nerved Lacara. Shrub.

Cult. For culture and propagation see *Copaífera*, p. 456.

CCCXIII. HARPA'LYCE (from *Harpalyce* in mythology, the daughter of Clymenus, remarkable for her beauty; in reference to the beauty of the plant). Moc. et Sesse, fl. mex. icon. ined. ex D. C. prod. 2. p. 528.

Lin. syst. *Monadélphia, Decándria.* Calyx bilabiate, deciduous, bibracteolate at the base, both lips lanceolate, acuminated, and entire. Corolla papilionaceous, with an obovate vexillum, auricled wings, and a 2-edged, elongated, acuminated, rather twisted keel. Stamens 10, monadelphous. Style filiform, incurved with the carina. Legume compressed, flat, narrow at the base, ovate-oblong at the apex, 4-5-seeded, mucronate by the style.—An erect herb, suffrutescent at the base, with impari-pinnate leaves, and axillary peduncles, which are longer than the leaves, bearing racemes of large red flowers. This genus appears to be allied to *Phasèolus* from the bibracteolate calyx, and the incurved carina, but differs particularly from that genus in the leaves being impari-pinnate, but in consequence of the legume being 2-seeded, and the leaves being impari-pinnate, the genus is probably allied to *Astrágalus*, but the calyx is very distinct.

1 H. formòsa (D. C. prod. 2. p. 523.) ♄. S. Native of New Spain, in the hot regions. Astragàlus carnòsus, Moc. et Sesse, fl. mex. ined.

Showy Harpalyce. Pl. 1 foot.

Cult. For culture and propagation see *Hoffmanséggia*, p. 133.

CCCXIII. DIPLOPRION (from διπλοος, *diploos*, double, and πριων, *prion*, a saw; in reference to the legume being serrated on all sides). Viv. fl. lib. p. 48. t. 19. f. 2. D. C. prod. 2. p. 523.

Lin. syst. *Monadélphia, Decándria.* Calyx tubular, 5-toothed. Corolla papilionaceous. Filaments 10, connected. Legume 1-celled, flat, many-seeded, spirally involute, serrated on both margins.—An annual hairy herb, 2-3 inches long, with petiolate trifoliate leaves, ovate lanceolate stipulas, and axillary peduncles, bearing each a head of yellow flowers. This genus is allied to *Medicàgo* according to the habit, but from the legume it appears to be more nearly allied to *Biserrula*, but it is not sufficiently known.

1 D. medicaginoìdes (Viv. l. c.) ⊙. H. Native of Libya, in the great Syrtis, in fields.

Medick-like Diploprion. Pl. 2 to 3 inches.

Cult. The seeds of this plant only require to be sown in the open border in a dry warm situation.

CCCXIV. RIVE'RIA (in honour of Manano de Rivero, director of the government mines of Columbia; native of Arequipa, in Peru). H. B. et Kunth, nov. gen. amer. 7. p. 266. D. C. prod. 2. p. 524.

Lin. syst. unknown. Flowers unknown. Legume stipitate, obliquely-elliptic, compressed, mucronate, chartaceous, 2-valved, 1-seeded. Seed oblong-reniform, fixed to the lower part of the pod, covered with friable white substance. Cotyledons thick. Radicle small, situated beneath the apex of the embryo, pointing to the bottom.—An unarmed tree, with impari-pinnate leaves, bearing 1-3 pairs of coriaceous leaflets, having the petiole winged. Peduncles usually terminal. Perhaps this genus belongs to tribe *Geoffrèæ*, near *Andìra*, or perhaps to tribe *Cassieæ*, near *Copaífera*.

1 R. nìtens (H. B. et Kunth, nov. gen. amer. 7. p. 266. t. 659.) ♄. S. Native of South America, near Jaen de Bracamoros.

Shining Riveria. Tree.

Cult. See *Copaífera* for culture and propagation, p. 456.

† † *Additional genera.*

CCCXV. DO'NIA (to the memory of the late Mr. George Don, of Forfar, whose numerous discoveries have so eminently enriched the Flora of his native land). G. and D. Don, mss. in herb. Lamb. but not of R. Brown nor Pursh.

Lin. syst. *Diadélphia, Decándria.* Calyx campanulate, 5-toothed or 5-cleft. Corolla papilionaceous. Vexillum ovate-lanceolate, acuminate, rather shorter than the keel, reflexed;

wings lanceolate, acuminate, spreading, half the length of the keel, which is cymbiform, and composed of one petal. Stamens 10, diadelphous, one of which is separate from the rest; anthers incumbent. Style long, filiform; stigma truncate. Legume oblong, swollen, coriaceous, 1-celled. Seeds many, reniform, disposed in 2 rows, attached by a funicle to the lower suture.—Procumbent, herbaceous, perennial herbs or subshrubs, with impari-pinnate leaves, and foliaceous, adnate permanent stipulas. Flowers large, crimson, about 2 inches long, disposed in umbels or racemes.

1 D. **puni'cea**; suffruticose, minutely pubescent; leaflets alternate, oblong, retuse, coriaceous; flowers racemose; calyx 5-toothed; legumes smooth. ♄. G. Native of New Zealand, where it was first discovered by Sir Joseph Bankes and Dr. Solander, who gave it the name of *Cliánthus puníceus*. Flowers large, crimson.

Scarlet-flowered Donia. Shrub 1 to 2 feet.

2 D. **speciòsa**; herbaceous, very villous; leaflets opposite, lanceolate, acute; flowers umbellate; calyx 5-cleft; legume silky. ♃. G. Native of New Holland, at Regent's Lake. Flowers large, crimson.

Showy Donia. Pl. procumbent.

3 D. **formòsa**; plant herbaceous, very villous; leaflets opposite, obovate; flowers racemose; calyx 5-cleft; legume silky. ♃. G. Native of the North-west coast of New Holland, at the Curlew river. Capt. King.

Beautiful Donia. Pl. procumbent.

Cult. Elegant plants, resembling the *Sutherlándia frutéscens*, when in bloom, their flowers being large, and of a crimson colour. Should ever any of the species be introduced to our gardens, we would recommend their being grown in an equal mixture of loam, peat, and sand, and cuttings will no doubt strike root in the same kind of soil, under a bell-glass.

CCCXVI. MEGASTE'GIA (from *μεγας*, *megas*, large, and *στεγος*, *stegos*, a covering; in reference to the large bracteas, which enclose the flower before expansion).

Lin. syst. *Monadélphia*, *Decándria*. Bracteas 2, large, inclosing the flower before expansion. Calyx bilabiate, upper lip bifid, lower one trifid. Corolla papilionaceous, not much longer than the calyx. Stamens 10, monadelphous? Legume unknown. —A herbaceous plant, densely clothed in every part with fuscous hairs. Leaves with 10-12 pairs of ovate acuminated leaflets. Pedicels elongated, 1-flowered, solitary or twin, axillary. Flowers large, red or purple.

1 M. **speciòsa**. ♃. G. Native of Mexico. Pavon, Astrágalus ammódytes, Ruiz et Pav. in herb. Lamb. Perhaps the same genus as *Harpályce*.

Showy Megastegia. Pl. 1 to 2 feet.

Cult. For culture and propagation see *Hoffmanséggia*, p. 433.

CCCXVII. SEBI'PIRA (meaning unknown.) Mart. reis. bras. ex Schlecht. Linnæa. 5. p. 44.

Lin. syst. *Decándria*, *Monogýnia*. Calyx tubular, cylindrical, somewhat equally 5-toothed. Corolla of 5 petals, disposed in a somewhat papilionaceous manner; petals erect, unguiculate, flat, crenulated, having the vexillum almost quadrate, shorter than the wings and petals of the keel. Stamens 10, free; anthers globose. Stigma capitate. Legume compressed, linear, membranous, 1-celled, many-seeded, winged on one side. Seeds obovate. Embryo straight. This genus belongs to Tribe *Cassieæ*, and ought perhaps to follow *Copaifera*, p. 455. of the present volume.

1 S. **ma'jor** (Mart. l. c.) leaves pinnate, with many pairs of alternate, oblong-lanceolate, obtuse leaflets, which are glaucous beneath and hoary; panicle of flowers spreading. ♄. S. Native of Brazil.

Larger Sebipira. Shrub or tree.

Cult. See *Copaifera* for culture and propagation, p. 456.

† *Additional Leguminous plants.*

Tribe I. *Sophòreæ*, p. 108.

1 **Baptísia mìnor** (Lehm. in nov. act. bonn. 14. p. 803. and p. 113. no. 8. of the present volume,) stem erect, solid; leaflets rhomboid-lanceolate; stipulas lanceolate, longer than the petioles; racemes axillary, bracteate; bracteas cordate, lanceolate, lower ones permanent; vexillum entire. ♃. H. Native of North America. Baptísia austràlis, Hortul. Plant glaucous and pruinose. Flowers blue. This plant differs from the true *B. austràlis* in the stem being solid and always smaller, in the lower bracteas being permanent, and lastly in the vexillum being entire, which in *B. austràlis* is appendiculate at the base.

Smaller Baptisia. Fl. June, July. Pl. 1 to 2 feet.

2 **Gompholòbium Knightea'num** (Lindl. bot. reg. 1468.) leaves ternate and pinnate; leaflets roundish-obovate, ovate, and linear, mucronate, and glabrous; cymes terminal, pedunculate, length of the leaves. ♄. G. Native of New Holland. Flowers rose-coloured. Leaflets variable in shape.

Knight's Gompholobium. Fl. July, Aug. Clt. 1831. Sh. 1 ft.

Tribe II. *Lòteæ*. *Subtribe* I. *Genísteæ*, p. 126.

3 **Crota'laria bupleurifòlia** (Schlecht. et Cham. in Linnæa. 5. p. 575.) pubescent; stem angularly winged, dichotomously branched; leaves on short petioles, ovate-elliptic, obtuse at both ends, and mucronate; flowers usually twin, pedunculate, near the base of the branches; bracteas rather joined, opposite, stipula-form[illegible]ated at the apex. ⊙. S. Native of Mexico, near Hacienda de la Laguna. Flowers blue, rather smaller than those of *C. verrucòsa*. Lin. [illegible] 134. no. 12. of the present volume, and to which it is nearly allied.

Bupleurum-leaved Crotalaria. Pl. 1 to 2 feet.

4 **Crota'laria bractea'ta** (Schlecht. et Cham. in Linnæa. 5. p. 575.) plant exstipulate; leaves sessile, oblong, obtuse, mucronate, attenuated at the base, clothed with yellowish tomentum beneath, as well as on the branches and calyxes; branches terete; racemes elongated, opposite the leaves, or somewhat terminal on long peduncles; peduncles bracteate; corolla equal in length to the calyx; calycine segments linear, elongated, acuminated, and very acute; legumes glabrous, rather clavate, many-seeded. ⊙. S. Native of Mexico, at Hacienda de la Laguna. Flowers propped by bracteas on short pedicels. Corolla flesh-coloured. This species comes nearly to *C. Paulinia*, p. 136. no. 35. of the present volume.

Bracteate-flowered Crotalaria. Pl. 1½ foot.

5 **Geni'sta Tenòrii**; stems diffusely prostrate; branches angular, striated, and villous; leaves oval-oblong, acute, pilose on both surfaces; flowers axillary, solitary, on short peduncles; calyx somewhat cylindrical, pilose; the teeth setaceous; corolla glabrous; vexillum of a copper-yellow colour, about equal in length to the keel. ♄. H. Native of Lucania, on the mountains. G. depréssa, Tenore, fl. neap. prod. append. 5. but not of Bieb. This species differs from *G. prostràta*, Lam. p. 153. no. 72. of the present volume, in the leaves being pilose on both surfaces, in the calyx being hairy, and lastly in the calycine teeth being setaceous.

Tenore's Genista. Shrub prostrate.

6 **Onònis peduncula'ris** (Lindl. bot. reg. 1446.) herbaceous, diffuse, beset with glandular pubescence; leaves obovate, toothed, simple; stipulas quite entire, shorter than the petiole; pe-

duncles long, 1-flowered, awned, arched, at length recurved. ♄. G. Native of Teneriffe. Flowers variegated with white and rose colour. Leaves all simple.

Pedunculate-flowered Rest-harrow. Fl. April. Clt. 1830. Shrub 1 foot.

7 Onònis conjuga'ta (herb. Lamb.) leaves bifoliate, nerved, glabrous, oblique, obtuse; stipulas large, adnate to the stem at the base, ovate-cordate, acuminated and mucronate; petiole ending in a spine; legume hairy; sepals acute, lanceolate, longer than the corolla; pedicels 1-flowered, axillary, solitary. ♄. G. Native of Mexico.

Conjugate-leaved Rest-harrow. Shrub 1 to 2 feet.

8 Onònis bícolor (Moris. elench. Sard. fasc. iii.) plant clothed with clammy glandular villi; leaves trifoliate; leaflets oblong-obovate, serrately toothed at the apex; stipulas large, length of petioles; peduncles axillary, awned, 1-2-flowered, about equal in length to the leaves; corolla twice the length of the calyx, but the legumes are 3-times longer than it and drooping. ⊙. H. Native of Sardinia, in fields, on the south side. Corolla pale yellow, having the keel tipped with purple. It comes very near to *O. viscòsa*, Lin. no. 14. of the present volume, in habit, but differs in the leaflets being equal in size and shape, and in the corolla and legume being much longer than the calyx; it also differs from *O. geminiflòra*, Lag. p. 160. no. 29. and *O. biflòra* of Desf. p. 159. no. 121. of the present volume, in the hairs being tipped with red glands.

Two-coloured-flowered Rest-harrow. Fl. June, Jul. Pl. 1 ft.

Subtribe II. *Trifolièæ*, p. 167.

9 Trigone'lla azu'rea (Meyer. verz. pfl. p. 136.) plant clothed with soft pubescence; stem branched, diffuse; stipulas ovate-cuspidate, toothed; leaflets obovate, toothed; heads dense-flowered, pedunculate; legumes villous, nearly linear, compressed, nerved, 4-6-seeded, ending in a hooked beak. ⊙. H. Native of Persia, on hills near Baku, Lenkeran, and Swant. Trifòlium cœrulescens, Bieb. fl. taur. 3. p. 509. Flowers blue. To follow *T. cærùlea*, Ser. p. 174. no. 1. of the present volume.

Azure-flowered Trigonella. Pl. 1 foot.

10 Trigone'lla arcua'ta (Meyer, verz. pfl. p. 136.) plant pubescent, diffuse; leaflets obovate, denticulated; stipulas semi-sagittate, toothed at the base; umbels sessile, 6-8-flowered; common peduncle awnless; legume pubescent, nearly terete, erect, arched, reticulately veined. ⊙. H. Native of Persia, on the mountains of Talusah, near Swant. To follow *T. Monspeliaca*, Lin. p. 175. no. 20. of the present volume.

Arched-podded Trigonella. Pl. diffuse.

11 Trigone'lla mona'ntha (Meyer, verz. pfl. p. 137.) plant diffuse, puberulous; leaflets obovate, and are as well as the semi-sagittate stipulas toothed or cut; legumes axillary, solitary, sessile, elongated, terete, straightish, reticulately veined. ⊙. H. Native of Persia, near Lenkeran and Swant. To follow *T. prostràta*, p. 174. no. 7. of the present volume.

One-flowered Fenu-Greek. Pl. diffuse.

12 Trigone'lla Mexica'na; stem erect, leaflets obovate, cuneiform, obcordate, sharply toothed at the apex; stipulas lanceolate, subulate, ciliated; racemes pedunculate; legumes reticulated, mucronate, rather falcate, many-seeded. ⊙. H. Native of Mexico. Flowers white or yellow. To follow *T. striàta*, Lin. p. 174. no. 11. of the present volume.

Mexican Trigonella. Pl. ½ to 1 foot.

13 Trifòlium spinulòsum (Dougl. mss. Hook, fl. bor. amer. 133.) prostrate, glabrous; leaflets oblong, acute at both ends, spinulously denticulated, and terminating in a stiff spine; stipulas ovate, acuminated, shining, serrated; involucrum 1-leaved, laciniately multifid; heads of flowers globose, longer than the involucrum; calycine teeth narrow-subulate, pungent, straight, a little shorter than the corolla. ♃. H. Native of North-west America, very common near springs in the valleys between Spokan and Kettle Falls. This species is allied to *T. fimbriàtum*, Lindl. p. 185. no. 53. of the present volume, but is sufficiently distinct. The vexillum and wings are shorter and more acute, the flowers smaller, white, the keel and wings tipped with a fine purple, and the whole plant more slender. This plant might prove perhaps very useful as a clover, the herbage forming a dense, short sward. It is extremely nutritive, and preferred to every thing else by deer and horses in its native country.

Spinulose-toothed Trefoil. Pl. prostrate.

14 Trifòlium polyphy'llum (Meyer, verz. pfl. p. 139.) quite glabrous; leaves radical, petiolate; leaflets 7-9, nearly linear, serrulated; stipulas subulate; scape naked; flowers umbellate, becoming at length reflexed; corolla twice the length of the calyx; calycine teeth nearly equal, subulate; ovary biovulate. ♃. H. Native of the western region of Caucasus, at the height of 3600 or 4300 feet. Allied to *T. alpìnum*, Lin. p. 192. no. 131. of the present volume.

Many-leafletted Trefoil. Pl. ¼ to ½ foot.

15 Lòtus austra'lis (Andr. bot. rep. 624.) stem pilose, herbaceous, and perhaps procumbent; leaflets and stipulas about equal in size, obovate-lanceolate; peduncles elongated; flowers 3-6, disposed in racemose heads at the tops of the peduncles; calycine segments longer than the tube; stamens diadelphous, the alternate filaments of the 9 connected ones very dissimilar to the others. ♃. G. Native of New Holland. Flowers large, showy, pink, or rose-coloured. Sims, bot. mag. 1365. This plant should follow *L. Aràbicus*, Lin. p. 197. no. 27. of the present volume.

Southern Bird's-foot Trefoil. Fl. July, Aug. Clt. 1800. Pl. ascending.

16 Hosa'ckia unifolia'ta (Hook, fl. bor. amer. 135.) plant decumbent, hairy, much branched; leaves usually with 1 leaflet, rarely with 2 or 3, almost sessile; leaflets oval, acute at both ends; stipulas obsolete; peduncles 1-flowered, with 1 ovate bractea under the flower. ⊙. H. Native of North America, on the shores of the Columbia. Corolla yellow. This species approaches *H. decúmbens*, Benth. in the size and shape of the leaflets and in the hairiness, but in its flowers to *H. parviflòra*, Benth. p. 200. no. 4. of the present volume.

One-leafletted Hosackia. Pl. decumbent.

Subtribe III. *Clitòriæ*, p. 201.

17 Psora'lea physòdes (Dougl. mss. Hook, fl. bor. amer. p. 136.) smoothish; leaves pinnately trifoliate, rarely with 5 leaflets; leaflets broadly rhomboid-ovate, acute, mucronate, obscurely glandular, terminal one on a long petiole; racemes pedunculate, loose, axillary, longer than the leaves; calyx much inflated, hairy, hardly shorter than the corolla, with the teeth nearly equal. ♃. H. Native of North America, on the banks of streams, in open sandy, and gravelly soils, from the great falls of the Columbia to the Rocky Mountains. Legumes glandular, 1-seeded. It is easily distinguished from the other species by its broader leaflets, as well as by its large inflated calyx, which almost conceals the flower. The plant comes nearest to *P. incàna*, Nutt. p. 203. no. 42. of the present volume.

Bladder-calyxed Psoralea. Pl. 1½ foot.

18 Psora'lea brachia'ta (Dougl. mss. Hook, fl. bor. amer. p. 137. t. 53.) stem erect, flexuous, a little branched, very villous; leaves palmately 5-foliate, clothed with adpressed hairs; leaflets elliptic; peduncles axillary, elongated, longer than the leaves; racemes oblong, spicate, rather loose; bracteas and teeth of calyx leafy and lanceolate; flowers erect. ♃. F. Native of North America, on the plains of the Saskatchawan, from Carlton House to Edmonton House. Root fusiform. Flowers

with a white vexillum and a blue keel, which is united to the wings. According to Mr. Douglas this is the *Navet de Praire* of Canadian voyagers and not the *P. esculénta*, Pursh, p. 203. no. 40. of the present volume, to which the present plant comes nearest. The roots, though stringy, dry, and tough, and containing but little farinaceous matter, are gathered and eaten by the Cree Indians raw, or sometimes roasted.

Brachiate Psoralea. Pl. 1 to 1½ foot.

19 Gly'cine involucra'ta (Wall. pl. rar. asiat. 3. p. 22. t. 241.) branches filiform, long, twining, pilose; leaflets oval, ciliated; racemes dense, axillary; peduncles usually with 2 whorles of 3 roundish bracteas at the base. ♄. ⌒. G. Native of Nipaul, also in Sirmore and Kamaon. Flowers white, tipped with pink.

Involucrated-racemed Glycine. Shrub tw.

Subtribe IV. *Galègeæ*, p. 222.

20 Petaloste'mon orna'tum (Dougl. mss. Hook, fl. bor. amer. p. 138.) spikes of flowers oblong-cylindrical; bracteas longer than the calyx, which is very villous; leaves with 2-3 pairs of elliptic-oblong, glabrous leaflets. ♃. F. Native of North-west America, frequent in the arid prairies near the Blue Mountains, of Lewis's River. Bracteas subulate, hairy. Corolla rose-coloured. This species comes near to *P. cárneum*, Michx. p. 222. no. 2. of the present volume.

Ornamented Petalostemon. Pl. 1 foot.

21 Caraga'na Bu'ngei (Led. fl. ross. alt. ill. t. 464.) leaves with 2-3 pairs of broad-elliptic, distant leaflets, which are cuneated at the base, but rounded and truncate at the apex, ending in a spine-like mucrone, rather silky on both surfaces; stipulas spreadingly recurved, spinescent, permanent; petioles pungent, deciduous; peduncles usually solitary, and are as well as the calyxes silky. ♄. H. Native of Altaia, in the desert called *Kuriac*, and near the river Tschuja. Led. fl. alt. 3. p. 264. Corolla yellow. To follow *C. arboréscens*, p. 243. no. 3. of the present volume.

Bunge's Caragana. Fl. June. Shrub 3 to 5 feet.

Subtribe V. *Astragàleæ*, p. 247.

22 Pha'ca abbrevia'ta (Led. fl. ross. alt. ill. t. 330. fl. alt. 3. p. 268.) plant pilose when young, but when in an adult state smooth; stems erect, simple; stipulas lanceolate-linear, reflexed, marcescent; leaves with 21-23 oblong, mucronate leaflets, which are rounded at both ends; peduncles longer than the leaves; flowers numerous, disposed in a short raceme; corolla hardly twice the length of the calyx; legumes stipitate, compressed, when young densely clothed with pili. ♃. H. Native of Altaia, in subalpine places at the mouth of the river Abai. Flowers deep yellow. To follow *P. alpìna*, Lin. p. 247. no. 3. of the present volume.

Short-spiked Bastard-vetch. Fl. June, July. Pl. 2 feet.

23 Pha'ca elonga'ta (Hook, fl. bor. amer. p. 140.) stem erect, angular, pubescent, sparingly branched; leaves with 8-10 pairs of oblong-cuneated, retuse leaflets, which are hoary beneath; stipulas small, acuminated, broad at the base, lower ones connected; peduncles much longer than the leaves; racemes elongated, loose; calyxes silky; legumes coriaceous, cylindrical, curved, sessile, acute. ♃. H. Native of North-west America, on the plains of the Saskatchawan. Flowers small, white, or cream-coloured, having the carina tipped with purple. There is a smaller variety of this plant with flexuous stems. This species follows *P. arenària*, Pall. p. 248. no. 7. of the present volume.

Elongated Bastard-vetch. Pl. 1 to 1½ foot.

24 Pha'ca flexuòsa (Hook, fl. bor. amer. p. 141.) stem decumbent, flexuous, angular, sparingly branched; leaves with 6-9 pairs of linear-oblong, obtuse leaflets, which are glabrous above, but clothed with adpressed pili beneath; stipulas small, broad at the base, acuminated, lower ones connected; peduncles longer than the leaves; racemes elongated, loose; calyxes rather silky; legumes coriaceous, cylindrical, straight, sessile, acute. ♃. H. Native of North-west America, abundant on elevated and dry fertile soils of the Red River and Assinaboin. Astràgalus flexuòsus, Dougl. mss. p. 256. no. 33. of the present volume. Flowers purple, very fragrant. This species follows *P. Lappónica*, p. 248. no. 14. of the present volume.

Flexuous-stemmed Bastard-vetch. Pl. 1 foot.

25 Pha'ca collìna (Hook, fl. bor. amer. p. 141.). ♃. H. Native of North-west America, on the sub-alpine ranges of the Blue Mountains. Astrágalus collìnus, Dougl. mss. p. 256. no. 35. of the present volume. Corolla white, with a large purple spot on one of the petals. Stipulas oblong, leafy. The plant is remarkable for the linear leaflets.

Hill Bastard-vetch. Fl. June, July. Pl. 1 foot.

26 Pha'ca pectina'ta (Hook, fl. bor. amer. p. 141. t. 54.). ♃. H. Native of North-west America, in the pastures of the Saskatchawan, and on the Red Deer and Eagle hills, bordering on that river. Flowers large, white. Astrágalus pectinàtus, Dougl. mss. p. 257. no. 53. of the present volume.

Pectinate-leaved Bastard-vetch. Pl. decumbent.

27 Pha'ca podoca'rpa (Hook, fl. bor. amer. p. 142.) plant canescent, much branched, diffuse; stems and branches striated; leaves with 6-9 pairs of broad-linear, obtuse leaflets; stipulas small, ovate, acuminated; peduncles longer than the leaves; racemes loose; legumes oblong, coriaceous, compressed, clothed with appressed hairs, acuminated, tapering into a long stipe at the base, with thickened sutures. ♃. H. Native of North America, on dry, sandy, and barren grounds, at the great falls of the Columbia. Flowers middle-sized, white. This plant should follow *P. arenària*, p. 248. no. 7. of the present volume.

Foot-fruited Bastard-vetch. Fl. June, Aug. Pl. 1 foot.

28 Pha'ca nigre'scens (Hook, fl. bor. amer. p. 143.) clothed with obscure adpressed pili; stems erect and decumbent, branched, striated; leaves with 8-10 pairs of oblong, obtuse leaflets, which are cuneated at the base; racemes for the most part longer than the leaves; stipulas small, ovate, acutish, connate at the base; teeth of calyx a little shorter than the tube; legumes stipitate, oblong, membranous, compressed, glabrous. ♃. H. Native of North America, along the Saskachawan to the Rocky Mountains, and as far north as Fort Franklin on the Mackenzie River. Corolla white or cream-coloured. The present species should follow *Phàca cæspitòsa*, Nutt. p. 248. no. 6. of the present volume. The stems are usually purplish.

Blackish Bastard-vetch. Pl. erect or decumbent.

29 Pha'ca aboriginòrum (Hook, fl. bor. amer. p. 144.). ♃. H. Native of North America, from Lake Winipeg to the Rocky Mountains, and as far north as Bear Lake in lat. 66°. Astrágalus aboriginòrum, Richards, p. 258. no. 61. of the present volume.

Aboriginal Bastard-vetch. Pl. 1 foot.

30 Pha'ca glabriu'scula (Hook, fl. bor. amer. p. 144.) plant glabrous, or with a few scattered hairs; stem erect, nearly simple, striated; leaves with 5-6 pairs of linear-lanceolate, acutish leaflets; stipulas ovate, acute, lower ones connate and larger; legume on a rather long stipe, lanceolate, falcate, compressed, membranous, glabrous. ♃. H. Native of North America, in the valleys of the Rocky Mountains. General aspect very similar to the preceding species, of which it may only be a variety. Corolla white, or bluish, with the keel dark blue.

Smoothish Bastard-vetch. Pl. 1 foot.

31 PHA'CA E'LEGANS (Hook, fl. bor. amer. p. 144.) plant nearly glabrous; stems branched, erect, or assurgent, angular; leaves with 5-7 pairs of oblong, obtuse leaflets, which are cuneated at the base, glabrous above, but clothed with minute adpressed pili beneath; stipulas ovate, acute, rather connate at the base; racemes compact, on long peduncles, exceeding the leaves, but when in fruit much more elongated; legumes sessile, elliptic, inflated, membranous, apiculated, clothed with black velvety down, 3-5-seeded. ♃. H. Native of North America, in the prairies of the Rocky Mountains. There is a smaller ascending variety with shorter racemes, which inhabits the summits of the higher mountains. Leaves glaucous beneath. Flowers of a bright and deep purple. This species should follow *P. Lappónica*, p. 248. no. 14. of the present volume.

Elegant Bastard-vetch. Pl. 1 foot.

32 PHA'CA BISULCA'TA (Hook, fl. bor. amer. p. 145.) stems rather decumbent, smoothish; leaves nearly sessile, with 11-13 pairs of elliptic leaflets, which are clothed with adpressed hairs beneath; stipulas ovate, acute, free; racemes pedunculate, very much elongated; flowers nodding; legumes pendulous, stipitate, linear-cylindrical, bisulcate, clothed with adpressed pubescence. ♃. H. Native of North America, on the plains of the Saskatchawan. Flowers of a rich purple colour. This species should follow *P. brachýtropis*, Stev. p. 248. no. 16. of the present volume.

Bisulcate-podded Bastard-vetch. Pl. 1 to 2 feet.

§ 1. *Acaúles*, p. 249.

33 OXY'TROPIS FOLIOLO'SA (Hook, fl. bor. amer. p. 146.) stemless, and clothed with hoary villi; leaves numerous; leaflets approximate, ovate or ovate-oblong, acutish; scapes pilose, longer than the leaves; heads of flowers broadly ovate, small; flowers crowded, spreading, lower ones reflexed; bracteas linear-subulate, shorter than the calyx, which is beset with black hairs; legumes remotish, deflexed, cylindrical, acute, beset with black hairs. ♃. H. Native of North America, from Carlton House to the Rocky Mountains. Petals bluish purple, their bases nearly white. This species is most nearly allied to *O. montàna*, D. C. p. 249. no. 1. of the present volume.

Leafy Mountain Milk-vetch. Pl. ½ foot.

34 OXY'TROPIS ARGYROPHY'LLA (Led. fl. ross. atl. ill. t. 54.) is *O. argyræ'a*, D. C. p. 249. no. 4. of the present volume.

Silver-leaved Mountain Milk-vetch.

35 OXY'TROPIS SULPHU'REA (Led. fl. ross. atl. ill. t. 55. fl. atl. 3. p. 285.) nearly stemless; leaflets numerous, lanceolate, when young silky; petioles and scapes beset with spreading pili; scapes a little longer than the leaves; flowers horizontal, in dense spikes; bracteas lanceolate-linear, about equal in length to the villous calyx; legumes erectly spreading, ovate-oblong, somewhat 2-celled, acuminated. ♃. H. Native of Altaia, near Riddersk. Corolla sulphur-coloured. To follow *O. campéstris*, D. C. p. 251. no. 26. of the present volume.

Sulphur-coloured-flowered Mountain Milk-vetch. Pl. ½ foot.

36 OXY'TROPUS BREVICAU'LIS (Ledeb. fl. ross. alt. ill. t. 288. fl. alt. 3. p. 284.) plant caulescent, erect, rather silky; stem short; leaflets crowded; stipulas adnate to the petioles, lanceolate, acuminated, ciliated; leaflets ovate-oblong; peduncles twice the length of the leaves; racemes at length elongated; bracteas about half the length of the calyx; legumes cylindrical, erect, pubescent, 1-celled. ♃. H. Native of Altaia, in the Soongarian desert, between mount Ku and Karkarala. Corolla violaceous. Plant tufted. To follow *O. Songàrica*, D. C. p. 250. no. 17. of the present volume.

Short-stemmed Mountain Milk-vetch. Fl. Ju. Aug. Pl. ¼ ft.

§ 2. *Verticillàres*, p. 251.

37 OXY'TROPIS PHYSOCA'RPA (Led. fl. ross. alt. ill. t. 381. fl. alt. 3. p. 272.) stem shrubby, branched; leaves impari-pinnate; leaflets verticillate in fours, oblong or linear, minute, with ciliated margins, and bearded towards the apex; petioles usually permanent; peduncles axillary, usually 3-flowered, rather shorter than the leaves, but at length elongated; calyx rather villous; legumes inflated, muricate, ending in a curved beak. ♄. H. Native of Altaia, on the tops of the alps at the river Tschuja. Corolla violaceous. To follow *O. muricàta*, p. 252. no. 41. of the present volume.

Bladder-fruited Mountain Milk-vetch. Fl. June. Sh. dense.

38 OXY'TROPIS SUBVERTICILLA'TA (Led. fl. ross. alt. ill. t. 292. fl. alt. 3. p. 275.) stem shrubby, branched, very short; leaves impari-pinnate; leaflets somewhat verticillate by pairs of fours, elliptic, silky on both surfaces; petioles hardened, permanent; peduncles axillary, 3-flowered, shorter than the calyx, which is beset with spreading villi; legumes pubescent. ♄. H. Native of Altaia, in the Soongarian desert, between the mountains Kent and Ku. Corolla violaceous. To follow *O. muricàta*, D. C. p. 252. no. 41. of the present volume.

Subverticillate-leaved Mountain Milk-vetch. Fl. July, Sept. Shrub dwarf.

§ 3. *Tragacanthoìdeæ*, p. 252.

39 OXY'TROPIS POLYPHY'LLA (Led. fl. ross. alt. ill. t. 277.) stem shrubby, much branched, short; leaves impari-pinnate; leaflets 11-17, ovate-oblong, silky on both surfaces; petioles hardened, permanent; spikes of flowers sub-capitate, axillary; peduncles elongated, about equal in length to the leaves; calyx clothed with white villi. ♄. H. Native of Altaia, on mountains near the river Tschuja. Corolla violaceous. To follow *O. tragacanthoìdes*, Fisch. p. 252. no. 42. of the present volume.

Many-leafletted Mountain Milk-vetch. Fl. May, Ju. Sh. ½ ft.

40 OXY'TROPIS LEUCOPÒDIA (Led. fl. ross. alt. ill. t. 282. fl. alt. 3. p. 279.) stem shrubby, much branched, short; leaves impari-pinnate; leaflets usually 13, oblong-linear, glabrous; petioles hardened, permanent; peduncles axillary, 2-flowered, very short; calyx covered with thick, elevated corpuscles; legumes rather inflated, glabrous, ending in an acuminated beak. ♄. H. Native of Altaia, on mountains near the river Tschuja. Vexillum and wings yellow. Keel bluish. To follow *O. tragacanthoìdes*, Fisch. p. 252. no. 42. of the present volume.

White-petioled Mountain Milk-vetch. Fl. Ju. Sh. 6 inches.

41 OXY'TROPUS ACIPHY'LLA (Led. fl. ross. alt. ill. t. 281. fl. alt. 3. p. 279.) stem shrubby, much branched; leaves abruptly pinnate, with 2 or 3 pairs of oblong or oblong-linear, pungent leaflets, which are silky on both surfaces; petioles permanent, hardened into spines; peduncles axillary, 2-3-flowered, twice the length of the villous calyx; legumes oblong, acuminated, villous. ♄. H. Native of Altaia, on sandy hills at the river Irtysch. Corolla purplish violet. Shrub forming a dense tuft. To follow *O. tragacanthoìdes*, Fisch. p. 252. no. 42. of the present volume.

Needle-leafletted Mountain Milk-vetch. Pl. May. Sh. tufted.

§ 4. *Caulescéntes.*

42 OXY'TROPIS DIFFU'SA (Led. fl. ross. alt. ill. t. 451. fl. alt. 3. p. 281.) many stemmed, diffuse, beset with adpressed pili; stipulas opposite the leaves, somewhat concrete, ciliated; leaflets ovate-oblong; peduncles at length nearly twice the length of the leaves; flowers racemose; bracteas rather exceeding the pedicels; legumes depressed, mucronate, deflexed, 1-celled.

clothed with adpressed pili. ♃. H. Native of Altaia, in humid places. O. glàbra, D. C.? Corolla bluish violet. To follow *O. pilòsa*, D. C. p. 252. no. 43. of the present volume.

Var. α, *elongàta* (Led. l. c.) stem 1-2 feet high.

Var. β, *pùmila* (Led. l. c.) stem 2-6 inches high.

Diffuse Mountain Milk-vetch. Pl. ½ to 2 feet.

43 Oxy'tropus floribu'nda (D. C. prod. 2. p. 280.) According to Ledebour the following names belong to this species. *O. tères*, D. C. *O. longicúspis*, Ledeb. *O. Fischèri*, D. C. *O. vaginàta*, D. C. *O. tenélla*, D. C.

Bundle-flowered Mountain Milk-vetch. Pl. ½ to 1 foot.

§ 1. *Hypoglottídei*, p. 253.

44 Astra'galus pauciflòrus (Hook, fl. bor. amer. p. 149.) plant decumbent and hoary, beset with adpressed pili; stipulas concrete, opposite the leaves, lower ones entire; leaves with 3-5 pairs of oblong acute leaflets; peduncles rather shorter than the leaves, 2-4-flowered; flowers small, loosely racemose; bracteas length of pedicels; calyx beset with white pili, having the teeth about equal in length to the tube. ♃. H. Native of North America, among the rocks in the more elevated regions of the Rocky Mountains. Root long, descending, rather fusiform. Corolla blue. This species should follow *A. hypoglóttis*, Linn. p. 253. no. 1. of the present volume.

Few-flowered Milk-vetch. Pl. decumbent.

45 Astra'galus multicau'lis (Led. fl. ross. alt. ill. t. 316. fl. alt. 3. p. 295.) caulescent, prostrate, or ascendent, pubescent; stipulas membranous, concrete, opposite the leaves; leaflets oblong or obovate, emarginate, 5-6 pairs; racemes short; peduncles much longer than the leaves; bracteas longer than the pedicels; calyx beset with black or white pili; legumes erect, racemose, glabrous, ovate, triquetrous, short, half 2-celled; cells 1-seeded. ♃. H. Native of Altaia, in muddy salt places near the river Tschuja. Corolla pale purple. To follow *A. hypoglóttis*, p. 253. no. 1. of the present volume.

Many-stemmed Milk-vetch. Fl. May, June. Pl. prostrate.

§ 2. *Dissitiflòri*, p. 255.

46 Astra'galus pube'rulus (Led. fl. ross. alt. ill. t. 291. fl. alt. 3. p. 299.) plant erect, many-stemmed, hoary; stems terete, smooth; leaves stalked, with 6-11 pairs of oblong or oblong-linear retuse leaflets; flowers racemose, drooping; peduncles exceeding the leaves; bracteas lanceolate; tube of calyx twice the length of the teeth; vexillum retuse, longer than the emarginate wings; ovary glabrous. ♃. H. Native of Altaia, on hills at the rivers Ursal and Tschuja. Vexillum pale lilac. To follow *A. sulcàtus*, Lin. p. 255. no. 29. of the present volume.

Puberulous Milk-vetch. Fl. May, June. Pl. 1 foot.

47 Astra'galus vicioìdes (Led. fl. ross. alt. ill. t. 286. fl. alt. 3. p. 301.) stems erect, glabrous, rather sulcate above; leaves petiolate, with 8 pairs of oblong, obtuse leaflets; flowers racemose, drooping; peduncles about twice the length of the leaves; bracteas lanceolate; teeth of calyx not half so long as the tube; vexillum emarginate; wings entire; legumes erect, ovate, triquetrous, coriaceous, 2-celled; cells few-seeded. ♃. H. Native of Altaia, in meadows on both sides of the river Irtysch and elsewhere. Flowers purplish. To follow *A. sulcàtus*, Lin. p. 255. no. 29. of the present volume.

Vetch-like Milk-vetch. Pl. 1 foot.

48 Astra'galus leptocau'lis (Led. fl. ross. atl. ill. t. 284. fl. atl. 3. p. 296.) shrubby, much branched; stem silky; stipulas concrete, opposite the leaves; leaflets oblong, usually 4 pairs, nearly glabrous above, clothed with adpressed pili beneath and on the margins; racemes few-flowered; peduncles more than twice the length of the leaves; calyx beset with white and black hairs; legumes horizontal, oblong, triquetrous, clothed with adpressed pili, 2-celled, more than twice the length of the calyx; cells many-seeded. ♄. H. Native of Altaia, on rocks near the rivulet called Urmuchaika, about Buchtorminsk. Corolla bluish. To follow A. *Hyrcànus*, Pall. p. 256. no. 42. of the present volume.

Slender-stemmed Milk-vetch. Shrub dwarf.

§ 3. *Onobrychoìdei*, p. 257.

49 Astra'galus dia'phanus (Dougl. mss. Hook, fl. bor. amer. p. 151.) plant prostrate, diffuse, pilose; stipulas small, ovate, acuminated; leaves with 5-9 pairs of obovate leaflets; peduncles shorter than the leaves; flowers small, capitate, loose; bracteas ovate, acuminated, minute, rather shorter than the pedicels; legumes rather reflexed, linear, compressed, falcate, somewhat diaphanous, smoothish, 2-celled, many-seeded. ♃. H. Native of North America, abundant on sandy soils near the great falls of the Columbia. Flowers small, purple. This species should follow *A. lentiginòsus*, Dougl. p. 257. no. 49. of the present volume.

Diaphanous-podded Milk-vetch. Pl. prostrate.

50 Astra'galus compre'ssus (Led. fl. ross. alt. ill. t. 289. fl. alt. 3. p. 304.) plant prostrate, suffruticose, silky; leaflets oblong-linear, usually 3 pairs; flowers somewhat capitate; peduncles twice or thrice longer than the leaves; vexillum a little longer than the wings; legumes racemose, erect, linear, compressed, much longer than the calyx, and clothed with adpressed pili. ♃. H. Native of Altaia, at the river Irtysch. To follow *A. arbúsculus*, Pall. p. 258. no. 59. of the present volume.

Compressed-podded Milk-vetch. Fl. April, May. Pl. prost.

51 Astra'galus melanoca'rpus (Fras. cat. Richards. in Frankl. journ. ed. 2. append. p. 28. Hook, fl. bor. amer. p. 150.) plant clothed with silky hoary down; stems short, decumbent; stipulas ovate, acute; leaves with 8-10 pairs of ovate leaflets, which are acute at both ends, but sometimes obovate and obtuse; racemes capitate, loose, 6-8-flowered, longer than the leaves, on longish peduncles; flowers spreading; legumes spreading, elliptic-oblong, coriaceous, nearly 1-celled; wrinkled, blackish-brown. ♃. H. Native of North America, on the plains of the Saskatchawan, and on the Eagle and Red Deer Hills on the same river. Flowers dark purplish-blue, varied with white. Perhaps the same as the *A. Missouriénsis* of Nutt. p. 258. no. 69. of the present volume. Root fusiform.

Black-fruited Milk-vetch. Pl. decumbent.

N. B. *Astrágalus succúmbens*, Dougl. p. 263. no. 139., *A. infléxus*, Dougl. p. 256. no. 34. and *A. glarcòsus*, Dougl. p. 271. no. 241. should follow *A. lentiginòsus*, Dougl. p. 257. no. 49. of the present volume; and *A. Púrshii* should follow *A. Caroliniànus*, p. 263. no. 130.

52 Astra'galus? lotiflòrus (Hook, fl. bor. amer. p. 159.) plant hoary and clothed with adpressed pili; stems short, diffuse; stipulas ovate, acuminated; leaves on rather long petioles; leaflets rather remote, usually 6 pairs, oblong, obtuse; peduncles slender, shorter than the leaves; flowers 3-4, loose, capitate, usually yellow; bracteas subulate, longer than the pedicels; calyx campanulate, clothed with white pili, with the teeth subulate and longer than the tube; petals about equal in length; legumes erectly spreading, ovate, acuminated, compressed, very villous from white hairs, 1-celled, with the upper suture straight, and the lower one arched. ♃. H. Native of North America, about Carlton House on the Saskatchawan. Perhaps a species of *Phàca* very near *Phàca villòsa*. Astrágalus villòsus of Michx.

Lotus-flowered Milk-vetch. Pl. diffuse.

§ 5. *Vesicàrii*, p. 259.

53 Astraga'lus candidíssimus (Led. fl. ross. alt. t. 287. fl.

alt. 3. p. 309.) root creeping; stems herbaceous, erect, clothed with white tomentum; stipulas ovate-lanceolate, acuminated, free, glabrous inside; leaves with 7-10 pairs of nearly orbicular, mucronate leaflets; peduncles about equal in length to the leaves; calyxes woolly, at length bladdery; legumes inflated, ovate, ending in a long reflexed acumen, glabrous, 2-celled, much larger than the calyx. ♃. H. Native of Altaia, in sand at the river Irtysch. Corolla purplish-violet. To follow *A. megalánthus*, D. C. p. 259. no. 80. of the present volume.

Very-white Milk-vetch. Fl. June. Pl. 1 foot.

§ 7. *Annulàres, p.* 259.

54 ASTRA'GALUS ORBICULA'TUS (Led. fl. ross. alt. t. 290. fl. alt. 3. p. 311.) plant villous and procumbent, or erectish; leaves with 6-11 pairs of nearly orbicular mucronate leaflets; stipulas ovate, acute; racemes usually 3-flowered, pedunculate; peduncles one-half the length of the leaves; bracteas and teeth of calyx lanceolate-linear; ovary oblong, densely clothed with pili, on a glabrous stipe. ♃. H. Native of Altaia, in the Soongarian desert. Corolla white. To follow *A. striatéllus*, Bieb. p. 260. no. 86. of the present volume.

Orbicular-leafletted Milk-vetch. Fl. May, June. Pl. proc.

§ 8. *Synochreàti, p.* 261.

55 ASTRA'GALUS RARIFLÒRUS (Led. fl. ross. alt. ill. [illegible]8. fl. alt. 3. p. 313.) plant ascending, suffruticose, clothed with adpressed hoary pili; leaves with 5-11 oblong-linear leaflets; peduncles much longer than the leaves; flowers remote, on short pedicels, secund; legumes subulate, triquetrous, a little arched, horizontal, clothed with white villi, 3 or 4 times longer than the calyx. ♃. H. Native of Altaia, in the Soongarian desert, in dry salt fields about the mountains of Tschingistan. Corolla cream-coloured. To follow *A. microphýllus*, Lin. p. 261. no. 108.

Scarce-flowered Milk-Vetch. Fl. July, Aug. Pl. ascending.

56 ASTRA'GALUS OREA'DES (Meyer, verz. pfl. p. 141.) smoothish; stems diffuse; stipulas all concrete and sheath-formed; leaflets 8-12 pairs, all oblong-elliptic, rather retuse; peduncles shorter than the leaves; legumes crowded, erectish, inflated, nearly globose, mucronate, and pilose. ♃. H. Native of Persia, on mount Kasbek, at the height of 3600 or 4200 feet. Nearly allied to *A. microphýllus*, Lin. p. 261. no. 108.

Oreades Milk-vetch. Pl. diffuse.

57 ASTRA'GALUS DEPAUPERA'TUS (Led. fl. ross. atl. 3. p. 314.) plant erectish, suffruticose, rather silky; leaflets 5-9, oblong, acute at both ends; peduncles exceeding the leaves; flowers few, in umbellate heads; legumes oblong, a little arched, compressed, granular, villous, but at length almost glabrous, 2-celled. ♃. H. Native of Altaia, in dry salt plains, near Loktewsk. Corolla cream-coloured. To follow *A. microphýllus*, Lin. p. 261. no. 108. of the present volume.

Depauperated Milk-vetch. Fl. Aug. Pl. ½ to 1 foot.

§ 9. *Ciceroìdei, p.* 262.

58 ASTRA'GALUS RYTIDOCA'RPUS (Led. fl. ross. alt. ill. t. 293. fl. alt. 3. p. 315.) plant ascending, rather hoary; stipulas ovate, mucronate or acuminated; leaves with 4 pairs of oblong-linear leaflets; peduncles about equal in length to the leaves; spikes capitate, few-flowered; legumes short, nearly globose, didymous, sessile, wrinkled, transversely 2-celled, rather villous, apiculated by the oblique style. ♃. H. Native of Altaia, in islands in the river Tschuja. To follow *A. glycyphýllus*, Lin. p. 262. no. 116. of the present volume.

Rugged-fruited Milk-vetch. Fl. June. Pl. ascending.

§ 10. *Galegifórmes, p.* 263.

59 ASTRA'GALUS CHLORO'STACHYS (Lindl. hort. trans. vol. 7. p. 249. and p. 263. no. 134. of the present volume) stems erect, pubescent; stipulas distinct, separate from the petioles; leaves with 11-12 pairs of oblong pubescent leaflets; racemes pedunculate, many-flowered, longer than the leaves; legumes inflated, a little arched; racemes axillary at the tops of the shoots. ♃. H. Native of Nipaul. Flowers greenish yellow.

Green-spiked Milk-vetch. Fl. Sept. Oct. Clt. 1823. Pl. 2 to 4 feet.

60 ASTRA'GALUS PODOCA'RPUS (Meyer, verz. pfl. p. 142.) plant clothed with adpressed, canescent down; stems branched, diffuse, or erect; stipulas free, lanceolate; leaflets 3-6 pairs, elongated, nearly linear, acute; peduncles very long; spikes dense-flowered, oblong; legumes stipitate, erect, oblong, clothed with pili, longer than the calyx. ♃. H. Native of Persia, near Swant, on the mountains of Talusch, at the height of 2000 feet. Flowers yellowish. To follow *A. galegifórmis*, Lin. p. 263. no. 137. of the present volume.

Foot-fruited Milk-vetch. Pl. 1 to 2 feet.

§ 13. *Tragacánthæ, p.* 265.

61 ASTRA'GALUS SIRI'NICUS (Tenore, fl. neap. prod. 5. ex. Schlecht. Linnæa. 5. p. 102.) shrubby; petioles spinescent; leaves with 14 pairs of elliptic-oblong bluntish leaflets, beset with adpressed pili on both surfaces; peduncles rather shorter than the leaves, from 2-10, disposed in a racemose spike; calyx clothed with black and white hairs; the teeth setaceous: corolla yellow, 3-times the length of the calyx; bracteas linear, setaceous, 3-times the length of the pedicels; legumes villous. ♃. H. Native of Naples, on Mount Sirini, near Lagonegro in rocky meadows. This species differs from *A. retùsus*, Willd. p. 267. no. 185. of the present volume, in the flowers being disposed in racemose spikes, not capitate, in the setaceous teeth of the calyx, and in the linear bracteas. It differs from *A. Massiliénsis*, in the calycine teeth being subulate, not obtuse, and obliquely truncate, in the bracteas being longer than the pedicels, and in the racemose flowers.

Sirini Goat-thorn. Shrub ½ to 1 foot.

§ 15. *Anthylloìdei, p.* 268.

62 ASTRA'GALUS ELLIPSOÌDES (Led. fl. ross. alt. ill. t. 297. fl. alt. 3. p. 319.) nearly stemless and silky white; leaflets 11-23, broad-elliptic, acute at both ends; stipulas ovate, acuminated, silky outside; peduncles a little shorter than the leaves; spikes oblong or globose; calyxes inflated, elliptic, clothed with white pili; legumes somewhat triquetrous, many-seeded, acute, very villous, shorter than the calyx. ♃. H. Native of Altaia. Corolla sulphur-coloured. To follow *A. calycinus*, Bieb. p. 268. no. 197. of the present volume.

Var. α, elongàtus (Led. l. c.) caulescent; leaflets 11-19, remote; spikes oblong-cylindrical; calyx clothed with spreading pili. ♃. H. Native on the mountains of Arkaul and Dolenkara.

Var. β, intermèdius (Led. l. c.) almost stemless; leaflets 11-23, large, crowded; spikes oblong, short; calyx clothed with adpressed pili. ♃. H. Native on exposed hills, near Ustkamenogorsk.

Var. γ, abbreviàtus (Led. l. c.) smaller, stemless; leaflets 11-13; spikes subglobose, few-flowered; calyx clothed with spreading pili. ♃. H. Native of dry fields about the mountains of Tschingistan and Dschigilen.

Ellipsoid-podded Milk-vetch. Fl. May. Pl. dwarf.

63 ASTRA'GALUS SABULETÒRUM (Led. fl. ross. alt. ill. t. 298. fl. alt. 3. p. 321.) nearly stemless, silky white; leaflets 11-19, oblong, acute at both ends; stipulas ovate, acuminated, silky; peduncles about equal in length to the leaves; spikes ovate-globose; calyxes inflated, ovate, clothed with white adpressed

pili, and densely ciliated at the apex; legumes rather triquetrous, many-seeded, acute, villous, longer than the calyx. ♃. H. Native of Altaia, in sand at the rivers Irtysch and Bekun. Corolla rose-coloured. To follow *A. calycinus*, Bieb. p. 268. no. 197.

Sand Milk-vetch. Fl. May. Pl. dwarf.

64 Astra'galus melanótrichos (Led. fl. ross. atl. ill. t. 294. fl. alt. 3. p. 323.) stem erect, shrubby, much branched; branches silky; leaflets 7-9, linear, acute at both ends, with a few scattered strigæ; stipulas ovate-lanceolate, rather adnate to the petiole; peduncles longer than the leaves; spikes short, nearly globose; calyxes inflated, ellipsoid, densely clothed with black hairs at the base, and in the throat; legumes ovate, triquetrous, many-seeded, acutish, pilose, exceeding the calyx. ♄. H. Native of Altaia, on mount Kurtschum not far from Nabaty, at the river Irtysch. Corolla yellow. To follow *A. inflàtus*, D. C. p. 268. no. 205. of the present volume.

Black-haired Milk-vetch. Fl. June. Pl. ½ foot.

65 Astra'galus scleropòdius (Led. fl. ross. alt. ill. t. 295.) stem erect, shrubby, much branched; young branches strigose, adult ones glabrous from the bark being deciduous; leaflets 11-21, oblong, rather mucronate, sparingly strigose; stipulas lanceolate, rather adnate to the petiole; peduncles longer than the leaves, hardened into spines; spikes cylindrical, secund; calyx inflated, ellipsoid, beset with spreading pili; legumes ovate, somewhat triquetrous, many-seeded, acute, pilose, shorter than the calyx. ♄. H. Native of Altaia, on mountains of Kurtschum, at the river Irtysch. Corolla yellow. To follow *A. inflàtus*, D. C. p. 268. no. 205. of the present volume.

Hard-petioled Milk-vetch. Fl. June. Shrub 3 feet.

66 Astra'galus xanthótrichos (Led. fl. ross. alt. ill. t. 296. fl. alt. 3. p. 324.) stem erect, shrubby, much branched; young branches strigose, adult ones silky white; leaflets 7-9, elliptic, rather mucronulate, beset with a few strigæ; stipulas semiovate-lanceolate; peduncles longer than the leaves; spikes subglobose; calyxes inflated, ellipsoid, beset with spreading pili; legumes ovate, somewhat triquetrous, many-seeded, acute, very villous, exceeding the calyx. ♄. H. Native of Altaia, on the mountains of Kurtschum on rocks. Corolla yellow. To follow *A. folliculàris*, Pall. p. 268. no. 206. of the present volume.

Yellow-haired Milk-vetch. Fl. June. Shrub 2 to 3 feet.

67 Astra'galus glomera'tus (Led. fl. ross. alt. ill. t. 299. fl. alt. 3. p. 327.) almost stemless, tufted, glaucous, beset with a few pili; leaflets usually 9, obovate; racemes axillary, 4-8-flowered, almost sessile; calyx at length ruptured; the teeth lanceolate-linear, about half the length of the tube; legumes cylindrical, acuminated, beset with silky strigæ, 2-celled. ♃. H. Native of Altaia, in exposed fields at the river Irtysch, between Woroninsk and Nabaty. Corolla with the vexillum rose-coloured, having a large white spot in the centre, and with the wings and keel whitish, the latter tipped with purple. To follow *A. ammódytes*, Pall. p. 269. no. 210. of the present volume.

Glomerate Milk-vetch. Fl. April, May. Pl. ¼ to ½ foot.

68 Astra'galus hypogæ'us (Led. fl. ross. alt. ill. t. 95. fl. alt. 3. p. 329.) stemless, clothed with long white hairs; leaflets 5-13, rather remote, obovate; flowers aggregate at the roots, exactly sessile; calyx at length ruptured, with the teeth linear, subulate, equal in length to the tube; legumes subglobose, didymous, villous, 1-celled, few-seeded, under ground; vexillum elongated, emarginate, with the margins connate, and the middle tubular. ♃. H. Native of hills and fields near to the river Tscharych and Buchtorm, and in the Soongarian desert. Corolla white. To follow *A. galactites*, p. 269. no. 209.

Underground-podded Milk-vetch. Fl. Aug. Pl. ½ foot.

§ 16. *Caprìni*, *p*. 269.

69 Astra'galus ròseus (Led. fl. ross. alt. ill. t. 300. fl. alt. 3. p. 330.) caulescent, erect or ascending; stem clothed with white villi; leaflets 17-23, obovate-elliptic, clothed with hoary-villi; spike capitate, nearly globose; peduncles short; calyx villous, with the teeth setaceous, exceeding the tube in length, but about equal in length to the corolla; legumes obovate, triquetrous, woolly, 1-celled, a little longer than the tube of the calyx. ♃. H. Native of Altaia, in sandy fields at the river Irtysch. Corolla rose-coloured. To follow *A. longiflòrus*, Pall. p. 269. no. 215. of the present volume.

Rose-coloured-flowered Milk-vetch. Fl. May, June. Pl. ¼ to ½ foot.

70 Astra'galus lactiflòrus (Led. fl. ross. alt. ill. t. 103. fl. alt. 3. p. 333.) plant caulescent, hairy; leaflets 19-23, elliptic; racemes very short, axillary; bracteas lanceolate-linear; calycine teeth lanceolate-linear, thrice the length of the tube, but shorter than the bracteas; corolla glabrous; legumes ovate, rather triquetrous, mucronate, 2-celled, many-seeded, densely clothed with wool. ♃. H. Native of Altaia, in dry fields and on rocks. A. testiculàtus Altàicus, Pall. Corolla milk-coloured. To follow *A. Schanginiànus*, Pall. p. 270. no. 222.

Milk-flowered Milk-vetch. Fl. June. Pl. ¼ to ½ foot.

71 Astra'galus brevifòlius (Led. fl. ross. alt. ill. t. 307. fl. alt. 3. p. 334.) tufted, rather silky; leaflets 7, oblong, petiolulate; peduncles axillary, very short, 1-2-flowered; flowers longer than the leaves; teeth of calyx much longer than the tube; legume inclosed in the calyx, which is silky, membranous, and erect; cells 2-seeded. ♃. H. Native of Altaia, in sterile dry deserts, near the river Tschuja. Corolla sulphur-coloured. To follow *A. Buchtorménsis*, Pall. p. 270. no. 228.

Short-leaved Milk-vetch. Fl. June. Pl. ¼ foot.

§ 17. *Incàni*, *p*. 270.

72 Astra'galus rostra'tus (Meyer, verz. pfl. p. 144.) plant stemless, and densely clothed with hairs, which are fixed by their centre; scape rather shorter than the leaves; leaflets 13-17, nearly linear, acute; calycine teeth shorter than the tube; setaceous; legumes erect, very long, subulate, nearly terete, erectish, ending in a beak. ♃. H. Native of Persia, on the mountains of Tulusch near Swant, at the height of 2000 feet. Allied to *A. Monspessulànus*, Lin. p. 270. no. 233.

Beaked-podded Milk-vetch. Pl. ¼ to ½ foot.

73 A. refra'ctus (Meyer, verz. pfl. p. 144.) plant canescent from adpressed pili, which are fixed by their centre; scapes erect, longer than the leaves; leaflets 19-25, oblong-lanceolate, acute; racemes elongated, loose; calycine teeth subulate, shorter than the tube; legumes deflexed, stipitate, rather trigonal, beaked, beset with black and white hairs. ♃. H. Found along with *A. rostràtus*. Flowers yellow. To follow *A. sanguinoléntus*, Bieb. p. 270. no. 234 of the present volume.

Refracted-podded Milk-vetch. Pl. ¼ foot.

§ 18. *Radiciflòri*, *p*. 271.

74 Astra'galus physoca'rpus (Led. fl. alt. 3. p. 335.) almost stemless; leaflets 17-27, elliptic, rounded at the base or cuneated, mucronate, glaucous, glabrous on both surfaces, but with a few adpressed hairs on the margin, which are fixed by their centre; peduncles about equal in length to the leaves; flowers in dense spikes; legumes inflated, membranous, subglobose, glabrous. ♃. H. Native of Altaia, about Loktewsk, &c. A. physòdes Altàicus, Pall. astr. p. 72. t. 58. Flowers violaceous or dirty yellow. To follow *A. physòdes*, Lin. p. 271. no. 247.

Bladder-fruited Milk-vetch. Pl. ¼ to ½ foot.

Tribe III. *Hedysàreæ*. *Subtribe* II. *Euhedysàreæ*, *p*. 277.

75 Desmòdium purpu'reum (Hook. in Beech. voy. part. bot. p. 62.) stem erect, terete, nearly simple, clothed with adpressed

pubescence; leaflets 3, elliptic, obtuse, veiny, smoothish; stipulas subulate, acuminated; racemes axillary, on rather long peduncles; bracteas lanceolate, acuminated, ciliated; legume 5-6-jointed, joints quadrate, convex on one side, reticulated, scabrous from stiff hairs. ♄. S. Native of the East Indies and the Sandwich Islands. Hedýsarum purpùreum, Roxb. hort. beng. p. 57. Hedýsarum siliquòsum, Burm. zeyl. t. 53. f. 2. Burm. ind. t. 55. f. 2. Flowers purple. This species should follow *D. siliquòsum*, D. C. p. 296. no. 126. of the present volume.

Purple-flowered Desmodium. Shrub.

76 HEDY'SARUM POLYMÓRPHUM (Led. fl. alt. 3. p. 338.) stem ascending; leaves with many pairs of elliptic or oblong leaflets, which are rather silky beneath, or clothed with adpressed pili; spikes pedunculate, crowded; keel a little shorter than the vexillum, but longer than the wings; fruit erect, with the joints wrinkled, and clothed with hoary pubescence. ♃. H. Native of Altaia, in salt marshes at the river Tschuja, not far from the mouth of the river Aigulak. Flowers rose-coloured. To follow *H. ròseum*, Steph. p. 301. no. 18. According to Ledebour, the following are varieties of this plant.

Var. α, pùmilium (Led. fl. alt. l. c.) prostrate; leaflets 5-6 pairs. ♃. H. Native of Altaia.

Var. β, prostràtum (Sievers, Led. l. c.) prostrate; leaflets 6-8 pairs. H. ròseum, Steph. in D. C. prod. 2. p. 342.

Var. γ, adscéndens (Led. fl. ross. alt. ill. t. 51.) ascending; leaflets 7-9 pairs. ♃. H. H. rutidocàrpum, D. C. prod. 2. p. 341.

Var. δ, suberéctum (Led. fl. alt. 3. p. 339.) erectish; leaflets 6-8 pairs. ♃. H. H. Gmelìni, Ledeb. H. Altàicum, Fisch. in D. C. prod. 2. p. 339.

Var. ε, elàtum (Led. l. c.) stem erect; leaflets 8-9 pairs.

Polymorphous Hedysarum. Fl. June, July. Pl. prostrate and erect.

77 HEDY'SARUM NEGLE'CTUM (Led. fl. ross. alt. t. 482. fl. alt. 3. p. 341.) plant caulescent, erect; leaflets ovate-lanceolate, pubescent beneath; racemes elongated, axillary; bracteas exceeding the pedicels; teeth of calyx lanceolate, about equal in length to the tube; vexillum equal in length to the wings, but shorter than the keel; pods pendulous, pilose, with elliptic joints. ♃. H. Native of Altaia, on shady alps at the river Koksun. H. lasiocàrpum, Led. Flowers rose-coloured, but there is also a variety with white flowers.

Neglected Hedysarum. Fl. May, June. Pl. ½ foot.

78 ONOBRY'CHIS VAGINA'LIS (Meyer, verz. pfl. 145.) stipulas large, concrete, opposite the leaves; leaves with 6-9 pairs of ovate or oblong, obtuse or acute leaflets, beset with soft pili beneath as well as on the stem; wings obtuse, unidentate at the base, shorter than the calyx; pods unknown. ♃. H. Native of Persia, on arid hills near Baku. This species comes near to *O. Pallàsii*, Bieb. p. 306. no. 30. but is easily distinguished from it by the concrete stipulas.

Sheathed-stipuled Saintfoin. Pl. 1 foot.

79 ONOBRY'CHIS HETEROPHY'LLA (Meyer, verz. pfl. p. 146.) plant clothed with minute, adpressed, silky down; stems procumbent or assurgent; stipulas free, lanceolate; radical leaves simple and ternate, cauline ones with 2-3 pairs of ovate, or nearly orbicular, mucronulate leaflets; wings acuminated, unidentate at the base, longer than the calyx; legumes very villous, with prickly margins; prickles setaceous, elongated. ♃. H. Native of Persia, in stony dry places on the mountains of Talusch near Swant. Corolla yellowish, but sometimes finely streaked with brown veins. To follow *A. Pallàsii*, Bieb. p. 306. no. 30.

Variable-leaved Saintfoin. Pl. procumbent.

Tribe IV. *Vicièæ, p.* 311.

80 VÌCIA COSTA'TA (Led. fl. ross. alt. ill. t. 108. fl. alt. 3. p. 346.) glabrous; stem compressed, somewhat quadrangular; leaves with usually 6 pairs of rather alternate, petiolulate, reflexed, ovate-oblong, mucronate, ribbed, rather glaucous, somewhat coriaceous leaflets; peduncles 3-8-flowered, about equal in length to the leaves; stipulas semi-sagittate or hastate; teeth of calyx nearly equal, lower one the longest, but one-half shorter than the tube; style bearded at the apex; legumes pendulous, glabrous, nearly cylindrical, 2-4-seeded. ♃. H. Native of Altaia, on rocks at the river Katunja and Tschuja, and on the mountains of Dolen-Kara. Flowers whitish; the keel tipped with purple. To follow *V. sylvática*, p. 316. no. 8.

Ribbed-leaved Vetch. Fl. June, July. Pl. 2 feet.

81 VICIA LILA'CINA (Led. fl. ross. alt. ill. t. 366.) stem weak; leaflets 9-16, ovate-elliptic, alternate or opposite, mucronate, clothed with adpressed pili beneath, the veins anastomosing; stipulas oblong, acuminated, ciliated, entire or semi-sagittate; peduncles many-flowered, exceeding the leaves; vexillum exceeding the keel, but shorter than the wings; style pilose; legumes oblong, compressed, glabrous, usually 3-seeded. ♃. H. Native of Altaia, on mountains near Aleandrowsk, at the river Irtysch. Flowers lilac, smaller than those of *V. Crácca*. To follow *V. biénnis*, Lin. p. 319. no. 49. of the present volume.

Lilac-flowered Vetch. Fl. June, July. Pl. cl.

82 VÌCIA MEGALÓTROPIS (Led. fl. ross. alt. ill. t. 368.) stems and tendrils branched; leaflets numerous, lanceolate-linear, alternate or opposite, mucronate; stipulas very narrow, ciliated, linear, or semi-sagittate; peduncles many-flowered, about equal in length to the leaves, or rather shorter; flowers numerous, imbricate; vexillum and wings about equal in length to the keel; style puberulous at the apex; legumes horizontal, oblong, glabrous, 3-4-seeded, compressed. ♃. ◡. H. Native of Altaia, on mountains at the river Uba, Ulba, Koksun, Tschanysch, &c. Flowers with an emarginate purple vexillum, and with the wings and keel white, tipped with bluish violet. To follow *V. tenuifòlia*, Lin. p. 317. no. 28. of the present volume.

Large-keeled Vetch. Pl. cl.

83 VÌCIA MULTICAU'LIS (Led. fl. ross. alt. ill. t. 50. fl. alt. 3. p. 345.) stems and tendrils nearly simple; leaves with 4-8 pairs of alternate, or opposite, oblong-elliptic, mucronate leaflets; stipulas sub-hastate; peduncles exceeding the leaves, 4-8-flowered; vexillum equal in length to the keel and wings; style puberulous at the apex; legumes horizontal, oblong, somewhat reticulated, 6-8-seeded, rather compressed. ♃. H. Native of Altaia, on mountains. V. alpìna, Pall. itin. 2. p. 568. Flowers almost the colour of the last species.

Many-stemmed Vetch. Fl. May. Pl. cl.

84 E'RVUM AGRIGENTI'NUM (Gussone, in litt. D. C. prod. 2. p. 367.) leaflets 8-10, elliptic, mucronate; tendrils trifid; stipulas semi-sagittate, deeply toothed; peduncles 2-5-flowered, shorter than the leaves; calycine segments linear, equal, longer than the tube; legumes ovate, compressed, puberulous, reticulately veined, 4-seeded. ☉. H. Native of Sicily, about Agrigentum. Allied to *E. tetraspérmum*, but differs in the legumes being broader, puberulous, and in the stipulas being toothed.

Agrigentum Lentil. Pl. 1 foot.

85 LA'THYRUS ALTA'ICUS (Led. fl. ross. alt. ill. t. 53. fl. alt. 3. p. 355.) stem weak, pubescent, tetragonal, but not winged; leaves with 3-5 pairs of oblong or ovate mucronate leaflets, which are pilose beneath; stipulas semi-sagittate, ovate, acuminated, a little toothed; peduncles 2-4-flowered, longer than the leaves; legumes cylindrical, villously pubescent. ♃. H. Native of Altaia, on the lower mountains. Root creeping. Corolla reddish-violet, changing to bluish. To follow *L. palústris*, Lin. p. 334. no. 30. of the present volume.

Altaian Lathyrus. Fl. May, June. Pl. cl.

86 O'ROBUS SUBVILLÒSUS (Led. fl. ross. alt. ill. t. 483. fl. alt.

3. p. 359.) plant clothed with hoary pubescence; root fibrous; stem branched at the base; leaflets 5-9, oblong-linear, mucronate, somewhat attenuated at the base; stipulas lunately-sagittate, profoundly cut; peduncles axillary, 2-3-flowered, twice the length of the leaves; calycine teeth broad-lanceolate; upper one shortest. ♃. H. Native of Altaia, in salt fields at the river Kurtschum. Flowers with a reddish vexillum, yellowish wings, and the keel tipped with blue. To follow *O. lácteus*, Bieb. p. 339. no. 14.

Rather-villous Bitter-vetch. Fl. April, May. Pl. 1 foot.

87 O'robus interme'dius (Led. fl. ross. alt. ill. t. 484.) plant sparingly pilose; stem simple; leaves with 4 pairs of narrow, oblong, apiculated, nerved leaflets; stipulas semi-sagittate or hastate, toothed at the base or entire, much shorter than the leaflets; peduncles axillary, 4-8-flowered, longer than the leaves; calycine teeth equal in length to the tube, upper ones the shortest. ♃. H. Native of Altaia, about the metal mines of Nicolajewsk. Intermediate between *O. lácteus* and *O. lùteus*. Flowers pale yellow or cream-coloured.

Intermediate Bitter-vetch. Fl. May, June. Pl. 1 to 1½ foot.

Tribe V. *Phaseòleæ*, *p.* 341.

88 Canava'lia pube'scens (Gaud. ex Hook. in Beech. voy. part. bot. p. 81.) stem twining; branches and petioles pubescent; leaflets ovate, elliptic, ending in a very short acumen, rather oblique at the base, membranous, glabrous above, but pubescent beneath; peduncles axillary, 3-flowered. ♃. ⌒. S. Native of the Sandwich Islands. Nearly allied to *Dólichos galeàtus*, Gaud. p. 357. no. 4. of the present volume, which is also a species of *Canavàlia*. To follow *C. rútilans*, p. 363. no. 7.

Pubescent Canavalia. Shrub tw.

89 Mucu'na angui'na (Wall. pl. rar. asiat. 3. p. 19. t. 236.) flowers cymose, dense; legumes roundish, transversely wrinkled, hispid, 1-seeded; leaflets glabrous above. ♄. ⌒. S. Native of Chittagong. Flowers large, dark purple, fetid.

Snake-stemmed Cow-itch. Fl. Nov. Shrub tw.

90 Lupi'nus mi'nimus (Dougl. mss. Hook, fl. bor. amer. p. 168.) plant small, herbaceous, and densely clothed with silky hairs; stem furnished with 1-2 leaves; leaflets 7-9, lanceolate, acute, tapering to the base; flowers alternate and verticillate; pedicels bractless; upper lip of calyx bifid at the apex, lower one entire; root small, rather fusiform. ☉. H. Native of North-west America, in mountain valleys near the Kettle Falls, and very abundant towards the Rocky Mountains along the Columbia. To follow *L. micránthus*, Dougl. p. 366. no 15. of the present volume.

Small Lupine. Pl. ¼ foot.

Tribe VI. *Dalbergièæ*, *p.* 373.

91 Ponga'mia elli'ptica (Wall. pl. rar. asiat. 3. p. 20. t. 237.) leaves impari-pinnate, with 3-5 pairs of cuneate-oblong, pubescent leaflets; branchlets, peduncles, and calyxes clothed with ferruginous villi; racemes in fascicles; legumes elliptic-lanceolate. ♄. ⌒. S. Native of Amboyna. Galedùpa ellíptica, Roxb. hort. beng. p. 53. Flowers rose-coloured.

Elliptic Pongamia. Shrub tw.

Tribe VIII. *Mimòseæ*, *p.* 381.

92 I'nga spinifòlia (Hamilt. prod. p. 61.) stem and branches prickly; leaves bipinnate, with 6 pairs of pinnæ, each pinna bearing 3 pairs of ovate-oblique, reticulated, pubescent leaflets, ending each in a spine-like mucrone; legumes twisted, pubescent. ♄. S. Native of the West Indies. Desv. journ. bot. vol. 3. This species should follow *I. Márthæ*, Spreng. p. 395. no. 126.

Spine-leaved Inga. Tree.

93 Aca'cia stenosta'chya (Desv. herb. Hamilt. prod. p. 59.) unarmed; branches angular, brownish, glabrous; leaves with about 10 pairs of pinnæ, each pinna bearing about 20 pairs of linear-rhomboid, rather coriaceous, shining leaflets; rachis complanate, sulcate, pubescent; spikes twin, axillary, filiform, on very long peduncles, cylindrical, loose-flowered; flowers minute. ♄. S. Native of Guiana. This species should follow *A. Guianénsis*, Willd. p. 410. no. 135. of the present volume.

Slender-spiked Acacia. Tree.

94 Aca'cia Hamiltònii (Desv. herb. Hamilt. prod. p. 59.) unarmed; young branches pubescent; leaves with 5 pairs of pinnæ, each pinna bearing many pairs of rather remote, linear, obtuse, ciliated leaflets; peduncles elongated, and are as well as the rachis pilose; spikes subglobose. ♄. S. Native of Jamaica. To follow *A. formòsa*, Kunth, p. 417. no. 223.

Hamilton's Acacia. Tree.

95 Aca'cia linea'ris (Desv. herb. Hamilt. prod. p. 59.) unarmed, shrubby; branches nodose, striated, pubescent at the apex; bracteas rather hardened, permanent; leaves with usually 5 pairs of pinnæ, each pinna bearing about 20 pairs of narrow, linear, crowded, rather ciliated leaflets; peduncles terminal, elongated, fastigiate; spikes subglobose. ♄. S. Native of Jamaica. This plant should follow the last species.

Linear-leafletted Acacia. Shrub.

96 Aca'cia microca'ntha (Desv. herb. Hamilt. prod. p. 60.) stem armed, arborescent; branches pubescent; leaves with usually 10 pairs of pinnæ, each pinna bearing many pairs of minute pubescent leaflets; spikes stipitate, globose, axillary, solitary, on short peduncles, nodding; bracteas rather spinescent. ♄. S. Native of Guiana. This species should follow *A. álbicans*, Kunth, p. 414. no. 185. of the present volume.

Small-spined Acacia. Tree.

97 Aca'cia a'lbida (Lindl. bot. reg. 1317.) spines twin, short; branches, petioles, and peduncles pubescent; leaves with 5-7 pairs of pinnæ, each pinna bearing 8-10 pairs of linear, acute leaflets; heads of flowers pedunculate, twin, axillary. ♄. G. Native of Peru. Flowers yellow. This species should follow *A. álbicans*, Kunth, p. 414. no. 185. of the present volume.

Whitish Acacia. Fl. Oct. Clt.? Shrub.

98 Aca'cia selenoca'rpa (Desv. herb. Hamilt. prod. 2. p. 60.) stem armed; branches whitish, glabrous, spiny; spines scattered; leaves with usually 6 pairs of pinnæ, each pinna bearing about 15 pairs of linear-rhomboid, quite glabrous, glaucescent leaflets; spikes globose, twin, loose-flowered, pedunculate; legumes short, lunate ♄. S. Native of Guiana. This species should follow *A. macrocántha*, Kunth, p. 415. no. 192.

Moon-podded Acacia. Tree.

Tribe X. *Cassièæ*, *p.* 427.

99 Humbòldtia Brunònis (Wall. pl. rar. asiat. 3. p. 17. t. 233.) leaves with 2 pairs of leaflets; hind lobes of stipulas nearly equal-sided, rounded at both extremities; branches equal. ♄. ◡. S. Native of the mountains of Malabar and the peninsula of India. A climbing shrub, with deep orange-coloured flowers.

Brown's Humboldtia. Shrub cl.

Order LXXIX. CHRYSOBALA'NEÆ (shrubs and trees agreeing with *Chrysobálanus* in important characters). R. Br. Congo. p. 14.—Rosàceæ, Tribe I. Chrysobalàneæ, D. C. prod. 2. p. 525.

Flowers more or less irregular (f. 59. *a.* f. 60. *a.* f. 61. *b.*). Sepals 5, joined together into a 5-lobed calyx (f. 59. *a.* f. 60. *a.* f. 61. *a.*), permanent. Petals equal in number to the lobes of the calyx (f. 60. *b.* f. 61. *b.*), and inserted in it, imbricate in æstivation. Stamens inserted in the calyx (f. 60. *c.*) along with the petals, few (f. 61. *c.*) or numerous (f. 59. *c.* f. 60. *d.*), having the filaments incurved when the flower is in æstivation. Anthers 2-celled, bursting by a double chink. Ovary 1 (f. 61. *e.*), free, having the style proceeding from its base (f. 61. *d.*), and containing 2 erect ovula (f. 61. *e.*). The pedicel of the ovary closely cohering to the calyx. Style simple, crowned by a more or less dilated stigma. Seed usually solitary from abortion, exalbuminous in all except *Hirtélla*, in which it is fleshy and the cotyledons foliaceous; in the rest of the genera the cotyledons are fleshy and thick.—This order is composed of trees and shrubs, natives within the tropics, with simple, entire, feather-nerved, glandless, petiolate leaves, and axillary and terminal racemes or panicles of small flowers. The fruit of the greater part of the plants are eatable, though by no means very palatable, being extremely dry and farinaceous: they generally go under the name of plums in the places of their natural growth. The principal distinguishing characters in the fructification of *Chrysobalàneæ* are the style proceeding from the base of the ovarium (f. 61. *d.*), the ovula (which in *Amygdalàceæ* are 2 in number), as well as in the embryo being erect (f. 61. *e.*). The greater part of the *Chrysobalàneæ* have their flowers more or less irregular, this irregularity consisting in the cohesion of the stipe of the ovary with one side of the calyx, and a greater number or greater perfection of stamina, on the same side of the flower.

Synopsis of the genera.

1 **Chrysoba'lanus.** Calyx campanulate, 5-cleft (f. 59. *a.*). Petals 5, unguiculate. Stamens about 20 (f. 59. *c.*) inserted on one side. Drupe plum-formed (f. 59. *d.*), containing an ovate, 5-furrowed, 1-seeded patamen.

2 **Moqui'lea.** Calyx turbinate, acutely 5-toothed. Petals 5, orbicular. Stamens about 40, inserted in the calyx beneath the petals. Ovary hairy. Drupe woody.

3 **Coue'pia.** Calyx tubular, obtusely 5-lobed. Petals 5, nearly orbicular. Stamens about 20, inserted in the top of the calycine tube. Drupe egg-shaped, dry, covered with a thick, fibry, coriaceous rind. Seed 1, inclosed in a fragile testa.

4 **Acio'a.** Calyx tubular, bluntly 5-lobed. Petals 5, oblong, unequal. Stamens 10-12, projecting on one side of the flower, with the filaments joined to the middle. Drupe ovate, coriaceous, containing a 1-celled, 1-seeded nut.

5 **Parina'rium.** Calyx urceolate, 5-cleft. Petals 5. Stamens 15. Ovary villous. Drupe ovate, thick, farinaceous, containing a hard, wrinkled, rough, 2-celled, 2-seeded nut. Seeds clothed with wool.

6 **Grange'ria.** Calyx bluntly 5-cleft (f. 60. *a.*). Petals 5 (f. 60. *b.*), soon falling off. Stamens 15 (f. 60. *d.*), unequal. Ovary woolly. Drupe olive-formed, rather triquetrous (f. 60. *e.*), containing a bony, triquetrous, 1-seeded nut.

7 **Linca'nia.** Calyx bibracteolate on the outside, 5-cleft. Petals wanting. Stamens 5-10, when 5 they are opposite the calycine lobes. Drupe olive-formed, fleshy, containing a 1-seeded nut.

8 **Thely'ra.** Calyx campanulate, ending in a tube, which is adnate to the peduncle, as in *Pelargònium*. Petals 5. Stamens 10, the 6 on one side fertile, the 4 on the other side sterile and tooth-formed. Ovary 2-ovulate. Berry? wrinkled, villous inside, 1-seeded.

9 **Hirte'lla.** Calyx obtusely 5-lobed (f. 61. *a.*). Petals 5, small, deciduous (f. 61. *b.*). Stamens 3-15 (f. 61. *c.*). Drupe furrowed (f. 61. *c.*), containing a 1-celled nut. Albumen fleshy. Cotyledons foliaceous.

† *Genera apparently belonging to the present order.*

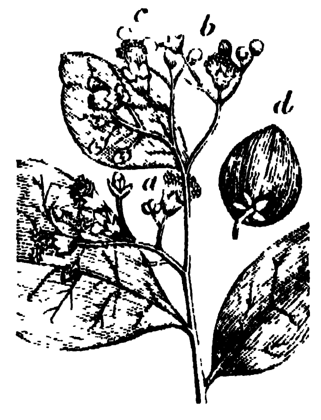
10 **Leuco'stomon.** Calyx 5-parted; lobes acute, coloured, deciduous, with the lower one permanent, glandular, and staminiferous above. Petals wanting. Stamens about 20, inserted in a calycine disk. Ovary free, ovate, pubescent, 5-furrowed, ending in a filiform style. Fruit unknown.

11 **Trilepi'sium.** Calyx 5-lobed, free from the ovary. Petals wanting. Stamens numerous, inserted in the tube of the calyx, and disposed in many series. Tube terminated by 3 ligulæ between the stamens and pistil. Ovary 1-seeded. Style bifid at the apex, crowned by a tomentose stigma.

I. CHRYSOBA'LANUS (from χρυσος, *chrysos*, gold, and βαλανος, *balanos*, an acorn; in reference to the yellow fruit of some of the species). Lin. gen. 621. Lam. ill. t. 428. D. C. prod. 2. p. 525.—Icàco, Plum. gen. 43. t. 5.

Lin. syst. *Icosándria, Monogýnia.* Calyx campanulate, 5-cleft. Petals 5, unguiculate. Stamens about 20, nearly equal in length, disposed in one series. Drupe fleshy, plum-formed, containing an ovate, 5-furrowed, 1-seeded nut.—Trees with simple leaves, and racemes or panicles of insignificant flowers, Fruit of all edible.

FIG. 59.



1 C. **Ica'co** (Lin. spec. 513.) leaves nearly orbicular, or obovate, emarginate; racemes axillary, dichotomous; stamens hairy. ♄. S. Native of South America and the West Indies, by the sea-side, as well as of the southern parts of North America. Jacq. amer. 154. t. 94. Plum. ed. Burm. t. 158.—Catesb. car. 1. t. 25. Panicles axillary, dichotomous. Flowers white. Fruit about the size of a plum, ovate-roundish, varying much in colour, white, yellow, red, but most commonly purple, and usually covered with a kind of bloom; the skin is thin, and the pulp white, adhering firmly to the stone, the taste sweet, with some austerity, but not unpleasant, and is eaten both raw and preserved. The fruit is called *Icaco* or *Cocoa plum*, and is sold in the markets in the West Indies, under these names.

Var. β, pellocárpus (Meyer, prim. esseq. 193.) leaves roundish-ovate or obovate; fruit oval, brown. ♄. S. Native of Guiana. C. purpùreus, Mill. dict. no. 2. Brown. jam. 250. t. 17. f. 5. Perhaps a proper species.

Icaco or Common Cocoa-plum. Clt. 1752. Sh. 3 to 6 feet.

2 C. **elli'pticus** (Smeathm. herb. Hort. trans. 5. p. 453.) leaves elliptic, obtuse, or acute, never emarginate; racemes axillary, dichotomous; stamens hairy. ♄. S. Native of Sierra Leone, on the sea-side. Racemes sometimes disposed in a bracteolate panicle. Fruit the size of a damson plum, with a black thin skin, and the flesh like that of the last species. The fruit is eatable.

Elliptic-leaved Cocoa-plum. Fl. Feb. Mar. Sh. 8 to 10 ft.

3 C. oblongifòlius (Mich. fl. bor. amer. 1. p. 285.) leaves oblong or oblanceolate, a little crenulated; panicles terminal; stamens glabrous. ♄. S. Native of Georgia, in sandy pine forests. Nutt. gen. amer. 1. p. 301. Fruit olive-formed, nearly dry. Leaves sometimes tomentose beneath.

Oblong-leaved Cocoa-plum. Fl. May, Ju. Clt. 1812. Sh. 1 ft.

4 C. ovalifòlius (Schott, in Spreng. syst. append. p. 406.) leaves coriaceous, rather cordate, elliptic, obtusely pointed, clothed with silvery tomentum beneath; flowers hermaphrodite; stamens glabrous. ♄. S. Native of Brazil.

Oval-leaved Cocoa-plum. Shrub.

5 C. macrophy'llus (Schott, l. c. p. 407.) leaves cordate, oblong, obtuse, elongated, coriaceous, shining above, but clothed with white tomentum beneath, having the veins parallel and prominent; flowers hermaphrodite. ♄. S. Native of Brazil. In this and the preceding species 7 of the stamens are wanting or sterile.

Long-leaved Cocoa-plum. Shrub.

Cult. Sandy loam is the best soil for the species of *Cocoa-plum*. Large cuttings, taken off at a joint, without shortening any of their leaves, and planted thinly in a pot filled with sand, with a bell-glass placed over them, in a moist heat, will strike root readily. The best way of increasing the plants is by seeds, when they can be procured.

II. MOQUI'LEA (meaning not explained by the author). Aubl. guian. 1. p. 521. t. 208. D. C. prod. 2. p. 526.

Lin. syst. *Icosándria, Monogýnia.* Calyx tubular or urceolate, acutely 5-parted or 5-toothed. Petals 5, rather unequal, roundish. Stamens about 40, longer than the petals, inserted in the tube of the calyx beneath the petals, distinct or polyadelphous at the base. Ovary hairy. Style lateral, filiform, hairy below. Stigma obtuse. Drupe woody, egg-shaped, with a chinky bark, 1-seeded. Seed amygdalaceous. Trees with simple leaves and axillary and terminal racemes of white flowers.

1 M. Guiane'nsis (Aubl. l. c.) leaves oval, acuminated, quite entire, glabrous; racemes loosely panicled. ♄. S. Native of Guiana, in woods. Stamens about 40, free.

Guiana Moquilea. Tree 30 feet.

2 M. Canome'nsis (Mart. fl. bras. 2. p. 79. t. 166.) young branches, under side of the leaves, buds, and racemes beset with rusty hairs; leaves oblong, acute; berry globose; stamens in 5 bundles, rising from an incomplete orb in the top of the tube of the calyx. ♄. S. Native of Brazil. Hirtélla Canoménsis, Spreng. syst. append. p. 407. Flowers white.

Canom Moquilea. Tree 20 to 30 feet.

Cult. For culture and propagation see *Chrysobálanus.*

III. COUE'PIA (*Coupi* is the name of the tree in Guiana). Aubl. guian. 1. p. 521. t. 207. D. C. prod. 2. p. 526.

Lin. syst. *Icosándria, Monogýnia.* Calyx tubular, bluntly 5-lobed at the apex. Petals 5, nearly orbicular, length of calyx. Stamens about 20, nearly equal, inserted in the top of the calycine tube; filaments distinct. Ovary somewhat stipitate. Drupe egg-shaped, with a dry, thick, coriaceous, fibrous rind. Seed 1, large, inclosed in a thin testa.—Trees with oval, entire, feather-nerved leaves. Flowers few, nearly terminal.

1 C. Guiane'nsis (Aubl. l. c.) leaves with undulated margins; tube of calyx obconical, with rounded lobes. ♄. S. Native of Guiana. A'cia amàra, Willd. spec. 3. p. 717. Petiole clothed with rufous hairs. Flowers small, white. Seed bitter. In Guiana the natives strip the bark from the tree and use it in baking their earthenware.

Guiana Couepia. Tree 60 feet.

2 C. Pari'llo (D. C. prod. 2. p. 526.) leaves flat; tube of calyx cylindrical, with oval-oblong, acuminated lobes. ♄. S. Native of Guiana, where it is called *Parillo.* Flowers small, white.

Parillo Couepia. Tree 20 to 30 feet.

Cult. For culture and propagation see *Chrysobálanus.*

IV. ACIO'A (*Acioua* is the Guiana name of the tree). Aubl. guian. 2. p. 690. D. C. prod. 2. p. 526.—Dulàcia, Neck. elem. no. 1236.

Lin. syst. *Monadélphia, Decándria.* Calyx tubular, bluntly and unequally lobed at the apex. Petals 5, oblong, obtuse, unequal. Stamens 10-12, projecting only on one side of the flower; filaments joined to the middle into a flat ligula, but free at the apex. Ovary or stipe of ovary adnate to the calyx at the base. Drupe ovate, coriaceous, chinky at maturity, containing a 1-celled, 1-seeded nut. Seed large, with a brittle testa.—A tree, with oval, acute, entire leaves, caducous stipulas, and terminal corymbs of violaceous flowers.

1 A. Guiane'nsis (Aubl. l. c.). ♄. S. Native of Guiana, in woods. A'cia dúlcis, Willd. spec. 3. p. 717. Petioles glabrous. Seed eatable. Hardly distinct from *Couèpia.* It is sometimes called *Coupi* by the inhabitants of Guiana. The fruit contains a sweet oil like that of the almond.

Guiana Acioa. Tree 60 feet.

Cult. For culture and propagation see *Chrysobálanus.*

V. PARINA'RIUM (*Parinari* is the name of *P. montànum* in Guiana). Juss. gen. 341. Lam. ill. t. 429. D. C. prod. 2. p. 526.—Parinàri, Aubl. guian. 1. p. 514.—Dugórtia, Neck. elem. no. 797.—Petrocárya, Schreb. gen. no. 629.

Lin. syst. *Icosándria, Monogýnia.* Calyx urceolate, 5-cleft. Petals 5. Stamens about 15, commonly 3 to each petal. Ovary villous, with the stipe adhering to the calyx. Style filiform, glabrous. Drupe ovate, thick, containing a 2-celled, 2-seeded, hard nut, which is rough on the outside. Seeds covered with wool.—Trees with villous branches, and with the leaves glabrous above, but white from pubescence beneath. Flowers small, white, disposed in panicles, corymbs, or racemes. Pulp of fruit eatable, and sometimes the kernel of the nut.

Sect. I. Petroca'rya (from πετρα, *petra*, a stone; and καρυα, *karya*, a nut; in reference to the hard nut contained in the fruit). D. C. prod. 2. p. 527. Flowers disposed in corymbose branched racemes. Stamens 7-8, sterile in one side, and 7 or 8 fertile at the opposite side.—Species native of Guinea.

1 P. monta'num (Aubl. guian. 1. p. 514. t. 204 and 205.) leaves ovate, acuminated, clothed with white down beneath. ♄. S. Native of French Guiana, in woods. Petrocárya montàna, Willd. spec. 2. p. 287.—Petrocárya Brasiliénsis, Schott. The drupe is large, ovate, smooth, and fulvous, has a thick acid rind, and the nut or kernel of the tubercular putamen is sweet and edible.

Mountain Parinarium. Tree 60 to 80 feet.

2 P. campe'stre (Aubl. l. c. p. 516. t. 206.) leaves cordate, acuminated, clothed with white down beneath. ♄. S. Native of French Guiana, in woods. Drupe small, oval, yellow; putamen less echinated than in most of the species, and containing only one single, edible seed. Stipulas broad, many nerved.

Field Parinarium. Clt. 1824. Tree 30 to 40 feet.

Sect. II. Neoca'rya (*Neou*, the Senegal name of *P. Senegalénsis*, and καρυον, *karyon*, a nut; which signifies *Neou-nut*). D. C. prod. 2. p. 527. Flowers disposed in axillary and terminal panicled racemes. Stamens all fertile, disposed in one series, some of them rather concrete at the base.—Species native of Guinea.

3 P. Senegale'nsis (Perr. in litt. D. C. prod. 2. p. 527.) leaves oval, obtuse at both ends, clothed with white down be-

neath. ♄. S. Native of Senegal, where it is called *Neou*. It is therefore referrible to the *Neou Adansònii*, Juss. gen. p. 342. Racemes subspicate, hairy. Calyx ventricose on one side. Fruit unknown.

Senegal Parinarium. Tree 40 to 50 feet.

4 P. exce'lsum (Hort. trans. 5. p. 451.) leaves oblong, coriaceous, deep green above, but clothed with white pubescence beneath; racemes panicled. ♄. S. Native of Sierra Leone, where the fruit is brought to the market at Freetown, under the name of *Rough-skinned* or *Grey plum*. They are eaten by the inhabitants. It is about the size of *Imperatrice plum*, with a coarse skin of a greyish colour; the pulp is dry and farinaceous, and owing to the size of the stone is small in bulk. The negroes are very fond of the fruit. Perhaps *Mampàta Senegalénsium* of Adanson mentioned by Jussieu, in gen. pl. 342. is referrible to this species.

Tall Parinarium. Fl. Feb. Clt. 1822. Tree 50 to 60 feet.

5 P. macrophy'llum (Hort. trans. 5. p. 452.) leaves large, ovate, sessile, and cordate, green above and downy beneath; stems thickly beset with brown hairs; racemes terminal; fruit oblong, twice the size of those of the preceding species. ♄. S. Native of Sierra Leone, by the sea-side about Cape Shilling, where the fruit is called *Gingerbread-plum* by the natives, who eat its pulp; it has much the flavour and appearance of that of the preceding.

Large-leaved Parinarium. Fl. Feb. Mar. Clt. 1822. Shrub 2 to 3 feet.

Cult. For culture and propagation see *Chrysobálanus*, p. 478.

VI. GRANGE'RIA (in honour of N. Granger, a traveller in Egypt and Persia). Comm. in Juss. gen. 349. Lam. ill. t. 427. D. C. prod. 2. p. 527.

Lin. syst. *Icosándria, Monogýnia.* Calyx bluntly 5-cleft (f. 60. *a.*). Petals 5 (f. 60. *b.*), soon falling off. Stamens 15, rather unequal. Ovary woolly (f. 60. *c.*). Style lateral (f. 60. *d.*), filiform, glabrous. Drupe olive-formed, rather triquetrous (f. 60. *e.*), containing a triquetrous, 1-seeded, bony nut. Cotyledons thick and fleshy.—A tree, with stipulaceous, ovate, entire, glabrous leaves, and spicate racemes of white flowers.

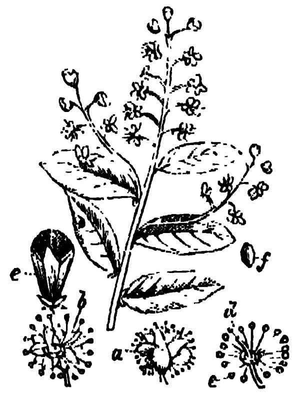
1 G. Borbónica (Lam. dict. 3. p. 21.) ♄. S. Native of the island of Bourbon. Drupe blood-coloured when young. C. buxifòlia, Smith in Rees' cycl. 16. no. 1. (f. 60.)

Bourbon Grangeria. Clt. 1823. Tree 40 to 50 feet.

Cult. For culture and propagation see *Chrysobálanus*; p. 478.

VII. LINCA'NIA (an anagram of Caligni, the Guiana name of the first species). Aubl. guian. 1. p. 119. t. 45. Lam. ill. t. 122. D. C. prod. 2. p. 527.—Hedýcrea, Schreb. gen. no. 409. Rœm. et Schult. syst. 1. p. 345. mant. 252.

FIG. 60.



Lin. syst. *Pentándria, Monogýnia.* Calyx bibracteolate on the outside, with a 5-cleft limb. Petals wanting. Stamens 5-10, opposite the calycine lobes, or only 3 from abortion. Ovary 1, in the bottom of the calyx. Style incurved, lateral? Drupe olive-formed, fleshy, containing a 1-seeded nut. Seed thick.—Small trees, with oblong acuminated leaves, which are hoary beneath, and terminal spicate racemes of small white flowers.

1 L. inca'na (Aubl. l. c.) stamens 5; style incurved; flowers in terminal spikes. ♄. S. Native of Guiana. Hedýcrea incàna, Willd. spec. 1. p. 1210. Vahl. enum. 2. p. 37.

Hairy Lincania. Shrub 4 to 5 feet.

2 L. hu'milis (Cham. in Linnæa. 2. p. 549.) stamens 10, exserted; style pilose; spikes nearly simple. ♄. S. Native of Brazil.

Dwarf Lincania. Shrub.

3 L. Turiu'va (Cham. l. c. p. 550.) stamens 10, exserted; style smooth; spikes branched. ♄. S. Native of Para, in Brazil. Hirtella Octándra, Willd. rel. in Rœm. et Schultes, syst. 5. p. 274.

Turiuva Lincania. Shrub.

Cult. For culture and propagation see *Chrysobálanus*, p. 478.

VIII. THELY'RA (meaning unknown). Pet. Th. gen. mad. no. 72. D. C. prod. 2. p. 527.

Lin. syst. *Decándria, Monogýnia.* Calyx campanulate at the base, ending in a small tube, which is adnate to the peduncle, as in *Pelargònium*. Petals 5. Stamens 10; the 6 on one side fertile, but the 4 on the other side are sterile and tooth-formed. Anthers fixed by the back, and bursting at the sides. Style lateral. Ovary 2-ovulate. Drupe? wrinkled, villous inside. Seed one, thick, exalbuminous. Cotyledons thick, unequal, plicate, the one involving the other. Radicle inferior.—Trees, natives of Madagascar, furnished with glandular bracteas.

1 T. Madagascarie'nsis. ♄. S. Native of Madagascar. None of the species are described.

Madagascar Thelyra. Tree.

Cult. For culture and propagation see *Chrysobálanus*, p. 478.

IX. HIRTE'LLA (a diminutive of *hirtus*, having been so named from the hairyness of the branches). Lin. gen. no. 86. Lam. ill. t. 138. D. C. prod. 2. p. 528.—Caùsea, Scop.—Cosmibuèna, Ruiz et Pav. fl. per. prod.

Lin. syst. *Tri-Icosándria, Monogýnia.* Calyx bluntly 5-lobed (f. 61. *a.*), usually reflexed at length. Petals 5, small (f. 61. *b.*), deciduous. Stamens 3-15 (f. 61. *c.*), many of which are abortive; filaments long, circinnately twisted inwards before the flowers expand. Style rising from the base of the ovary (f. 61. *d.*), opposite the stamens. Drupe furrowed (f. 61. *e.*), 1-celled. Seed stipitate, erect, with fleshy albumen, and a straight embryo, and leafy cotyledons (Gærtn. fruct. 3. p. 40. t. 185.)—American shrubs, with entire stipulaceous leaves, and axillary and terminal simple or compound racemes of flowers.

1 H. tria'ndra (Swartz, fl. ind. occid. 1. p. 508.) flowers triandrous; petals ovate; racemes compound, loose, terminal; rachis pubescent; leaves oblong, acuminated, glabrous. ♄. S. Native of the West Indies and New Spain, in woods. H. Americàna, Jacq. amer. p. 8. t. 8. H. paniculàta, Lam. dict. 3. p. 33. Flowers white.

Triandrous Hirtella. Clt. 1810. Tree 20 feet.

2 H. Cosmibue'na (Lam. ill. 2. p. 114.) flowers triandrous; petals emarginate; racemes compound, pubescent, axillary, and terminal; leaves oblong, acuminated, pubescent beneath. ♄. S. Native of Peru, in woods. Cosmibuèna, Ruiz et Pav. fl. per. prod. p. 10. t. 2. H. Peruviàna, Pers. ench. 1. p. 250. H. racemòsa, Ruiz et Pav. fl. per. 3. t. 227. f. B. Petals lilac.

Cosmibuen's Hirtella. Shrub 5 to 6 feet.

3 H. mollícoma (H. B. et Kunth, nov. gen. amer. 7. p. 263.) flowers triandrous; petals roundish-elliptic; panicles terminal and axillary, usually solitary, elongated, and pilose; leaves oblong, acuminated, somewhat coriaceous, acute at the base, glabrous above, and shining, but beset with soft fuscous pili beneath. ♄. S. Native of New Spain, near El Espinal at the river Magdalena. Flowers white.

Soft-haired Hirtella. Tree 20 feet.

4 H. PE'NDULA (Sol. ex Lam. dict. 3. p. 134.) flowers tetrandrous and pentandrous; racemes compound, loose, elongated, pubescent; leaves oblong-lanceolate, acuminated, cordate at the base, and rather scabrous beneath. ♄. S. Native of South America. Smith in Rees' cycl. 19. no. 3. Flowers white.

Pendulous-branched Hirtella. Shrub.

5 H. CASTA'NEA (Moc. et Sesse, fl. mex. icon. ined. D. C. prod. 2. p. 528.) flowers triandrous; petals ovate, length of the calyx; racemes terminal, and are, as well as the branches, very hairy; leaves hairy, oblong-lanceolate, rather cordate at the base, acuminated at the apex. ♄. S. Native of New Spain. Petals of a dirty whitish red colour. Stamens hardly twice the length of the petals.

Chestnut-coloured-flowered Hirtella. Shrub or tree.

6 H. RUGÒSA (Pers. ench. 1. p. 250.) flowers triandrous; petals oblong, longer than the calyx; racemes terminal, and are, as well as the branches, very hairy; leaves ovate-lanceolate, acuminated, shining above, reticulated beneath, and pilose on the nerves. ♄. S. Native of Porto-Rico and St. Thomas. H. Portoricénsis, Willd. rel. in Rœm. et Schultes, syst. 5. p. 274. Flowers white.

Wrinkled Hirtella. Shrub.

7 H. HIRSU'TA (Lam. ill. no. 2754.) flowers tetrandrous or pentandrous; racemes aggregate, compound, axillary, and terminal, and are, as well as the branches, hairy; leaves oval, acute, pilose on the nerves beneath. ♄. S. Native of Cayenne. H. paniculàta, Vahl. symb. 2. p. 13. t. 31. H. aggregàta, Poir. suppl. 2. p. 53. Stamens constantly 6 according to Meyer, nov. act. bonn. 12. p. 802.

Hairy Hirtella. Shrub or tree.

8 H. GLANDULÒSA (Spreng. anl. t. 7. f. 1-4. neuw entd. 1. p. 303.) flowers pentandrous; calyx and pedicels beset with stipitate glands; racemes compound, terminal; leaves ovate-oblong, acutish; the nerves beset with yellow hairs. ♄. S. Native of Brazil.

Glandular Hirtella. Shrub or tree.

9 H. CORYMBÒSA (Cham. in Linnæa. 9. p. 545.) flowers triandrous; corymbs compound, terminal, pubescent; leaves coriaceous, rather cordate, glabrous on both surfaces. ♄. S. Native of Brazil.

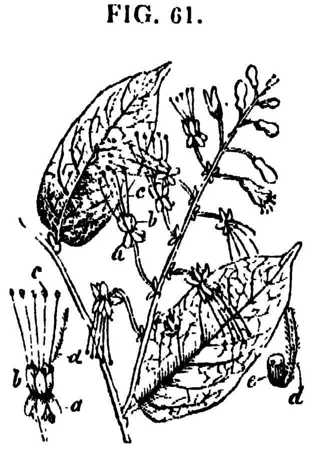
Corymbose-flowered Hirtella. Shrub.

10 H. FLORIBU'NDA (Cham. in Linnæa. 2. p. 548.) flowers octandrous or enneandrous; racemes simple, terminal, and axillary, very hairy; leaves lanceolate-elliptic, coriaceous, glabrous above, except on the nerves, but hairy beneath. ♄. S. Native of Brazil.

Bundle-flowered Hirtella. Shrub or tree.

11 H. RACEMÒSA (Lam. dict. 3. p. 133.) flowers pentandrous; calyx glandless; racemes simple, axillary, solitary; rachis and branchlets villous; leaves oblong, acuminated, glabrous above, but rather pilose or glabrous on the nerves beneath. ♄. S. Native of Guiana and Cayenne. H. Americàna, Aubl. guian. 1. p. 247. t. 98. Flowers purplish. (f. 61.)

FIG. 61.



Racemose-flowered Hirtella. Clt. 1782. Tree 20 to 30 feet.

12 H. OBLONGIFÒLIA (D. C. prod. 2. p. 529.) flowers pentandrous and hexandrous; calyx glandless; racemes simple, axillary, solitary, glabrous; leaves oblong, acuminated, glabrous. ♄. S. Native of New Spain. H. ròsea, Moc. et Sesse, fl. mex. icon. ined. Flowers red. Style glabrous.

Oblong-leaved Hirtella. Shrub or tree.

13 H. HEXA'NDRA (Willd. rel. in Rœm. et Schultes, syst. 5. p. 274.) flowers hexandrous; racemes tern, simple, hairy; leaves oblong, bluntish, glabrous but pubescent on the nerves beneath; petioles and peduncles pubescent. ♄. S. Native of South America, at the river Orinoco. H. B. et Kunth, nov. gen. amer. 6. p. 245. Flowers white.

Hexandrous Hirtella. Shrub.

14 H. HEBE'CLADA (Moric. ined. D. C. prod. 2. p. 529.) flowers hexandrous; racemes terminal, simple; branches, petioles, and nerves of leaves velvety; leaves oval, rather puberulous above, and rather hispid beneath. ♄. S. Native of Brazil. Raddi.

Hairy-branched Hirtella. Shrub.

15 H. TOMENTE'LLA (Schott, in Spreng. syst. append. p. 341.) flowers hexandrous and heptandrous; racemes terminal, clothed with ferruginous tomentum; leaves oblong, attenuated at both ends, glabrous above, but rather hairy beneath. ♄. S. Native of Brazil.

Tomentose Hirtella. Shrub.

16 H. ANGUSTIFÒLIA (Schott, in Spreng. syst. append. p. 341.) flowers heptandrous and octandrous; racemes simple, nodding, hairy; leaves cordate, linear-lanceolate, hairy on both surfaces. ♄. S. Native of Brazil.

Narrow-leaved Hirtella. Shrub.

17 H. APE'TALA (Meyer. in nov. act. bonn. 12. p. 803.) flowers enneandrous, apetalous; calyx spreading; leaves ovate-oblong, acuminated, glabrous; racemes compound, terminal. ♄. S. Native of Surinam.

Apetalous Hirtella. Shrub.

18 H. POLYA'NDRA (H. B. et Kunth, nov. gen. amer. 6. p. 246. t. 565.) flowers with 18-20 stamens, 5-petalled; panicles terminal, much branched, clothed with hoary tomentum; leaves oblong or obovate-oblong, ending in a short acumen, acute at the base, shining and glabrous above, but clothed with white tomentum beneath. ♄. S. Native on the shores of the Pacific ocean, near Acapulco. Flowers white.

Polyandrous Hirtella Shrub 10 to 12 feet.

† *Species not sufficiently known.*

19 H. SCA'NDENS (Willd. rel. in Rœm. et Schultes, syst. 5. p. 271.) flowers heptandrous; racemes axillary and terminal; leaves distinct, oblong, rounded at the base, acuminated at the apex, shining and glabrous; stems climbing. ♄. ⌒. S. Native of Brazil.

Climbing Hirtella. Shrub cl.

20 H. NEMORÒSA (Willd. rel. l. c.) flowers heptandrous; racemes terminal; leaves distich, oblong, rounded at the base, acuminated at the apex, shining and glabrous; stem erect. ♄. S. Native of Brazil. Petals yellow. Stamens violaceous.

Grove Hirtella. Shrub.

21 H. ACAYACE'NSIS (Moc. et Sesse, fl. mex. icon. ined. and mss. D. C. prod. 2. p. 529.) flowers octandrous, 4-petalled; racemes simple, villous, axillary; leaves obovate, acuminated, glabrous. ♄. S. Native of Mexico, on the mountains of Acayaca. Flowers purple.

Acayaca Hirtella. Shrub or tree.

22 H. DODECA'NDRA (Moc. et Sesse, l. c.) flowers with 12-15 stamens; racemes terminal, panicled; leaves oval-oblong, acute. ♄. S. Native of Mexico. Petals rose-coloured. Perhaps sufficiently distinct from *H. polyándra*.

Dodecandrous Hirtella. Shrub or tree.

23 H. NÍTIDA (Willd. rel. l. c.) flowers in terminal racemes,

pubescent; leaves oblong, acuminated, shining, narrow at the base. ♄. S. Native of Cuba.

Shining-leaved Hirtella. Shrub or tree.

Cult. For culture and propagation see *Chrysobálanus*, p. 478.

† *Genera which are doubtful whether they belong to the present order.*

X. LEUCO'STOMON (from λευκος, *leucos*, white, and στομα, *stoma*, mouth). Moc. et Sesse, fl. mex. icon. ined. D. C. prod. 2. p. 639.

Lin. syst. *Icosándria, Monogýnia.* Calyx 5-parted; lobes ovate-lanceolate, acute, spreading, coloured, deciduous, the lower part permanent, and bearing a circle of glands above, and stamens. Petals wanting. Stamens about 20, inserted in the calycine disk; filaments very short; anthers long, erect, fixed by the base. Ovary free, ovate, pubescent, 5-furrowed, ending in an acute filiform style. Fruit unknown.—A shrub, with oval, entire, feather-nerved leaves. Stipulas 2, subulate. Peduncles trifid, 3-flowered. Calyx brownish-purple.

1 L. terniflòrum (Moc. et Sesse, l. c.) ♄. S. Native of Mexico.

Tern-flowered Leucostomon. Shrub.

Cult. For culture and propagation see *Chrysobálanus*, p. 478.

XI. TRILEPI'SIUM (from τρεις, *treis*, three, and λεπις, *lepis*, a scale; in reference to the 3 scales situated in the calycine tube between the stamens and pistil). Pet. Th. gen. mad. no. 74. D. C. prod. 2. p. 639.

Lin. syst. *Icosándria, Monogýnia.* Calyx thick, 5-cleft, not adhering to the ovary. Petals wanting. Stamens numerous, inserted by several series in the calyx; filaments filiform. Calycine tube terminating in 3 scales between the stamens and pistil. Ovary in the bottom of the calyx, 1-seeded. Style longer than the tube, bifid at the apex. Stigmas tomentose. Fruit unknown.—A small tree, with alternate lanceolate leaves, when young wrapped round by the stipulas, which are caducous.

1 T. Madagascarie'nsis. ♄. S. Native of Madagascar.

Madagascar Trilepisium. Tree.

Cult. For culture and propagation see *Chrysobálanus*, p. 478.

Order LXXX. AMYGDALA'CEÆ (plants agreeing in important characters with *Amýgdalus*, the almond).—Amygdàleæ, Juss. gen. 340. exclusive of some genera.—Drupàceæ, D. C. fl. fr. 4. p. 479.—Rosàceæ, tribe II. Amygdàleæ, D. C. prod. 2. p. 529.

Calyx 5-toothed (f. 62. *a.* f. 64. *a.*), deciduous, lined with a disk, the fifth lobe next the axis. Petals 5 (f. 62. *a.* f. 63. *b.*), perigynous. Stamens about 20 (f. 62. *b.* f. 63. *b.* f. 64. *a.*), inserted in the throat of the calyx, curved inwards in æstivation. Anthers innate, 1-celled, bursting lengthwise. Ovary superior, solitary, simple, 1-celled. Ovula 2, suspended. Style terminal, with a furrow on one side, terminating in a reniform stigma. Seed usually solitary, suspended. Embryo straight, with the radicle pointing towards the hylum, with thick cotyledons. Albumen none.—Trees or shrubs. Leaves simple, alternate, usually glandular towards the base. Stipulas simple, mostly glandular. Flowers white or pink.—This order is distinguished from *Rosàceæ* and *Pomàceæ* by its fruit being a drupe (f. 63. *b.* f. 64. *d.*), and by the presence of Prussic acid, from *Leguminòsæ* in the equal petals and stamens; and by the fruit.

The plants contained in this order are astringent and febrifugal, as the bark of *Cérasus Virginiàna* is prescribed in the United States, and of the *Cérasus Cápollin* in Mexico. They are, however, better known for yielding an abundance of prussic-acid, a deadly principle residing in the leaves and kernels of the fruit, in consequence of which some of the species are poisonous to cattle which feed upon them, as for example *Cérasus capricìda*, which kills the goats of Nipaul, and the *Cérasus Virginiàna*, which is known in North America to be dangerous. They all of them also yield a gum analogous to Tragacanth. Notwithstanding, however, the poisonous principle that is present in them, their fruit is in many cases a favourite food, as that of *Amýgdalus* the almond, *Armenìaca* the apricot, *Pérsica* the peach and nectarine, *Prùnus* the plum, and *Cérasus* the cherry. The principle in which they abound is the basis of laurel-water, which when taken in small doses acts either as a violent purgative or as an emetic, and in larger doses is said to destroy the irritability without exciting inflammation; these properties, however, although thus dangerous in the distilled water of the laurel and other similar plants, can scarcely be said to exist in any important quantity in the plants in a state of nature. The leaves of *Prùnus spinòsa*, and *Cérasus àvium* have been employed as a substitute for tea. The bark of *Cérasus Cápollin* is used in Mexico against dysentery. The prunes of the shops are chiefly prepared from those sorts of plums called St. Catharine and green-gage, and in Portugal from a sort that derives its name from the village of Guimaraens, where they are principally dried. They contain so large a quantity of sugar, that brandy is distilled from them when fermented. The kernel of *Cérasus Brigantìaca* yields a fixed oil called Huil des Marmottes, which is used instead of olive or almond oil. The *Prùnus Cocomìlia* yields a bark the properties of which are spoken of very highly; according to Tenore it is a specific for the cure of the dangerous intermittent fevers of Calabria, where it grows. A variety of the *Cérasus àvium* is used for the preparation in the Vosges and the Black Forest of the liqueur known under the name of Kirschenwaesser. The kernel of *Cérasus occidentàlis* is used for flavouring the liqueur Noyeau.

Synopsis of the Genera.

1 Amy'gdalus. Drupe clothed with velvety pubescence (f. 62. *c.*), with a fibrous dry rind, separating irregularly, having the putamen pitted or smooth.

2 Pe'rsica. Drupe fleshy (f. 63. *b.*), glabrous or clothed with velvety down, having the putamen irregularly furrowed (f. 63. *c.*).

3 Armeni'aca. Drupe fleshy, clothed with velvety down, having the putamen obtuse at one end, and acute at the other, and surrounded by a furrow, the rest smooth, but never rugged.

4 Pru'nus. Drupe fleshy, quite glabrous, but covered with a kind of grey bloom, having a compressed putamen, which is acute at both ends, and slightly furrowed on the margin, the rest smooth.

5 Ce'rasus. Drupe globose (f. 64. *d.*), fleshy, quite glabrous, containing a smooth flattened putamen (f. 64. *f.*).

6 Polydóntia. Drupe kidney-shaped, dry, containing a 1-seeded nut. Calyx 6-parted.

I. AMY'GDALUS (from *αμυσσω*, *amysso*, to lacerate; in reference to the fissured shell of the putamen). Tourn. inst. t. 402. D. C. fl. fr. 4. p. 486. D. C. prod. 2. p. 530.—Amýgdalus species, Lin. mss.—Amygdalóphora, Neck. elem. no. 717.

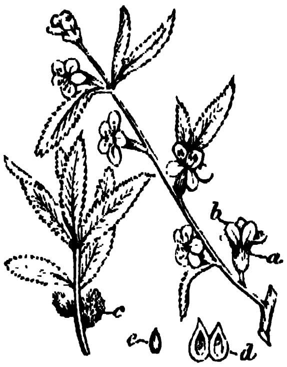
Lin. syst. *Icosándria, Monogýnia.* Drupe clothed with velvety pubescence (f. 62. c.), having a dry rind, which separates irregularly, containing a pitted or smooth putamen or nut.—Trees. Leaves conduplicate when young. Flowers nearly sessile, usually pink or rose-coloured, rising either singly or by pairs from the scaly buds earlier than the leaves. Fruit woolly.

§ 1. *Calyx cylindrically-campanulate.*

1 A. Ara'bica (Oliv. voy. t. 47.) leaves oblong-linear, obtuse, crenated; petioles short; fruit ovate-globose, solitary, ending in a short blunt acumen; putamen ovate. ♄. H. Native of Arabia. Fruit the size of a filbert.

Arabian Almond. Shrub 2 to 3 feet.

FIG. 62.



2 A. na'na (Lin. mant. 396.) leaves oblong-linear, attenuated at the base, serrated, quite glabrous; flowers solitary and rose-coloured. Fruit the form of those of *A. communis*, but much smaller. Root creeping.

Var. α, vulgàris (D. C. prod. 2. p. 530.) calycine lobes ovate, obtuse, wrinkled, shorter than the tube; style thickly clothed with tomentum, exserted. ♄. H. Native of Calmuc Tartary, very frequent on the banks of the Volga, and about Odessa. A. nàna, Pall. ross. p. 12. t. 6. Curt. bot. mag. t. 161. Mill. fig. t. 28. f. 2. Duh. arb. ed. 2. vol. 4. p. 115. t. 30.

Var. β, Geórgica (D. C. l. c.) calycine lobes lanceolate, length of the tube; style inclosed, hardly tomentose at the base. ♄. S. Native of Georgia. A. Geórgica, Desf. arbr. 2. p. 221.

Var. δ, campéstris (Ser. mss. in D. C. prod. 2. p. 530.) leaves broader; calycine lobes length of the tube; petals narrower, longer, and white; style hardly tomentose at the base. ♄. H. Native of the south of Podolia. A. campéstris, Besser. enum. p. 46. no. 1425. A. Besseriàna, Schott, in cat. hort. vind. 1818. The form of the nut is different from the other varieties according to Besser.

Dwarf Almond. Fl. March, April. Clt. 1683. Shrub 2 to 3 feet.

3 A. orienta'lis (Ait. hort. kew. ed. 1. vol. 1. p. 162. ed. 2. vol. 3. p. 195.) leaves lanceolate, quite entire, almost permanent, clothed with silvery tomentum, as well as the branches; fruit mucronate. ♄. H. Native of the Levant. A. argéntea, Lam. dict. 1. p. 103. Duham, arbr. ed. 2. vol. 3. p. 115. Flowers rose-coloured. Hardly larger than *A. nàna*.

Oriental or Silver-leaved Almond. Fl. March, April. Clt. 1756. Shrub 2 to 4 feet.

4 A. inca'na (Pall. ross. 1. p. 13. t. 7. Smith, fl. græc. t. 477.) leaves obovate, serrated, clothed with white tomentum beneath; flowers solitary; drupe compressed, pubescent. ♄. H. Native of Caucasus, and of the Levant between Smyrna and Bursa. Flowers red. Shrub spinose.

Hoary Almond. Fl. March, April. Clt. Shrub 2 feet.

§ 2. *Calyx campanulate.*

5 A. commu'nis (Lin. spec. 677.) leaves oblong-lanceolate, serrulated; flowers solitary; calyx campanulate; fruit compressed, egg-shaped, tomentose. ♄. H. Native of Mauritania, in hedges. Flowers white or rose-coloured.

Var. α, amàra (D. C. fl. fr. 4. p. 486.) style almost the length of the stamens, tomentose below; seeds bitter. Duham. ed. 2. p. 114. Flowers larger. Petals white, but rose-coloured at the base. There are varieties of this *bitter almond*, with hard and brittle shells to the nuts. 1 *Bitter almond*, with a tender shell. 2 *Bitter almond*, with a hard shell. *Amandier amer* (French).

Var. β, dúlcis (D. C. fl. fr. 4. p. 486.) leaves of a greyish green colour; flowers earlier; style much exceeding the stamens; fruit ovate, compressed, acuminated; seeds sweet; shell of putamen hard. Lam. ill. t. 430. f. 2.—Sweet almond, with a hard shell. *Amandier à petits fruits, Amandier douce.*

Var. γ, frágilis (D. C. prod. 2. p. 531.) flowers rising with the leaves; petals broader, deeply emarginate; leaves shorter; petioles thick; fruit acuminated; putamen with a fragile shell; seed sweet. A. frágilis, Hell. fl. wirceb. 1. p. 500. Flowers pale rose-coloured.—Sweet almond, with a tender shell. *Amandier des Dames.* Duham, arb. ed. 2. vol. 4. p. 113. Nois. jard. fruct. p. 7. t. 3. f. 2. Commonly called in France *Coque-molle.*

Var. δ, macrocárpa (D. C. prod. 2. p. 531.) leaves broader, acuminated, hardly cinereous; peduncles shorter, turgid; fruit larger, umbilicate at the base, but acuminated at the apex; putamen hard. Flowers whitish rose-colour, large, rising before the leaves, with broadly obcordate undulated petals.—Sweet almond, with a large fruit. *Amandier à gros fruits.* Duham. arbr. ed. 2. vol. 4. p. 112. Nois. jard. fruit. p. 7. t. 3. There are two other varieties of this. 1 Sweet-almond, with a smaller fruit and tender shell. *Amandier sultane.* 2 Sweet-almond, with a smaller fruit. *Amandier Pistache.*

Var. ε, persicoìdes (D. C. l. c) leaves almost like those of the peach; fruit ovate, obtuse, with the sarcocarp hardly succulent; putamen dark yellow; seeds sweet. Peach-almond. *Amandier pecher.* Duham. arb. ed. 2. vol. 4. p. 114. Nois. jard. fruit. p. 7. t. 3. f. 1. This variety is supposed by Duhamel to have been produced from the impregnation of the almond by the pollen of the peach.

Both the *bitter* and *sweet-almond* rise above 20 feet in height. The leaves resemble those of the peach, but the lower serratures are glandular, which has given rise to the conjecture that glandular leaved peaches have sprung more immediately from the almond than such as are without glands, as is generally the case with nectarines. Their flowers vary in colour from a fine blush to snow white. The chief distinction is in the fruit, which is flatter, with a coriaceous dry covering instead of the rich pulp of the peach and nectarine, opening spontaneously when the kernel is ripe. The *tuberes* of Pliny, Knight considers as swollen almonds, and the same with the *peach-almond*, having raised a similar variety from dusting the stigma of an almond with the pollen of a peach, which produced tolerably good fruit. (Hort. trans. 3. p. 41. t. 1.) It is mentioned by Turner in 1548, and though hardly worth cultivating in England as a fruit tree for profit, yet it is a very satisfactory thing to produce almonds of one's own growing at the dessert. The tree forms an important article in the general culture of many parts of France, Italy, and Spain. In a forward spring the blossoms often appear in February, but in this case frost generally destroys them, and they bear little or no fruit, whereas when the trees do not flower till March they seldom fail to produce fruit in abundance.

Use. The kernel of the nut is the only part used, which is tender and of a fine flavour. The sweet almonds and other varieties are brought to the dessert in a green or imperfectly ripe and also in a ripe state. They are also much used in cookery, confectionery, perfumery, and medicine. Sweet almonds used as food, Professor Martin observes, are difficult of digestion, and afford very little nourishment unless extremely well comminated.

Selection of sorts. The tender shelled is in the greatest esteem, and next the sweet and Jordan.

Propagation. The *almond* is propagated like the peach, by seed for varieties or stocks, and by budding on its own or on a plum stock for continuing varieties. Plum stocks are preferred for strong moist soils, and peach and almond stocks for dry situations.

Final planting. The trees are generally planted as standards in shrubberies, and these will sometimes in good seasons ripen their fruit, but when fruit is the object they should be trained against a west or east wall like the peach.

Mode of bearing and pruning. The *almond* tree bears chiefly on the young wood of the previous year like the apricot and peach, and in part upon small spurs on the two year old and three year old, and older branches; it is therefore pruned like these trees.

Gathering and preserving the crop. A part may be gathered when nearly ripe daily for some weeks before gathering the whole crop. This operation generally falls to be performed in September, when a part may be laid in the fruit room, and a part thoroughly dried and bedded in sand in the fruit cellar for keeping through the winter.

Medicinal properties. Almond-oil is obtained both from bitter and sweet almonds by expression. Bitter almonds have been found poisonous to dogs and smaller animals; and a distilled water from them when made of a certain degree of strength has had the same effects. The essential oil obtained by distillation is one of the most virulent poisons known. Nevertheless bitter almonds are every day used in cookery on account of their agreeable flavour. Almond-oil is supposed to blunt acrimonious humours, and to soften and relax the solids; hence its use internally in tickling coughs, pains, and inflammations, and externally in tensions and rigidity of particular parts. On triturating almonds with water, the oil and water unite together by the mediation of the albuminous matter of the kernel, and form a bland milky liquor called an emulsion, which may be given freely in inflammatory disorders. The sweet almonds alone are employed in making emulsions, as the bitter almonds impart their peculiar taste. Several unctuous and resinous substances, of themselves not mixable with water, may by trituration with almonds be easily mixed into the form of an emulsion; and are thus excellently fitted for medicinal purposes. It is a singular fact that the seeds of the bitter and sweet almonds should differ so essentially in their chemical compositions; the bitter almonds containing a deleterious principle which does not exist in the sweet almond, although found in its bark, leaves, and flowers. The existence of hydrocyanic or prussic acid, as a vegetable principle, was discovered in 1802 by Bohm in the distilled water of bitter almonds. It was also discovered in the leaves of the cherry-laurel by Schrader in the same year; in peach blossoms and leaves by Vauquelin; in cherry-water by Von Ittner, and in the bark of the bird-cherry by Jahn. In all these, and many similar substances, the acid is modified by its ultimate combination with volatile oil. Laurel-water is prepared, according to the Prussian pharmacopœia, by drawing off three pounds of distilled water from two pounds of the fresh leaves. Thomassen Von Thuessink observed it to produce immediately cheerfulness, a lower pulse, and quiet sleep. It has hitherto been chiefly recommended in melancholy with an atrabilious constitution, and in obstructions of the liver, with a viscid state of the blood. Hydrocyanic acid has recently been much used in pulmonary inflammation, asthmas, sympathetic coughs, &c. It is prepared by the apothecaries' company in London from cyanuret of mercury, hydrochloric acid, and water. Dr. Duncan, however, prefers the distilled water of bitter almonds or cherry-laurel water in these diseases, as being more manageable and less liable to decomposition. Bitter almonds consist of 100 parts of fixed oil, 54 albumen, 24 liquid sugar, 6 gum, 3 fibre, 4 pellicles, 5 water, and a little acetate acid.

Common, Sweet, and Bitter Almond. Fl. March, April. Clt. 1548. Tree 10 to 30 feet.

6 A. Cochinchine'nsis (Lour. fl. cochin. p. 316.) leaves oval, quite entire; racemes small, subterminal; calyx campanulate; fruit ovate, ventricose, acute at the apex. ♄. G. Native of Cochin-china, in woods. Corolla white. Kernel like the common almond in form and smell.

Cochin-china Almond. Tree 30 to 40 feet.

8 A. microphy'lla (H. B. et Kunth, nov. gen. amer. 6. p. 245. t. 564.) shrub much branched; leaves oblong, acute, mucronate, crenately serrated, glabrous, small; stipulas twice the length of the petioles; calycine lobes obtuse, mucronate, reflexed; stigma peltate; fruit globose. ♄. S. Native of Mexico between Pachucha and Moran on arid hills at the height of 3900 feet. Flowers small, pink.

Small-leaved Almond. Shrub 3 feet.

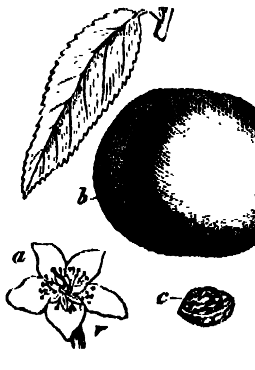
Cult. All the kinds of *almond* are very ornamental when in flower; the larger species are proper trees for the backs of large shrubberies, or to stand singly, as they make a fine appearance in spring, being in blossom before most other trees. The dwarf kinds are well fitted for small shrubberies or the fronts of large ones. All the species are increased by grafting on plum stocks, or on the bitter almond, except some of the dwarfer kinds, which may be easier increased by taking the suckers from the plants at the roots.

II. PE'RSICA (so named from the peach coming originally from Persia). Tourn. inst. t. 400. Mill. dict. D. C. fl. fr. 4. p. 487.—Amýgdalus species of Lin. and Juss.—Trichocárpus, Neck. elem. no. 718.

Lin. syst. *Icosándria, Monogýnia.* Drupe fleshy (f. 63. *b.*), with a glabrous or velvety epicarp, and having the putamen wrinkled from irregular furrows (f. 63. *c.*).—Trees. Leaves conduplicate when young. Flowers almost sessile, solitary or twin, rising from the scaly buds earlier than the leaves.

1 P. vulga'ris (Mill. dict. no. 1. D. C. fl. fr. 4. p. 487.) fruit clothed with velvety tomentum. ♄. H. Native of Persia. Amýgdalus Pérsica, Lin. spec. 677. Lam. dict. 1. p. 99. no. 1-23. and 28-42. Nois. jard. fruit. no. 1-16 and 22-35. with figures. There is a very elegant double flowered variety. The peach tree in its natural state is under the middle-size, with spreading branches, lanceolate, glabrous, serrated leaves. The flowers are sessile, with reddish calyxes, and pale or dark-red corollas; the fruit roundish, generally pointed, with a longitudinal grove; the pulp or sarcocarp large, fleshy, and succulent, white or yellowish, sometimes reddish, abounding in a grateful sweet acid juice; the stone hard, and irregularly furrowed; and the kernel bitter. The tree of quick growth, and not of long duration, blossoms in April, and ripens its fruit in August and September. Dr. Sickler considers Persia as the original country of the peach, which in Media is deemed unwholesome, but when planted in Egypt becomes pulpy, delicious, and salubrious. The peach also, according to Columella, when

FIG. 63.



first brought from Persia into the Roman empire possessed deleterious qualities, which T. A. Knight concludes to have arisen from those peaches being only swollen almonds (the *tuberes* of Pliny), or imperfect peaches, and which are known to contain the prussic acid, which operates unfavourably on many constitutions. The tree has been cultivated time immemorial in most parts of Asia; when it was introduced into Greece is uncertain; the Romans seem to have brought it direct from Persia during the reign of the emperor Claudius. It is first mentioned by Columella, and afterwards described by Pliny. The best peaches in Europe are at present grown in Italy on standards, and next may be cited those of Montreuil, near Paris, trained on lime-white walls. (Mozard sur l'Education du Pecher, &c. 1814.) In England there are but few sorts of peaches that come to tolerable perfection in the open air in ordinary seasons. The best adapted for this purpose are the *free-stones*, but all the sorts ripen well by the aid of hot-walls or glass, and may be forced so as to ripen in May and June. The tree is generally an abundant bearer; one of the *noblesse* kind is at Yokefield in Suffolk, which covers about 600 square feet of trellis under a glass case without flues, and ripens annually from 60 to 70 dozen of peaches. (Hort. trans. 3. p. 17.)

Use. The *peach* is a dessert fruit of the first order, and makes a delicious preserve. In Maryland and Virginia a brandy is made from the fruit. "The manufacture of this liquor, and the feeding of pigs, being (as Braddick observes, Hort. trans. 2. p. 205.) the principal uses to which the *peach* is applied in those countries." The leaves steeped in gin or whisky communicate a flavour resembling that of noyeau.

Criterion of a good peach. A good peach, Miller observes, possesses these qualities, the flesh is firm, the skin is thin, of a deep or bright-red colour next the sun, and yellowish green next the wall, the pulp is of a yellowish colour, full of high flavoured juice, the fleshy part thick, and the stone small.

Varieties. Linnæus divides his *Amýgdalus Pérsica* into two varieties; that with downy fruit or the *peach*, and that with smooth fruit or the *nectarine*, but in the present work the *peach* and *nectarine* have been established into a genus called *Pérsica*, and the *peach* and *nectarine* made distinct species. There are, however, various instances on record (Hort. trans. 1. p. 103.) of both fruits growing on the same tree, and even on the same branch; and one case has occurred of a single fruit partaking of the nature of both. The French consider them as one fruit, arranging them in four divisions, the *pèches* or *free-stone peaches*, the flesh of whose fruit separates readily from the stone and the skin; the *peches lisse* or *free-stone nectarines;* the *pavies* or *clingstone peaches*, whose flesh is firm, and adheres both to the stone and the skin; and the *Brugnons* or *cling-stone nectarines.* Knight (Hort. trans. 3. p. 1.), Robertson (Hort. trans. 3. p. 382.), and many other horticulturists, consider the *peach* and almond as one species. We have, however, in this work followed the established nomenclature, and treated them as distinct fruits. There are many fine varieties of the *peach*. Tusser in 1573 mentions peaches white and red; Parkinson in 1629 enumerates 21 sorts; and Miller in 1750 31 varieties. In the garden of Luxembourg at Paris are 70 varieties, and above double that number of names are to be found in the catalogues of our nurseries. Several attempts have been made to class the varieties of *peaches* and *nectarines* by the leaf and flower, as well as the fruit; the first is by M. Poiteau in the Bon Jardinier; the next by Count Lelieur in his Pomone Française; the next by John Robertson, nurseryman of Kilkenny, whose arrangement is founded on the glands of the leaves; and the fourth by George Lindley (Hort. trans. vol. 5.), also founded on the glands of the leaves; but none of these arrangements have been found sufficiently perfect for the purpose of this work.

List of the varieties of peaches.

Var. a; flesh separating from the stone, called in English *free-stones*, and in French *pèches*.

List of free-stone or melting peaches.

1 *Abricotée, abricotée à noyeau partagé, admirable jaune, grosse jaune, grosse pêche jaune tardive, d'abricot, de Burai, D'Orange, Sandalie hermaphrodite, yellow admirable.* Duham. no. 13. Leaves with reniform glands. Flowers large. Fruit large, yellow and red, ripening in the beginning or middle of October. A second-rate sort.

2 *Acton Scot.* Hort. trans. 2. t. 10. Leaves with globose glands. Flowers large. Fruit middle-sized, pale yellow, and red, ripening about the end of August. A first-rate sort.

3 *Late admirable, royal, la royale, pêche-royale, Bourdine, Boudine, Narbonne, téton de Venus, belle bausse* or *belle bauce* of some, *Judd's melting, Motteux's.* Leaves with globose glands. Flowers small. Fruit large, pale yellow and red, ripening about the end of August. This is one of the very best late peaches, and ought to be in every collection; and is very proper for a peach-house to succeed the early sorts.

4 *Early admirable, admirable, l'admirable,* (Duham. 29.) *belle de Vitry* of Bon Jardinier. Flesh white, red at the stone, ripening end of August.

5 *Yellow alberge, purple alberge, red alberge, golden mignonne, gold-fleshed, alberge-jaune* (Duham. no. 5. t. 5.), *pêche-jaune.* Leaves with globose glands. Flowers small. Fruit middle-sized, yellow and dark red; flesh yellow. Ripening about the end of August. A second-rate sort.

6 *Almond peach.* Leaves without glands. Flowers large. Fruit middle-sized, pale yellow and red, ripening about the middle of September. A second-rate sort, raised from the almond.

7 *Ansley's colonel.* Leaves with globose glands. Flowers large. Fruit large, pale yellow and red, ripening in the middle of September. A first-rate sort, resembling the Barrington.

8 *Barrington, Buckingham mignonne.* Leaves with globose glands. Flowers large. Fruit large, pale yellow and red, ripening in the middle of September. A first-rate sort, but subject to mildew.

9 *Belle Chevreuse* (Duham. t. 13.), *Chevreuse, early Chevreuse.* Leaves with reniform glands. Fruit yellow and red. Flesh yellow, excellent. Much confusion exists with regard to this sort.

10 *Belle de Vitry* (Duham.), *late admirable, bellis, admirable tardive.*

11 *Bellegarde* (Hook. t. 8.), *galand, noire de Montreuil, violette hâtive, early galand* of some, *Brentford mignonne, French royal George* (Hook. t. 41.), *smooth-leaved royal George* of some, *French violette hâtive.* Leaves with globose glands. Flowers small. Fruit large, pale green and dark red, ripening in the beginning and middle of September. A very handsome and excellent peach, succeeds *royal George* and *grosse mignonne.*

12 *Swainson's black.* Leaves with globose glands. Flowers small. Fruit dark red, middle-sized, ripening about the beginning of September.

13 *Braddick's New York* (Hort. trans. 2. t. 13.), *Braddick's South American.* Leaves with reniform glands. Flowers small, Fruit middle-sized, pale green and red, ripening in the beginning of September. A second-rate fruit.

14 *Braddick's red.* Leaves without glands. Flowers large. Fruit large, pale green and dark red, ripening end of August, and beginning of September. A large handsome peach of good quality.

15 *Braddick's summer.* Leaves with reniform glands. Flowers small. Fruit large, pale green and red, ripening about the end of August. A second-rate sort.

16 *Cambray.* Leaves without glands. Flowers large. Fruit large, pale green and red, ripening about the end of August. A first-rate sort, resembling the *Malta.*

17 *Cardinal, le cardinal, cardinal de Furstenberg.* Leaves without glands. Flowers large. Fruit large, red, ripening in October. Flesh red, like beet-root, of little merit in this climate.

18 *Green Catharine* of the Americans. Leaves with globose glands. Flowers small. Fruit middle-sized, pale green and red, ripening about the end of September. A worthless kind.

19 *Chancellor, chancellière* var. of Duham. *late chancellor, Noisette.* Leaves with reniform glands. Flowers small. Fruit large, pale yellow and red, ripening about the middle of September. A first-rate sort.

20 *Yellow chevreuse.* Leaves with globose glands. Flowers small.

21 *Craavcy's.* Leaves with globose glands. Flowers small. Fruit middle-sized, pale yellow and red, ripening about the end of September. A second-rate sort.

22 *Double-blossomed, pêcher à fleurs doubles, pêcher nain à fleurs doubles, pêcher à fleurs semidoubles.* Leaves with reniform glands. Flowers large. Fruit small, pale yellow and red. A worthless sort as regards its fruit.

23 *Double Montagne, Montagne, Montauban.* Lang. t. 28. Leaves without glands. Flowers large. Fruit like that of the *noblesse.*

24 *Early Downton.* Leaves with globose glands. Flowers large. Fruit middle-sized, pale yellow and red, ripening in the middle of August. A first-rate sort.

25 *Dunnington beauty.* Leaves without glands. Flowers large. Fruit large, pale green and red, ripening about the beginning of September. A first-rate sort, very like the *noblesse.*

26 *Early Anne* (Duham. t. 10.), *Anne, white avant* of some. Leaves without glands. Flowers large. Fruit middle-sized, white, and red, ripening in the beginning and middle of August. Earliness is the chief recommendation of this sort.

27 *Early red.* Leaves with globose glands. Flowers large. Fruit middle-sized, pale yellow and red, ripening in the end of August. A second-rate sort.

28 *Flat peach* of China (Hort. trans. 4. t. 19.) *Chinese peach, Peen-to peach, Java peach.* Leaves with reniform glands. Flowers large. Fruit small, violet green and red, ripening in the beginning and middle of September, but may be forced in pots pretty early. A worthless sort.

29 *Ford's seedling.* Leaves without glands. Flowers large. Fruit large, pale green and red, ripening about the end of August. Resembles much the *noblesse.*

30 *Steward's late galande.* Leaves with reniform glands. Flowers small. Fruit large, pale yellow and red, ripening about the middle of September. A first-rate sort, hardly differing from the *chancellor.*

31 *George the Fourth.* Leaves with globose glands. Flowers small. Fruit middle-sized, pale yellow and red, ripening about the middle of September. A first-rate sort.

32 *Hemskirke.* Leaves without glands. Flowers large. Fruit middle-sized, pale green and red, ripening about the end of August. A first-rate sort.

33 *Hoffmann's favourite.* Leaves with reniform glands. Flowers small. Fruit middle-sized, white and red, ripening about the beginning of September. A second-rate sort.

34 *Hoffmann's white.* Leaves with reniform glands. Flowers small. Fruit middle-sized, white and red, ripening in the beginning and middle of September. A first-rate sort.

35 *Incomparable en Beauté.* Leaves with globose glands. Flowers small. Fruit large, pale yellow greenish and red, ripening in the middle of September. A second-rate sort.

36 *White-blossomed incomparable, white-blossomed.* Leaves with reniform glands. Flowers large. Fruit large, white, ripening about the end of August. Singular on account of its white blossoms and pale fruit.

37 *Pêche D'Ispahan, De Perse.* Leaves without glands. Flowers large. Fruit small, greenish and red, ripening in the middle of September. A worthless kind.

38 *Kew seedling, Kew royal seedling.* Leaves with globose glands. Flowers small. Fruit middle-sized, pale yellow and dark red, ripening in the beginning of September. A second-rate sort.

39 *Knapp castle seedling.* Leaves without glands. Flowers large. Fruit large, pale green and red, ripening about the end of August. A first-rate sort, very like the *noblesse.*

40 *Knight's early, Knight's early seedling.* Leaves with globose glands. Flowers large. Fruit middle-sized, pale green and dark red, ripening in the middle of August. A first-rate sort.

41 *Low's large melting.* Leaves without glands. Flowers small. Fruit large, pale yellow greenish and red, ripening in the beginning of September. Allied to the *royal George,* larger, but not so good.

42 *Madeleine de Bollwiller.* Leaves without glands. Flowers large. Fruit middle-sized, pale green and dark red, ripening in the beginning and middle of September. A first-rate sort.

43 *Madeleine de courson* (Duham. t. 10.), *red Madeleine* of Miller, *Madeleine rouge, rouge Paysanne, French Magdalene.* Leaves without glands. Flowers large. Fruit middle-sized, pale yellow and red, ripening about the beginning of September. A first-rate sort, and a good bearer.

44 *White Magdalen, Madeleine blanche* (Duham. t. 6.), *Montagne blanche.* Leaves without glands. Flowers large. Fruit middle-sized, yellow white and red, ripening in the middle and end of August. A second-rate sort.

45 *Malta, Italian, pêche de Malte, belle de Paris, Malte de Normandie.* Leaves without glands. Flowers large. Fruit middle-sized, pale greenish and red, ripening about the end of August. A first-rate sort, hardy, and keeps well after being gathered, and bears carriage.

46 *American mignonne.* Leaves with reniform glands. Flowers small. Fruit large, pale yellow and red, ripening in the end of September. A second-rate sort; comes near the *chancellor.*

47 *Dorsetshire mignonne.* Leaves with reniform glands. Flowers small. Fruit large, pale yellow and dark red, ripening in the end of September. A second-rate sort.

48 *Grosse mignonne* (Duham. t. 10.), *Grimwood's royal George, large French mignonne, mignonne Vineuse, royal sovereign,* and 50 other names belong to this kind. Leaves with globose glands. Flowers large. Fruit large, yellow and red, ripening from the middle of August to the beginning of September. A first-rate sort, forces well, a good bearer, but does not bear carriage so well as many others.

49 *Lord Fauconberg's mignonne.* Leaves without glands. Flowers small. Fruit large, pale yellow green and red, ripening in the beginning and middle of September. A good peach, resembling the *royal Charlotte.*

50 *Petite mignonne* (Duham. t. 4.), *small mignonne, early mignonne, mignonette, double de Troyes, pêche de Troyes.* Leaves with reniform glands. Flowers small. Fruit small, pale yellow and red, ripening in the beginning and middle of August. A first-rate sort, succeeds the *brown nutmeg,* and is larger than it.

51 *Yellow mignonne.* Leaves with reniform glands. Flowers

small. Fruit small, pale green and pale red. Flesh full yellow. A second-rate sort.

52 *Morrisonia, Morrison's pound, Hoffmann's.* Leaves with globose glands. Flowers small. Fruit large, pale green and red, ripening in the beginning and middle of September. One of the best of the American sorts.

53 *Mountaineer.* Leaves with globose glands. Flowers large. Fruit large, pale yellow and red, ripening in the beginning of September. A first-rate sort. Fruit sometimes partly smooth, in consequence of its having been raised between the *red nutmeg peach* and *violette hâtive nectarine.*

54 *Nain pêcher, pêcher nain d'Orleans, dwarf Orleans, pot peach.* Leaves without glands. Flowers large. Fruit pale green and yellow.

55 *Nivette, nivette veloutée, veloutée tardive, Dorsetshire.* Leaves with globose glands. Flowers small. Fruit large, pale green and red, ripening in the middle of September. A first-rate sort, very like the *late admirable.*

56 *Noblesse* (Hook, t. 2.), *Mellish's favourite, vanguard.* Leaves without glands. Flowers large. Fruit large, pale green and red, ripening end of August and beginning of September. This is one of the very best peaches, either for forcing or the open wall.

57 *Red nutmeg, brown nutmeg, early red nutmeg, avant rouge, avant pêche de Troyes* (Duham. t. 3.), *red avant.* Leaves with reniform glands. Flowers large. Fruit small, pale yellow and dark red, ripening about the end of July. A second-rate sort.

58 *White Nutmeg, early white nutmeg, avant blanche* (Duham. t. 2.), *white avant.* Leaves without glands. Flowers large. Fruit small, white, ripening middle of July. Has little merit, except that of being the earliest.

59 *Ord's peach.* Leaves with reniform glands. Flowers small. Fruit large, yellow green and red, ripening beginning and middle of September. A second-rate sort, allied to the *chancellor.*

60 *Purprée hâtive, early avant* of some. Leaves with reniform glands. Flowers large. Fruit middle-sized yellow white, and red, ripening end of August. A good peach, as large as the *grosse mignonne* and earlier, but more tender.

61 *President.* Leaves with globular glands. Flowers small. Fruit large, pale yellow greenish and red, ripening middle and end of September. Though a good late peach, yet inferior to the *late admirable.*

62 *Early yellow, rare ripe, yellow rare ripe.* Leaves with reniform glands. Flowers small. Fruit middle-sized, yellow and red. Flesh yellow. A worthless sort.

63 *White luscious rare ripe.* Leaves with reniform glands. Flowers small. Fruit middle-sized, pale green and red, ripening middle of September. A second-rate sort.

64 *Rosanne, petite Rosanne, alberge jaune* (Duham. t. 5.), *pêche jaune, Saint Laurent jaune.* Leaves with reniform glands. Flowers small. Fruit middle-sized, yellow and dark red, ripening middle of September. A second-rate sort.

65 *Royal Charlotte, early purple of Kew, Madeleine rouge tardive, Madeleine rouge à petites fleurs, Madeleine rouge à moyennes fleurs, Lord Nelson's, new Royal Charlotte, Grimwood's Royal Charlotte.* Leaves without glands. Flowers small. Fruit large, pale green and dark red, ripening beginning of September. An excellent sort. Allied to the *Royal George.*

66 *Royal George* (Hook, t. 41.) *Millet's mignonne, red Magdalen, French chancellor, Lockyer's mignonne, early Royal George.* Leaves without glands. Flowers small. Fruit pale green white and red, large, ripening about the end of August. A first-rate sort, well known and much cultivated, forces and bears well, but subject to mildew.

67 *Royal George mignonne, new Royal George mignonne.* Leaves without glands. Flowers small. Fruit large, pale yellow white and red. A first-rate sort, ripening about the beginning of September.

68 *Melting sanguinole.* Leaves with reniform glands. Flowers loose. Fruit large, ripening about the end of September. A second-rate sort.

69 *Pitmaston sanguinole.* Leaves with reniform glands. Flowers large. Fruit dark red, small, ripening end of September.

70 *Spring-grove.* Leaves with globose glands. Flowers large. Fruit middle-sized, pale green and red, A first-rate sort, ripening about the beginning of September.

71 *Persian spring-grove.* Leaves without glands. Flowers large. Fruit middle-sized, pale green and red. A first-rate sort, ripening about the beginning of September.

72 *Southampton.* Leaves without glands. Flowers large. Fruit large, pale green and red. A first-rate sort, very like the *noblesse*, ripening about the end of August.

73 *Sweet water, early sweet water.* Leaves without glands. Flowers large. Fruit middle-sized, pale green and red. A second-rate sort, ripening about the end of August.

74 *Twyford's, Holmes's, Rickett's.* Leaves without glands. Flowers large. Fruit large, pale green and red. A first-rate sort, ripening about the beginning of August. Resembles the *noblesse* and is probably a seedling from it.

75 *Williams's early purple, Williams's seedling.* Leaves without glands. Flowers small. Fruit pale green and dark red, large. A first-rate sort, ripening in the end of August.

Var. β; flesh adhering to the stone, called in English *clingstones*, and in French *pavies.*

List of Cling-stone peaches.

1 *Blood clingstone, claret cling-stone.* Leaves without glands. Flowers large. Fruit middle-sized, dark red, ripening in October.

2 *Braddick's North American, Braddick's American, Braddick's American yellow, American clingstone.* Leaves with globose glands. Flowers small. Fruit large, yellow and red. Flesh yellow, firm, and coarse. A worthless sort, ripening in September.

3 *Kennedy's Caroline.* Leaves with reniform glands. Flowers small. Fruit middle-sized, yellow and red. Flesh yellow. A second-rate sort, ripening about the end of September.

4 *Catharine* (Lang. t. 33.). Leaves with reniform glands. Flowers small. Fruit large, pale green and red, ripening about the end of September. This is one of the best late *clingstone peaches.*

5 *Williams's Catharine.* Leaves with reniform glands. Flowers small. Fruit pale green and red, large, Very like the *Catharine*, but ripening later.

6 *Catline.* Leaves with globose glands. Flowers small. Fruit middle-sized, pale yellow and red, ripening about the end of September. A second-rate sort.

7 *Congress.* Leaves with reniform glands. Flowers small. Fruit large, pale yellow and red. A second-rate sort, ripening end of September. Resembles the *Catharine.*

8 *Cooper's early.* Leaves with globose glands. Flowers small. Fruit middle-sized, pale yellow and red. A worthless sort, ripening about the end of September.

9 *Golden purple.* Leaves with reniform glands. Flowers small. Fruit middle-sized, yellow and dark red. A worthless sort, ripening about the middle of September.

10 *Heath, fine heath, heath clingstone, red heath.* Leaves with reniform glands. Flowers small. Fruit large, pale yellow

and red, ripening in October. In a good season this is one of the very best late *clingstone peaches.*

11 *Incomparable, pavie admirable.* Leaves with reniform glands. Flowers small. Fruit large, pale yellow and red, ripening about the beginning of October. It is a larger sort than the *Catharine,* but not so good.

12 *Lemon clingstone.* Leaves with reniform glands. Flowers small. Fruit large, yellow and red. Flesh yellow, like that of the two following; all three are esteemed in America for sweetmeats. All ripen about the end of September.

13 *Hoyte's lemon clingstone.* Leaves with globose glands. Flowers small. Fruit large, yellow and dark red. A second-rate sort.

14 *Kennedy's lemon clingstône.* Leaves with reniform glands. Flowers small. Fruit large, yellow and red. *Kennedy's Carolina clingstone, pine-apple clingstone, pine-apple, large yellow pine-apple, red mallacoton.*

15 *Old Newington, Newington.* Leaves without glands. Flowers large. Fruit large, pale green and red, ripening about the middle of September. Very good as a *clingstone peach.*

16 *Smith's Newington, early Newington, Newington.* Leaves without glands. Flowers large. Fruit middle-sized, pale green and red. A second-rate sort, ripening about the end of August.

17 *Newington of the Americans.* Leaves with globose glands. Flowers small. Fruit large, pale yellow and dark red, ripening about the end of September. Unworthy of cultivation.

18 *Pavie de Pompone, pavie de Pompone grosse, monstrous pavie of Pompone, gros Persèque rouge, gros melecoton, pavie monstrueux, pavie rouge de Pompone, pavie rouge, pavie camu.* Leaves with reniform glands. Flowers large. Fruit large, yellow and dark red. A second-rate sort, ripening middle and end of October, but will not ripen, unless in a warm season and good situation.

19 *Persique, persèque, gros persèque, persèque allongée.* Leaves with reniform glands. Flowers small. Fruit large, yellow and red, ripening in October. Requires a warm soil and situation. A second-rate sort.

20 *Portugal, Alberge* of some. Leaves with reniform glands. Flowers small. Fruit large, pale yellow and red. A white-fleshed late *cling-stone,* ripening about the end of September.

21 *Sanguinole à chair adherente.* Leaves with reniform glands. Flowers large. Fruit middle-sized, dark red, ripening about the end of October.

22 *Tonbridge.* Leaves with globose glands. Flowers small. Fruit middle-sized, yellow and dark red. A hardy sort, ripening about the end of September.

23 *Washington cling-stone.* Leaves with reniform glands. Flowers small. Fruit middle-sized, pale yellow, greenish and red. An useless sort, ripening about the middle of September.

† *Peaches not well known, but none of them are probably worth notice.*

1 *Scarlet admirable, dragon.* 2 *Aster's.* 3 *Avant pêche jaune.* 4 *Bear's early, Bear's early avant.* 5 *Belle de Beaucaire.* 6 *Belle chevreuse, chevreuse, early chevreuse.* A *free-stone.* Leaves with reniform glands. 7 *Belle Tellemont.* 8 *Belle de Vitry* of Duhamel. *Late admirable, bellis, admirable tardive.* 9 *Early Bourdine.* Leaves without glands. Flowers small. 10 *Bourdine royale.* 11 *Burchell's early.* 12 *Brevort's seedling,* a free-stone peach. 13 *Large early Burlington.* 14 *Chancellière, veritable chancellière à grandes fleurs.* 15 *Chevreuse d'Italie.* 16 *Late chevreuse, chevreuse tardive, Pourprée.* 17 *Cothelstone's seedling.* 18 *Double swalsh, swalze,* or *swolze, swalch, Dutch.* 19 *Early red cling-stone.* 20 *Early sweetwater.* 21 *Early de Tours.* 22 *Edgar's late melting.* 23 *Emperor of Russia, serrated, unique.* 24 *Favorite large red cling-stone.* 25 *Fuller's galande.* Leaves with globose glands. Flowers small. 26 *New galande.* 27 *De Gloria.* 28 *Grandeville.* Leaves without glands. Flowers large. 29 *Grande monarque.* Leaves with reniform glands. Flowers small. 30 *Grosse de Vitry.* 31 *Langier.* 32 *Large early.* 33 *Late purple, pourprée tardive.* 34 *Gough's late red.* 35 *Largest lemon.* 36 *Limon.* 37 *Mammoth, sachamoona.* 38 *Cobb's mignonne.* Leaves with globose glands. 39 *Earliest mignonne.* Leaves with globose glands. Flowers small. 40 *Mignonne hâtive.* Leaves with globose glands. Flowers small. 41 *Large-fruited mignonne.* Leaves without glands. Flowers large. 42 *Purple mignonne.* 43 *Royal mignonne.* 44 *Woburn early mignonne.* Leaves without glands. Flowers large. 45 *Morris's red free-stone.* 46 *Morris's white free-stone.* 47 *New cut-leaved.* 48 *New York white cling-stone.* 49 *New serrated.* 50 *Early noblesse.* 51 *Noblesse of Oatlands.* Leaves without glands. Flowers large. 52 *Seedling noblesse.* 53 *Pitmaston seedling noblesse.* 54 *Early yellow nutmeg.* 55 *Period's early nutmeg.* 56 *Oldmixon.* 57 *Pavie.* Leaves with globose glands. Flowers large. 58 *Pavie de Jalagnier.* 59 *Pavie jaune.* 60 *Philadelphia free-stone.* 61 *Port Royal.* Leaves without glands. Flowers large. 62 *Pourprée grosse.* 63 *Pourprée hâtive, early avant* of some. 64 *Veritable pourprée hâtive, du vin, early purple, true early purple.* 65 *La pourprée, pourprée tardive* of the French. 66 *Queen Caroline.* 67 *Ramboullet, Rambullion* (Lang. t. 33.) a free-stone peach. 68 *Red rare-ripe.* 69 *White rare-ripe.* 70 *New white rare-ripe.* 71 *Ronde de Vallabreques.* 72 *Saint Fagus.* 73 *Sanguinole, bloody, Batterave, drusette.* Flesh like red beet, used for preserves, as are also other varieties of *sanguinole.* 74 *Scarlet Anne.* Leaves without glands. Flowers large. 75 *De Sernach.* 76 *Superb.* 77 *Tein-doux.* 78 *Transparente ronde.* 79 *Grosse violette hâtive.* Leaves with globose glands. Flowers small. 80 *Washington.* 81 *Wellington.* 82 *Williams's New York.* 83 *Witham's seedling.* Leaves without glands. Flowers large. 84 *Yellow peach.*

* *Culture of the peach in the open air.*

Selection of sorts. Abercrombie says, " except the situation be completely favourable as to climate, aspect, and shelter, forbear to plant very early or extreme late fruit, for frost will almost invariably cut off the former, when blossoming and setting, and the latter will hardly ripen under the declining heat of autumn." The peaches proper for a small garden, according to Forsyth, are; the *early avant, small mignonne, Anne, Royal George, Royal Kensington, noblesse, early Newington, Galande, early purple, chancellor, nivette, Catharine,* and *late Newington.* The peaches in the duke of Buccleuch's garden at Dalkeith, and which ripen in the order in which they are placed, are as follows; those marked † are planted against a hot wall. 1 *Early nutmeg.* 2 *Early Anne.* 3 *Red Magdalene.* 4 *Royal George.* 5 *Grimwood's Royal George.* 6 *Noblesse.* 7 *Galande* †. 8 *Bellegard* †. 9 *Montauban* †. 10 *Miller's mignon* †. 11 *Smith's early Newington* †. 12 *Chancellor* †. 13 *White Magdalene.*

Propagating to procure new varieties.—The peach is raised from the stone; and this mode is pursued in North America, even for procuring trees for common purposes. The peaches called *Acton-Scot* and *Spring-grove* were thus originated; the parent trees were dwarfs planted in large pots; these being brought into a state of vigorous health, the pistils of the blossoms of one sort were impregnated with the pollen of another; only 3 peaches were suffered to remain on each tree; and from sowing the stones of these the above-mentioned peaches and other varieties were produced; the male parent of the latter was the large French mignon, and the female the little red nutmeg, which choice is consistent with the general principle, that the most perfect and vigorous offspring will be obtained of plants as of animals, when the male and female parent are not too closely related to each other. Some excellent papers on this subject will be found in the Hort. Trans. vol. 1. by T. A. Knight.—The *peach* does not, like many other species of fruits, much exercise the patience of the gardener who raises it from the seed; for it may always be made to bear when 3 years old. In prosecuting such experiments, Mr. Knight recommends the seedling *peach* trees to be retained in pots, and buds from them only to be inserted in older trees; for their rapid and luxuriant growth is extremely troublesome on a wall, and pruning is death to them. Mr. Knight, by leaving on the lateral branches near the extremities of the shoots, and by exposing the leaves as much as possible to the sun, in order to promote the growth and ripening of the wood, procured blossom-buds the first year from seed.

Propagation to perpetuate varieties.—The *peach* is generally budded on Damask-plum stocks, and some of the more delicate sorts on apricot stocks, or old apricot trees cut down, or on seedling peaches, almonds, or nectarines. Knight recommends growing almond stocks for the finer nectarines and apricots, as likely to prevent the mildew, and as being allied to the *peach*. He says, "almond stocks should be raised and retained in the nursery in pots, as they do not transplant well." Perform the budding in July and August, in the side of the stock, one bud in each: they should be inserted near the bottom for the principal wall-trees, and at the height of 3 or 4 or 5 feet for riders. The bud will shoot the following spring, and attain the length of 3 or 4 feet in the summer's growth. After the budded trees have ripened the first year's shoot, they may either be planted where they are to remain, or be trained in the nursery for 2, 3, or 4 years, till in a bearing state. Whether the plants be removed into the garden at a year old, or remain longer in the nursery, the first year's shoot from the budding must be headed down, either early in June the same year, to gain a season, or in March following, to 4, 5, or 6 eyes, to produce lateral shoots, with 1 upright leader to begin the formation of the head in a fan-like expansion; the second year's shoot should also be shortened to a few eyes at the return of June or March; and those also of the third year in such degree as may seem expedient.

Soil.—A good soil for *peach* trees, according to Abercrombie, "is composed of 3 parts mellow unexhausted loam, and 1 part drift sand, moderately enriched with vegetable mould. If the soil be lean and poor, and at the same time light, have the borders improved by decomposed dung and fertile mellow earth; if the ground be strong and heavy, add some light earth or dung; if very gravelly, remove the grossest part, excavating to the proper depth, and in the same proportion apply a compost as above. Let the soil be made good to the depth of 30 inches or 3 feet. The nectarine wants the warmer, richer, and deeper soil, if any difference be made. Bad cold ground or an exhausted mould, is often the cause of the trees gumming." Forsyth says, "*Peaches* require a lighter soil than pears and plums, and a light mellow loam is best."

Choice of plants.—Abercrombie, Forsyth, Nicol, and most authors agree in recommending the choice of trees, 2, 3, or 4 years trained. Forsyth says they should be procured in the latter end of October or beginning of November, as soon as the leaf begins to fall.

Final planting.—The *peach* is almost universally planted against walls in Britain; in some few warm situations they have been tried as dwarf standards or as low espaliers, covering with mats in spring to protect their blossoms. Early autumn planting is best on dry soils. Spring planting may be successfully performed in February and March, but the sooner the better, that the trees may take root immediately before the dry warm weather commences.

Mode of bearing.—"All the varieties of the *peach* and *nectarine* bear the fruit upon the young wood of a year old; the blossom-buds arise immediately from the eyes of the shoots. The same shoot seldom bears after the first year, except on some casual small spurs on the two years wood, which is not to be counted upon. Hence the trees are to be pruned as bearing entirely on the shoots of the preceding year, and a full supply of every year's shoots must be trained in for successional bearers the following season."

The summer pruning.—In May and June, and occasionally in the succeeding months, is to regulate the shoots of the same year, and to prevent improper growths by rubbing off the buds. Pinch off fore-right buds or shoots, and pinch off or cut out, ill placed, very weakly, spongy or deformed shoots, and very strong luxuriant growths, retaining a plentiful supply of good lateral shoots in all parts of the tree, and leaving a leader to each branch. Let them mostly be trained in at full length all summer, about 3 inches asunder for next year's bearers, and divest them of any lateral twigs, to prevent a thicket-like intricacy, and to promote a healthy fruitful growth in the shoots left. In the course of the summer regulation, if any partial vacancy occurs, or should a young tree under training want an additional supply of wood, shorten some conveniently placed strong shoot in June to a few eyes, to furnish a supply of laterals the same season.

The winter-pruning may be performed at the fall of the leaf, and thence, according to some professional writers, at any time in mild weather until spring. It should be completed in February, or early in March, before the blossom-buds are considerably advanced, which are distinguishable by being round, plump, and prominent, while the leaf and shoot-buds are oblong and narrow. There is some advantage in pruning when the blossom-buds can be certainly known. Retain in all parts of the tree a competent supply of such regular grown shoots of last year as are apparently fruitful in blossom-buds. Most parts of these should be shortened, not indiscriminately, but according to their strength and situation; the very strong shoots should be left longest, being topped about one-fourth or one-third of their length; shoots of middling vigour reduce one-third or one-half, and prune the very weak to 2 or 3 buds. Always cut at a shoot-bud, to advance for a leader; sometimes a shoot-bud lies between a twin blossom-bud; cut half an inch above the bud. As many new shoots as will lay from 3 to 6 inches asunder may be deemed a competent supply for next year's bearers. Cut out quite close the redundant, irregular, and other improper shoots; remove or reduce some part of the former bearers of the two preceding years; cutting the most naked quite away, and others down to the most eligible younger branch or well-placed shoot. Also take out all diseased and dead wood, retaining young where necessary to fill a vacuity. In cold and late situations, T. A. Knight recommends a mode of pruning adapted to obtain fruit-bearing spurs on the *peach*, and these spurs he finds best calculated in such situations and late seasons to generate well organised and vigorous blossoms. "Instead of taking off so large a portion of the young shoots, and training in a few only, to a considerable length, as is usually done, and as I should myself do, to a great extent in the vicinity of London, and in every favorable situation, I preserve a large number of the young shoots, which are emitted in a proper direction, in early spring by the yearling wood, shortening each where necessary, by pinching off the minute succulent points, generally to the length of 1 or 2 inches. Spurs which lie close to the wall are thus made, upon which numerous blossom-buds form very early in the ensuing summer. It is only in cold and late situations that the mode of management above suggested is recommended. The spurs must not be shortened in the winter or spring till it can be ascertained what parts of them are provided with leaf-buds." In a very cold and elevated situation, C. Harrison (Hort. trans. 2. p. 14.) prunes and nails his *peach* and *nectarine* trees in December and January, taking away two-thirds of the young shoots; and in two hand-dressings in May and July, he leaves the lowest and weakest shoots for a succession in the year following, pinching off the leading and other shoots. The chief rule which he follows, is never to allow the shoots that are left for bearing fruit to run to any length from the strong wood, for which reason, when the trees are pruned in autumn, the bearing branches for the next year are shortened, taking care not to leave more fruiting-buds than he thinks will come to perfection.

Training.—The *peach* is almost universally trained in the fan-manner, either straight-lined or wavy, though some allege that it bears better in rich soils, when two leading branches are encouraged, and the bearing shoots trained outwards from these, so as to form a sort of horizontal training.

Thinning the fruit.—" In favorable seasons the blossoms often set more fruit than the trees can support, or than have room to attain full growth, and if all were to remain it would hurt the trees in their future bearing, therefore they should be timely thinned, when of the size of large peas or half-grown gooseberries. There should be a preparatory thinning before the time of stoning, and a final thinning afterwards, because most plants, especially such as have overborne themselves, drop many fruit at that crisis. Finish the thinning with great regularity, leaving those retained at proper distances, 3, 4, or 5 on strong shoots, 2 or 3 on middling and 1 or 2 on the weaker shoots, and never leaving more than one peach at the same eye. The fruit on weakly trees thin more in proportion."—*Abercrombie.*

Renovating old decaying trees.—Head down, and renew the soil from an old upland pasture, and if the bottom of the border is moist, or if the roots have gone more than 2 feet downwards, pave the bottom, or otherwise render it dry, and impervious to roots at the depth of 20 inches or 2 feet from the surface. This plan will be found almost universally successful, in restoring sufficient vigour to resist insects and diseases, and produce abundance of fruit.

Protecting the blossoms.—This may be done by various modes. Forsyth recommends old netting as the best covering. C. Harrison protects his trees from the frost in the month of January by branches of broom; these are previously steeped in soap-suds mixed with one-third of urine for 48 hours, in order to clear them from insects, and when dry are disposed thinly over the whole tree, letting them remain on only until the trees begin to break into leaf. At the time of the blooming and setting of the fruit, he applies cold water in the following manner, viz. if, upon visiting the trees before the sun is up in the morning after a frosty night, he finds there is any appearance of frost on the bloom or young fruit, he waters the bloom or young fruit thoroughly with cold water from a garden-engine, and he affirms that even if the blossoms or young fruit are discoloured, this operation recovers them, provided it be done before the sun comes upon them. Dr. Noehden remarks, Hort. trans. vol. 2. " that this operation of watering before sun-rise, in counteracting the frost, seems to produce its effect in a manner analogous to the application of cold water to a frozen joint or limb, which is injured by the sudden application of warmth." J. Carr, of St. Ann's, near Leeds, protects his blossoms by retardation; and the means used are, detaching the branches of the trees from the walls in autumn, and not refixing them till late in the spring, when the blossoms are about to expand. In addition to unfastening the trees, a wedge is put in behind the main stem to throw it forward, in order that the tree may receive as little protection from the wall as possible. (*Caled. mem.* 3. *p.* 25.)

Ripening peaches on leafless branches.—Whenever the part of the bearing branch which extends beyond the fruit is without foliage, the fruit itself rarely acquires maturity, and never its proper flavour and excellence. This Knight conjectures to be owing to the want of the returning sap, which would have been furnished by the leaves, and he proved it experimentally by inarching a small branch immediately above the fruit. The fruit in consequence acquired the highest degree of maturity and perfection. (*Hort. trans.* 2. *p.* 25.)

Insects and diseases, &c.—The leaves of the *peach* tree are liable to the attacks of the acarus, its greatest enemy, and also to be devoured by the chermes, aphis, and even a much smaller insect, the thrips. These are to be kept under by the usual means of watering over the leaves, and fumigation with tobacco smoke. The honey-dew, mildew, gum, and canker are chiefly to be kept under by regimen; dusting with sulphur has been found to destroy the mildew, but the only certain way of remedying it is by a renewal of the soil, which will commonly be found old mould long in use and too rich, and by abundance of air. J. Kirk (Caled. hort. mem. 4. p. 159.) has tried renewing the soil for 50 years, and always found it an effectual remedy.

The young wood of the *peach* tree is liable to be covered with black spots or blotches, which Kenment proved to be produced by over rich soil (Caled. hort. mem. 2. p. 79 and 80.). The fruit, when ripe, is very liable to the attacks of the wasp, the large fly, and especially the earwig, &c., the two first may be excluded by nets, or enticed by honied bottles, and the latter caught by the beetle-trap, reeds or bean-stalks laid in behind the leaves, and examined every morning.

Gathering.—Use the peach-gatherer, and gather one day or two before the fruit is to be used, and before it be quite ripe, laying it on clean paper in a dry airy part of the fruit-room.

Use of hot walls.—The ripening of the *peach* may be accelerated in the open air, when planted against a hot wall, by the application of gentle fires in cold moist weather, in August and September. This will ripen the fruit and wood; but no attempt should ever be made to accelerate the blossom early in spring, as without the protection of glass they are almost certain of being cut off.

* * *Culture of the Peach-house.*

Soil.—Abercrombie uses the same soil as for those grown in the open air. The border or bed to be 30 inches or 3 feet deep. The *nectarine* wants the warmer and richer and deeper soil, if any difference be made. The soil for *peaches* that are forced, M'Phail recommends to be, " fine, loamy, well prepared earth, of a medium texture, neither very light nor of a strong binding quality, well mixed with some good manure. The border to be 4 feet deep and so broad that the roots cannot get into a bad soil" (Gard. Rem. 18.). The bottom of the border being made comfortable by draining and paving, if not naturally dry. Nicol directs the breadth of the border to be the width of the house within, and to the extent of 10 or 12 feet without. The average depth 30 inches at the least; but if a yard it would not be too much. The soil to be thus composed: three-fourths strong loam, one-eighth part of light sandy earth, and an eighth part of rotten stable-yard dung, with a competent quantity of lime and marl, all being properly mixed before planting.—*Kal. p.* 291.

Choice of sorts.—Select from the catalogue given, according to quality. The following list is given by Abercrombie as the most proper for forcing:—

* *Cling-stones.*

1 *Late admirable.* *2 *Old Newington.* 3 *Portugal.* 4 *Golden.* 5 *Catharine.* 6 *Pavie de Pompone.*

* * *Free-stones.*

7 *White Nutmeg.* 8 *Grosse Mignonne.* 9 *Belle Chevreuse.* 10 *White Magdalen.* 11 *Red Magdalen.* 12 *Double Montagne.* 13 *Chancellor.* 14 *Early Admirable.* 15 *Malta.* 16 *Royal George.* 17 *Noblesse.* 18 *Late Admirable.* 19 *Late Purple.*

M'Phail says, " The names of the *peach* trees fit for forcing are the *Magdaleine, Double Montagne, Royal George,* and *Noblesse.* Nicol recommends the following:—1 *Red Magdalen.* 2 *White Magdalen.* 3 *Royal George.* 4 *Noblesse.* 5 *Double Montagne.* 6 *Early Admirable.* 7 *Late Admirable.* 8 *Late Purple.* 9 *Grosse Mignonne.* 10 *Smith's Newington.* 11 *Early purple, and orange.*

Choice of plants. " Before a house for forcing *peaches* and *nectarines* be built," M'Phail observes, " trees to plant in it had best be got in readiness, and if they be growing on the premises it will be an advantage. If it can be avoided, no tree should be planted in a forcing-house until the fruit of it has been seen and tasted. The trees should be well trained ones, 4 or 5 feet high; indeed, it is of no consequence what their age be, provided they are healthy, well rooted, and in a bearing state; and if they have been transplanted several times since they were budded, they will be the fitter for transplanting again; and if the work of taking them up and of planting them in the peach-house be carefully and methodically done, the trees, by their removal, will be but little retarded in their growth. When every thing in the forcing-house is got in readiness for the reception of the trees, loosen them from the wall to which they were fastened with nails and shreds, and dig a wide semi-circular trench, 4 feet distant from the stem of each tree, and a little deeper than their spreading roots, then, by little and little, with a pointed stick, work the earth out among their roots, taking care to break as few of them as possible. In this manner the roots of the plants are to be divested of earth in a careful manner, so as to undermine the stem, that the tree may be lifted out of its place without straining the roots of it. Having holes previously prepared, about 8 or 10 inches deep and 4 feet wide, set the trees into them one after another, training their roots out in a regular horizontal manner at full length, and after let the ends of the roots be cut, so as to take the ruggedness off, cover them not deeper than about 6 inches at their extremities, and at the stem of the tree about 4 inches. Clean healthy dwarfs, that have been one or two years trained, Nicol prefers to older plants, and riders three and even four years trained; because, being temporary, it is desirable to have them produce fruit as soon as possible, for if the dwarfs thrive, the former will have to be removed in three or at most in four years. In a house 35 feet long, 3 dwarfs should be planted, and in a house 35 or 40 feet, 4 dwarfs; in both cases with riders between them."—*Kal.* 323.

Situation of the plants in the house.—Permanent occupants, intended to be forced early, Abercrombie plants in a front border, training them on a trellis just under the roof. In late forcing-houses, he trains them to an upright trellis near the back wall. M'Phail plants so as to train under the glass, and Nicol's practice concurs with that recommended by Abercrombie.

For a late peach-house, dwarfs should be planted in front, to be trained about half-way up the roof; and dwarfs, with riders between them, against the back wall, to be trained to the top. In this case, the trees on the back trellis would not be shaded by those in front, provided they are not trained to more than half way up the sloping-glass; and thus the greatest possible extent of unshaded surface, and the greatest quantity of unshaded fruit may be obtained. A house planted in this manner, about 40 or 45 feet in length, may have 4 dwarfs in front, and 4 dwarfs and 5 riders at back, and when in a full bearing state would produce a large quantity of nectarines and peaches. If only 30 or 34 feet in length, 3 dwarfs in front and 3 dwarfs and 4 riders at back, would be trees enough to fill it.—*Pract. gard.*

Season of planting.—Abercrombie recommends November and December as preferable, if not February and March; which practice is also agreeable to that of Nicol.

Training.—All seem agreed in recommending fan-training for *peaches* and *nectarines*, which being the simplest and most natural training, is always to be preferred.

Pruning.—This, according to Abercrombie, may be performed at the fall of the leaf, but should be completed before the blossom-buds are considerably advanced. M'Phail says the best season is in the spring, when the blossom-buds can be distinguished. In the case of a newly-planted house, Nicol heads down the maiden plants, or cuts the trained trees about the end of March or beginning of April. With respect to the dwarfs, the shoots on the lower branches should be cut back to 2 or 3 buds, that the trellis may be furnished from the bottom with young wood. The shoots on the upper or further extended branches may be shortened back to half or one-third of their lengths, according to their strength, provided they have been well ripened, and are free from canker; but if the tree be anyways diseased, let them be cut so far back as to get rid of the cankered or mildewed part, but it would be adviseable that no diseased tree should be planted, unless of a particular kind that cannot be easily obtained. The riders need not be headed so much in as the dwarfs, the object being rather to throw them into a bearing state than to cause them to push very strong shoots, which would not be fruitful. If they make moderately strong shoots, and if these be well ripened in autumn, a good crop may be expected on them next year. Let the young shoots be laid in, as they advance, at the distance of about 9 inches from each other, that is of the dwarfs; those of the riders may be laid in considerably closer, it not being intended they should grow so vigorously as those of the dwarfs. In a bearing-house the winter pruning is supposed to take place in November, and if the summer shoots have been regularly trained and laid in at the distances of 9 inches in the dwarfs, and rather less in the riders, they will not require much pruning at this time. A few of the shoots may be shortened about the lower and middle parts of the tree, for the purpose of providing a supply of young wood in these parts, and thinning out such shoots here and there as have been left too thick; for others should not be shortened, but should be laid in at full length, that is, such as are short, stout, nearly of an equal thickness, and have a bold wood-bud at the extremity, as from these may be expected the best fruit next season. In some parts of the tree, perhaps, or in some particular trees, it may be expedient to cut out such old branches as have but few young shoots on them, provided there be neighbouring branches better furnished, whose shoots may be spread out so as to fill, or nearly to fill, the vacancy occasioned by such lopping. In this case, the shoots borrowed as it were for this purpose, must be shortened more or less, according to the size of the vacancy to be filled up, and according to their strengths, in order that the plant may appear complete in all parts as soon as possible. In summer Nicol pinches off foreright shoots as they appear, and all such as are ill-placed, weakly, watery, deformed, or very luxuriant, leaving a leader to every shoot of last year, and retaining a plentiful supply of good lateral shoots in all parts of the tree. If any blank is to be filled up, some conveniently-placed strong shoot is shortened in June to a few eyes, in order that it may throw out laterals. Sir Joseph Banks, in speaking of the culture of *peaches* at Montreuil, near Paris (Hort. trans. vol. 1. append.) says, " Much advantage is derived from the practice of rubbing off the leaf-buds from the fruit-bearing branches, leaving only as many as are wanted to produce wood for the succeeding year. The *taille d'été* does not only leave the remaining wood to grow stronger and to ripen sooner, but it naturally increases the size of the fruit. The fruit is thinned after the stoning season, as already described for thinning of wall fruit." In a peach-house, in a state of bearing, when the fruit is swelling off, in order that it may attain a greater degree of perfection, such leaves and summer shoots as overhang and shade the fruit are taken off or thinned. The leaves of *peach* trees " may be dressed off," when the wood is ripened, by the use of a withy or small cane, which is more necessary in a house than if the trees were growing in the open air, where the wind or frost may make them tumble down fast. In the newly-planted peach-house the dwarfs must be well cut in, in order to make them push shoots freely for furnishing the trellis next season. Those situated in the lower and middle parts of the tree should be cut back to half their lengths, or to a few buds, less or more according to their strength; and those of the extremities to one-third or to about half their lengths, also according to their strength, and how well they have been ripened. They should be thinned so at this time, as that the shoots which are to issue from them next season may be laid in at the medium distance of about 6 inches. The riders need not be pruned near so much as the dwarfs, as they are wished to produce a crop of fruit the following season, shortening no shoots that are fully ripened, except a few of those at the extremities of the tree, in order to make them throw out others for its full extension upwards next year.

Stirring the soil.—The borders are to be pointed and forked up after pruning, and a little well-rotted dung or compost added where deemed necessary. That part of the border on the outside may in addition be covered with dung, and after forcing is commenced, those in the inside may be occasionally watered with the drainings of the dung-hill.—*Kal.* 324 *and* 438.

Time of beginning to force.—From the rise of the sap, according to Abercrombie, it occupies, in some sorts, about 4 months to make mature fruit; in the later varieties 5 months; and when much of winter is included in the course of forcing, the time is proportionably lengthened. To ripen moderately early kinds by the end of May, begin to force on the 21st of December. Little is gained by commencing sooner. But you may put on the glasses a week before, and make gentle fires, admitting a constant stream of fresh air, to get the house ready. M'Phail says, " Those who wish to have peaches and nectarines ripe in May, should begin to force them about the beginning or middle of December." For a general crop, Nicol, Weeks, and most gardeners recommend forcing to begin in the month of February. He says it is much better to force too slow than too fast.

Temperature.—Abercrombie directs to begin at 42° min. and 45° max. from sun heat, and rise in a fortnight to 45° min. and 50° max. from sun heat; in the progress of the second fortnight augment the temperature from 3 to 8 degrees, so as to have it at the close up to 53° min. and 56° max. from sun heat, admitting air in some degree daily. When the trees are in blossom, let the heat be 55° min. and 60° max. Continue to aim at this till the fruit is set, then raise the minimum to 60° and the artificial maximum to 65°, in order to allow of giving air. When the sun shines do not let the maximum from collected heat pass 70°, rather employ the opportunity to admit a free circulation of air. M'Phail, beginning in February, keeps the thermometer to about 55°, increasing it as the days lengthen; when the fruit is set and swelling, raise it to 60° with fire heat; when the sun shines, let it rise to 65° or 70° with air. A short time before the fruit begins to ripen, from 55° to 70° is not too much with fire heat, and when the sun shines let it rise a little above 75°. In a house, begun to force on the 1st of February, Nicol begins with 45° for the first fortnight, and then increases the heat to 50° or 52°. The times of regulation are supposed to be at 6 or 7 o'clock in the morning and 8 or 9 o'clock at night. At the end of the month the temperature is to be kept as steadily as possible to 55°. In two months keep it to about 65°, seldom allowing it to pass 70°, which if it does, will have the effect of drawing the shoots up weak, and may cause the setting fruit to drop. He recommends 60° by fire heat, mornings and evenings, as proper after the fruit are fairly stoned. T. A. Knight finds that neither peaches nor nectarines acquire perfection either in richness or flavour, unless they be exposed to the full influence of the air and sun during their last swelling, without the intervention of the glass. In consequence, he says, some gardeners take off the lights wholly before the fruit begins to ripen, but he recommends taking them off only in bright sunshine, and putting them on during rain, and at night to protect the fruit from dews, &c.

Air.—A constant stream of fresh air is to be admitted before beginning to force, and plenty of air, when the sun shines, during the whole progress of forcing. M'Phail says, " when the fruit is set and swelling, give the house air every day, whether the sun shine or not. Give plenty of air, and keep the house dry when the fruit begins to ripen." When the intention is to begin to force on the first of February, Nicol shuts up the house from the middle of January, admitting plenty of free air through the day. During the first month of forcing, he admits air freely " every day, even in frosty weather, by the sashes, till the flowers begin to expand, after which time by the ventilators, except in fresh weather, till the season become mild." Air should be admitted all this month to such an extent as to keep down the temperature in sunshine to within 5° of the fire heat medium, and this in order to strengthen the buds as they break, and that the young shoots may spring in a vigorous manner. Admit large portions of air every day when the fruit is swelling off, except in damp weather, from 7 or 8 o'clock in the morning to 5 or 6 o'clock in the evening, opening the sashes to their fullest extent, from 10 to 2 or 3 o'clock in the afternoon, giving and reducing gradually, &c.

Watering and steaming. " While the fruit is in blossom," Abercrombie observes, " steaming the flues must be substituted for watering over the leaves; at the same time you may water the roots now and then gently, avoiding such a copious supply as might risk the dropping of the fruit to be set. Let the water be warmed to the air of the house." M'Phail directs to keep the border moist by watering; and after the fruit are as big as nuts, sprinkle the flues now and then with water, to raise steam, and wash the trees about once a week with clean water, not too cold. It is better not to wash all over the top till the fruit are set. A sunshiny morning is to be preferred, and the water may be about 65°. Do not water after the fruit begins to ripen, but recommence when it is all gathered (Gard. rem. p. 148. and 191.) Newly planted *peach* trees should be freely supplied with water at the roots throughout the season, in order to promote their growth; and the engine must be applied with force to the branches for the suppression of the red spider, and refreshing the foliage, generally once in two or three days (Gard. kal. p. 358). In a fruit-bearing house, after the fruit is set, water should be given pretty freely to the plants at the roots once in two or three days, increasing the quantity as the fruit begins to swell, and as the shoots advance in growth. Also continue the operation of the engine regularly, and do not be afraid to hurt the foliage if the red spider appear upon them, and more particularly towards the top of the house, as it is there the red spider is fostered by the extreme heat. Withhold water from the border, and cease to exercise the engine on the foliage when the fruit are swelling.—*Gard. kal. p.* 401.

Insects and diseases.—The red spider is the great enemy to *peach* and *nectarine* trees, but they are also attacked by blight, mildew, the aphis, thrips, and sometimes even the coccus. The blight, Abercrombie says, is caused by a small insect, very pernicious both to the trees and fruit in their growth; this is apparent by the leaves curling, and often by the ends of the shoots being bunched and clammy. In this case it is advisable to take off the distempered leaves, and cut off the diseased ends of the shoots. Further to check the mischief, if the weather be hot and dry, give the trees a smart watering all over the branches by a garden engine, and repeat it two or three times a week in the afternoon when the power of the sun is declining. These waterings will clear the leaves, branches, and fruit, refresh and revive the whole considerably, and conduce greatly to exterminate the vermin. When the plants have begun to expand their blossoms and leaves, the aphis or green-fly makes its appearance; in which case M'Phail directs to fill the house full of tobacco-smoke once a week or oftener. If there be any appearance of mildew, dust a little sulphur on the infected parts, and if the gum or canker be seen on the shoots, or on any parts of the trees, open the bark and cut out the dying wood. Inspect the trees in every part minutely, and if you perceive the bark dying or the gum oozing out of any part of the stem, cut off the bark as far as it is dead or decaying, and if the branches be strong, that you cannot well effect it with your knife, take a chisel with a semicircular edge and a mallet and cut out the wood as far as you see it is affected; you need not be afraid of hurting the tree, even if the branches or stem are cut half way. This method exposes the old wood to the sun and air, by which it is dried, and the tree is thereby assisted in casting off the unwholesome juices, or those kept in it too long for want of a more dry genial climate (Gard. rem. 131.). J. Michell, of Moncrieff House, Perthshire, hangs on his *peach* trees, when the fruit are ripe, large white glass phials, with a little jam or jelly in them, in order to entice large black flies, which he finds very destructive to peaches. Wasps he destroys by finding out their nests in the day time, and going in the evening with a candle, he introduces a burning stick smeared with wet gunpowder, which stupifies the wasps, and causes them to fall nearly dead, when he crushes them (Caled. hort. mem. 1. p. 194.). Nicol strongly recommends watering for keeping down insects, especially the red spider. If the green fly or thrips make their appearance, recourse must be had to fumigation. Shut the house close at night, and fill it as full of tobacco-smoke as possible. If this be repeated the next evening they will be completely destroyed. Calm cloudy weather is the most favorable for this operation (Gard. kal. p. 340 and 350.). The coccus and chermes, he says, are not so immediately hurtful, and unless very numerous need not be much minded at this season, but they must be more particularly attended to at the time of pruning in November. The males, which have wings and are active, will be dislodged by the operation of the engine, and the females, which are stationary and adhere to the shoots and branches, if very numerous, may readily be crushed by the finger, or by a small flattish stick. In November, the winter pruning being finished, the plants and trellis are to be anointed with the composition recommended for vines, see vol. 1. p. 708.

Gathering of the fruit. M'Phail advises laying moss or some soft material over the borders, to save those from being injured which drop of themselves. Sir Joseph Banks, quoting from a French author, states that peaches are never eaten in perfection if suffered to ripen on the tree; they should be gathered just before they are quite soft, and kept at least 24 hours in the fruit chamber. Hort. trans. vol. 1. append. John Williams of Pitmaston says, "should the season prove wet when the peaches are ripe, they should be gathered, and placed for about two days in a dry airy room before they are eaten." Hort. trans. 2. p. 113.

Ripening of the wood. Abercrombie says, "on account of the fruit of most sort of *peaches* ripening somewhat earlier than grapes, and the growth of the shoots stopping sooner than the runner-wood of vines, it is not so often necessary to assist the plant in September or October by artificial heat; but in some of the late kinds, if, by the time the external air is down to 60°, the shoots have not taken a greenish-brown tint as high as several eyes from the origin, and if the blossom-buds on these, when full swelled, are not distinguishable from the oblong wood-buds, apply a little fire heat, and continue it till the leaves fall." Nicol directs attention to be paid to the ripening of the wood of *peach* trees in September. "A little fire heat may be necessary fully to mature the shoots, especially of young trees. Fire heat should be continued till the growth of the smaller and middle-sized shoots stop, their bottom parts become greenish-brown, and the flower-buds upon them appear turgid, so as to be distinguishable from the wood-buds. The stronger, and more extreme shoots, of the dwarfs in particular, will continue to grow later than the above shoots, which as they are to be considerably shortened back in November for the production of wood to fill the trellis next season, is not very material, provided the bot part be pretty well hardened."

Resting of the wood. The management of the peach-house when at rest, Abercrombie says, "should be nearly the same as for the grape-house, except when there is but one set of frames to serve both an early peach-house and a late grape-house; in which case, as soon as the young wood of the vine is perfectly ripened, the glasses should be brought back to the peach-house; for although the fruit of the grape is to be set and ripened in a higher heat, the *peach* tree as a plant is more tender than the vine, and independently of forcing comes into blossom about two months sooner." M'Phail keeps on the glasses from the time the fruit is gathered till he begins to force, in order to keep the wood dry; but gives them all the air he can. Gard. rem. p. 367. Nicol exposes the house fully day and night, only shutting up in the time of heavy rains. Gard. kal. p. 420.

Forcing the peach tree in pots. "All the varieties of *peaches* and *nectarines*," Abercrombie remarks, "are extremely well suited for forcing in large pots. Small plants intended to come in before or after these in the borders may be excited in the first stage in a distinct house, so as the temperature of that in which they are brought to finish fruiting be suited to their progress." The pots or tubs should be such as not to contain less than a cubic foot of earth, the soil should be lighter and richer than that recommended for the borders, and liquid manure should be plentifully supplied to make up in some degree for the confinement of the roots. They are best forced in a peach-house, but succeed in a vinery or succession stove; best of all, however, in a pit or Dutch frame, where the temperature can be regulated at pleasure, and where they are near the glass. Great care must be taken to supply them regularly with water, for which purpose some place saucers under the pots, others cover their surface with moss, or what is better, fresh cow or rotten horse dung. Casing the pots with ropes made of moss is also a very good method, as it not only preserves an uniform degree of moisture, but also of temperature. Of course the moss must be kept watered. *Peach* trees in pots are sometimes trained to small fan-trellises attached to the pot, but in general they are pruned as dwarf standards, in which form they bear rather better than when trained. When the fruit is nearly ripe, the pots should be removed from the hot-house or vine-house to a cooler and more airy situation, or if in the pits the sashes may be taken off a part of every fine day. In other respects the treatment of *peach* trees in pots is similar to that of the trees in the borders. With respect to the quality of fruit from *peach* trees in pots, J. Williams observes, " by far the best flavoured peaches I have ever tasted were from trees planted in large pots, and kept in a vinery from February till the first week in June, when the trees were removed into the open air, and after being shaded a little from the sun for the first ten days, were placed in the most open part of the garden till the fruit became ripe. Treated in this way the peach is beautifully coloured on the outside, and of a most exquisite flavour." Occasionally in very warm seasons *peach* trees in pots, when forced very early in the season, and afterwards plunged in the open air, will produce a second crop late in the autumn, but this is more a matter of curiosity than utility. It frequently happens with forced cherries and strawberries. Hort. trans. 3. p. 367.

Peach trees as standards. The *peach* bears remarkably well in the standard form, planted in the middle of the house, and the flavour of the fruit is universally acknowledged to be preferable to that grown on the trellis, from the comparatively free circulation of the air. The glass tent or moveable house might be most advantageously applied in this way, and when the fruit begins to ripen, the sashes could be removed, and applied to ripening a late crop of grapes against a common wall, or to cover or houses which had not been forced.

Forcing peaches by dung heat. Sir Thomas Neave (Hort. trans. 5. p. 218.) forces *peaches* and *nectarines* principally by dung heat; about 3 feet and a half of the bottom of the front wall of his peach-house is open brick-work, with a flue on the inside, the top of which is covered with flat tiles. The inside of the house is filled with earth to within 2 feet of the bottom of the lights, and the trees planted as near as possible to the front wall, and trained under the lights or wires like vines; the back wall of the pine-pit is built of the same height as the front of the peach-house, and 3 feet distant from it; this of course forms a space 3 feet wide for the hot dung, and as soon as he wishes to begin forcing, this space is filled with hot dung. The roots being next the flue soon begin to feel the warmth of the dung. He finds great advantage from this method, and it is productive of no ill effects until the leaf buds begin to expand, and if the steam is not then perfectly sweet and moderate, the places left to admit it must be secured. The way in which this dung lining is placed is, that, while it is forcing the *peaches* and *nectarines*, it is assisting to work the pines in the pine-pit at the same time. By this means he has never failed in producing abundant crops of peaches and nectarines.

In medicine peach blossoms are recommended as an anthelmintic purgative. They are given in infusion; half an ounce of the fresh petals or a drachm of the dry for a dose. A syrup made from peach blossoms is officinal in Wirtemberg.

Common Peach. Fl. April, May. Clt. 1562. Tree 10 to 15 feet.

2 P. LÆ'VIS (D. C. fl. fr. 4. p. 487.) fruit smooth, glabrous. ♄. H. Native of Persia. Amýgdalus Pérsica, Lam. dict. 1. p. 100. no. 21-27. Amýgdalus Pérsica necturìna, Ait. hort. kew. ed. 2. vol. 3. p. 194. Noisett. jard. fruct. p. 89-90. no. 17-22. t. 20. f. 23. t. 21. f. 3-4. The *nectarine* is distinguished from the peach by its smooth, and rather firmer, more plump fruit. In other respects the general history of the peach equally applies to the *nectarine*, as well as its culture and uses. Forsyth says, "the fruit is called *nectarine* from *nectar*, the poetical drink of the gods." The varieties of the *nectarine* are as follow.

Var. α; flesh separating from the stone. Called in French *brugnons*, and in English *free-stone nectarines.*

A list of free-stone or melting nectarines.

1 *Aromatic.* Leaves with reniform glands. Flowers small. Fruit pale yellow, red on the exposed side, middle-sized, ripening about the beginning of September. Resembles the *violette hâtive.*

2 *Balgone.* Leaves with reniform glands. Flowers small. Fruit large, pale greenish, but red on the sunny side, ripening in the beginning of September. A first-rate sort.

3 *Boston.* Leaves with globose glands. Flowers small. Fruit middle-sized, orange, but dark red on the sunny side, ripening about the beginning of September. A second-rate kind.

4 *Brinion, brugnon red at the stone, violet red at the stone.* Leaves with reniform glands. Flowers small. Fruit large, pale yellow, red on the sunny side, ripening about the beginning of September. A first-rate sort.

5 *Cérise pêche, cherry nectarine.* Leaves with reniform glands. Flowers small. Fruit small, whitish, but red on the sunny side, ripening about the end of August. More a subject of curiosity than use.

6 *Claremont.* Leaves with reniform glands. Flowers small.

7 *Desprèz, Deprès.* Leaves with reniform glands. Flowers large.

8 *Du Tellier's, duc de Tello, du Tilly's.* Leaves with reniform glands. Flowers small. Fruit large, pale green and red, ripening in the beginning of September. A first-rate sort.

9 *Downton.* Leaves with reniform glands. Flowers small. Fruit large, pale green and red, ripening about the end of August. A first-rate sort.

10 *Elruge, common elruge, Claremont, Oatlands, Temple's* of some. Leaves with reniform glands. Flowers small. Fruit middle-sized, pale green and red, ripening about the beginning of September. Flesh almost white to the stone, excellent. A good bearer, and forces very well.

11 *Elruge* of Miller. Leaves without glands. Flowers small.

12 *Fairchild's, Fairchild's early.* Forsyth. Leaves with reniform glands. Flowers small. Fruit small, green, but red on the sunny side, ripening in the beginning and middle of August. Esteemed chiefly for its earliness.

13 *Genoa, late Genoa, Genoese.* Leaves with reniform glands. Flowers small.

14 *Greenshield's late.* Leaves with reniform glands. Flowers small. Fruit middle-sized, greenish on one side, and red on the other, ripening about the end of September.

15 *Hoy's new seedling.* Leaves with reniform glands. Flowers small. Fruit middle-sized, pale green and red, ripening about the beginning of September. A first-rate sort, resembling the *Elruge.*

16 *Jaune lisse, lisse jaune, jaune lisse tardive, Rousanne, mofrin.* Leaves with reniform glands. Flowers large. Fruit yellow, small, ripening in October. A second-rate sort.

17 *Murrey, Murry* (Forsyth), *black Mury.* Leaves with reniform glands. Flowers small. Fruit middle-sized, pale green on one side, and dark red on the other, ripening in the end of August. A first-rate sort.

18 *Large melting.* Leaves with reniform glands. Flowers small.

19 *Ord's new.* Leaves with reniform glands. Flowers small.

20 *Peterborough, late green, vermash,* Forsyth. Leaves with reniform glands. Flowers small. Fruit middle-sized, green, ripening in the middle of October. A second-rate sort.

21 *Pitmaston orange, Williams's orange, Williams's seedling.* Leaves with globose glands. Flowers large. Fruit large, orange and dark red, ripening about the end of August. An excellent, hardy, and good bearer.

22 *Scarlet* of Forsyth. Leaves with reniform glands. Flowers small. Fruit small, fine scarlet and pale red, ripening about the end of August.

23 *Hunt's tawny, Hunt's early tawny.* Leaves without glands. Flowers small. Fruit middle-sized, orange and dark red, ripening from the middle to the end of August. A very distinct sort, worthy of cultivation for its earliness.

24 *Temple's* (Lang. t. 30.), *Temple.* Leaves with reniform glands. Flowers small. Fruit middle-sized, pale green and red, ripening about the beginning of September. A first-rate sort.

25 *Vermash, true vermash.* Leaves with reniform glands. Flowers large. Fruit middle-sized, green on one side, and red on the other, ripening about the end of August. A first-rate, but rare sort.

26 *Violette grosse, grosse violette hâtive, violette de courson, le gros brugnon* in some parts of the continent. Leaves with reniform glands. Flowers small. Fruit large, pale greenish and red, ripening in the beginning of September. A first-rate sort, having the flesh very red at the stone.

27 *Violette hâtive* (Hooker, t. 15.), *violet, early violet, lord Selsey's elruge, Hampton Court, large scarlet, new scarlet, vermash* of some, *petite violette hâtive.* Leaves with reniform glands. Flowers small. Fruit large, pale green and red, ripening about the end of August. A first-rate sort, forces well.

28 *Violette tardive, violette marbrée, violet panachée.* Leaves with reniform glands. Flowers small.

29 *New white, Neat's white, white, Flanders* (Hook. t. 30.), *Emmerton's new white, Cowdray white, large white.* Leaves with reniform glands. Flowers large. Fruit large, white, ripening about the beginning of September. In a favourable soil and warm exposure both the *new* and *old white* acquire an excellent flavour; under other circumstances only indifferent.

30 *Old white.* Leaves with reniform glands. Flowers large. Fruit large, white, ripening in the beginning of August. A first-rate sort.

Var. β; flesh adhering to the stone. Called in French *pêches-violettes,* and in English *cling-stone nectarines.*

List of cling-stone nectarines.

1 *Aiton's seedling.* Leaves with reniform glands. Flowers small. Fruit large, dark brown, red on the sunny side, ripening in the beginning and middle of September. A second-rate fruit.

2 *Brugnon, Italian.* (Lang. t. 29.) Leaves with reniform glands. Flowers small. Fruit large, greenish, but dark red on the sunny side, ripening in August. A second-rate fruit.

3 *Brugnon hâtif, early brugnon.* Leaves with reniform glands. Flowers small.

4 *Brugnon violet musqué, brugnon musqué* (Duham. 26.), *brugnon, red Roman.* Leaves with reniform glands. Flowers large. Fruit middle-sized, pale yellow, but red on the exposed side. A second-rate fruit. Ripens in September.

5 *Early pavie* (Forsyth, 57.). Leaves without glands. Flowers large.

6 *Golden* (Lang. t. 29.), *fine gold-fleshed, orange.* Leaves with reniform glands. Flowers small. Fruit middle-sized, yellow, but red on the exposed side. Flesh orange-coloured. A second-rate fruit, ripening in the beginning or middle of September.

7 *Pince's golden.* Leaves with reniform glands. Flowers large. Fruit large, orange, but dark red on the exposed side, ripening throughout September. As a cling-stone nectarine very good.

8 *Imperatrice.* Leaves with reniform glands. Flowers small. Fruit large, dark red. A first-rate fruit. Hangs and shrivels like a *Newington.*

9 *Newington, late Newington* (Lang. t. 29.), *scarlet Newington, old Newington, Smith's Newington, French Newington, brugnon de Newington de l'Angleterre, rough Roman, red Roman* of some, *Sion-hill, Anderdon's, Anderson's round.* Leaves without glands. Flowers large. Fruit large, dark, ripening in September. A good bearer, excellent when beginning to shrivel.

10 *Early Newington* (Forsyth, 27.), *early black Newington, black, early black, new early Newington, new dark Newington, Lucombe's seedling, Lucombe's black.* Leaves without glands. Flowers large. Fruit large, dark red, ripening in the end of August. A first-rate sort, larger than the *Newington.*

11 *Tawny Newington.* Leaves without glands. Flowers large. Fruit large, yellowish brown, red on the sunny side, ripening in the beginning and middle of August. A first-rate sort.

12 *West Dean Newington.* Leaves without glands. Flowers large.

13 *Roman, red Roman, old Roman, brugnon musqué* (Duham. no. 26.), *brugnon violet musqué* of some. Leaves with reniform glands. Flowers large. Fruit large, green brown and red, ripening in the beginning and middle of August. A first-rate sort.

14 *Royal Buckfast.* Leaves without glands. Flowers large. Has much resemblance to the *Newington.*

15 *Tawny, late tawny, Murrey* of some. Leaves with reniform glands. Flowers small. Fruit middle-sized, brown, and red, ripening in the middle of September. A second-rate sort.

† *Varieties of nectarines not well known.*

1 *Bright red alberge.*
2 *Argyle.* Leaves with reniform glands. Flowers small.
3 *Bowden.* Leaves with reniform glands. Flowers large.
4 *Brugnon tardif.*
5 *Ford's seedling.* Leaves with reniform glands.
6 *Fox's seedling.*
7 *Freeman's.*
8 *Late French.* Leaves with reniform glands. Flowers small.
9 *Lyndoch.* Leaves with reniform glands. Flowers small.
10 *Pholia.* Leaves with reniform glands. Flowers small.
11 *Please's seedling.* Leaves with reniform glands. Flowers large.
12 *Sands's seedling.* Leaves without glands. Flowers large.
13 *Small orange.* Leaves with globose glands.
14 *Spring-grove.* Leaves with reniform glands. Flowers small.
15 *Veitch's.* Leaves without glands.

Selection of sorts. Forsyth recommends for a small garden; 1 *Fairchild's early.* 2 *Elruge.* 3 *Scarlet.* 4 *Newington.* 5 *Red Roman.* 6 *Temple.*—Those of the Dalkeith garden are as follow. Such as are marked with a † are planted against a hot wall. 1 *Roman* †. 2 *Du Tellier's* †. 3 *Elruge* †. 4 *Brugnon* †. 5 *Temple's* †. 6 *Murrey* †. 7 *Fairchild's.* 8 *Scarlet* †. 9 *Claremont* †. The surest way of having superior kinds is to select according to quality from the catalogue given.

Insects. "On account of the smoothness of the skin of the fruit," Forsyth says, "it suffers more from the wood-louse, earwigs, &c. than the peach; it will therefore be necessary to hang up a greater number of bundles of bean-stalks about these than about any other fruit trees. Wasps are also very destructive to nectarines, and the trees are very liable to be infested with the red spider."

Culture, &c. This is in all respects the same as for the peach. *Smooth*-fruited Peach or Nectarine. Fl. April, May. Tree 10 to 15 feet.

III. ARMENI'ACA (so called from the *apricot* being originally from Armenia). Tourn. inst. t. 399. Juss. gen. 341. D. C. fl. fr. 4. p. 485. prod. 2. p. 531.—Prùnus species of Lin. and others.

Lin. syst. *Icosándria, Monogýnia.* Drupe ovate-globose, fleshy, covered with a velvety skin, containing a nut or stone, which is acute at one end, and blunt at the other, with a furrow on both sides; the rest smooth, not wrinkled.—Small trees. Leaves when young convolute. Flowers rising before the leaves from scaly buds, solitary or few together, almost sessile.

1 A. vulga'ris (Lam. dict. 1. p. 2.) flowers sessile; leaves ovate or cordate, glabrous. ♄. H. Native of Armenia. Prùnus Armeniaca, Lin. spec. 679. *Malus Armeniaca* of the ancients, *Abricot* of the French, *Abricosenbaum* of the Germans, and *Albjcocco* of the Italians. The *apricot* is a low tree, of rather crooked growth, with broad, roundish, cordate or ovate, glandularly-serrated leaves. The flowers are white, tinged with dusky red. The fruit round, yellow both within and without, firmer than plums and most peaches, inclosing a smooth compressed stone, like that of the plum. The flowers appear in April on the shoots of the preceding year, and on spurs of two or more years old, and the fruit ripens in September. It is supposed to have originated in Armenia, but Regnier and Sickler assign it a parallel between the Niger and the Atlas; and Pallas states it to be a native of the whole of the Caucasus, the mountains there to the top being covered with it. It appears from Turner's herbal that the *apricot* was procured out of Italy by Wolfe, a French priest, gardener to Henry VIII. The fruit appears to have been known in Italy in the time of Dioscorides under the name of *præcocia*, probably as Regnier supposes from the Arabic *berkoch*, whence the Tuscan *bacoche* or *albjcocco*, and the English *apricock*, or as professor Martin observes, a tree, when first introduced, might have been called a præcox or early fruit, and gardeners taking the article a for the first syllable of the word, might easily have corrupted it to *apricocks*. The orthography seems to have been finally changed to *apricot* about the end of the last century, as Justice in 1764 writes *apricock*, and Kyle and Moredun in 1782 *apricot*.

Use. The fruit is used in a raw state at the dessert, and is esteemed next to the peach and nectarine; it is also made into marmalades, jellies, and preserves. Grossier says, that lozenges are made by the Chinese from the clarified juice, which, dissolved by water, yield a cool refreshing beverage; oil may be extracted from the nut, and the young shoots yield a fine golden cinnamon colour to wool.

Varieties. Parkinson in 1629 enumerates six; Rea in 1720 seven; the Luxembourg garden catalogue in 1800 fifteen; but the catalogue published by the Horticultural Society in the present year enumerates 41. They are as follow:

I. *Kernels bitter.*

* *Fruit small, round, early. Flowers small.*

1 ***Red masculine apricot*** (Forsyth, treat. p. 2.), *early red masculine* (Hort. soc. cat. no. 9.), *brown masculine* of some collections, *abricot précoce* or *abricotin* (Nois. man. 489.), *fruhe muscateller aprikose* (Baum. tasch. p. 389.), *abricot hatif musqué* (Duham. fruct. 1. p. 133. Mayer, nom. no. 1. t. 2. f. 1. Nois. jard. fr. t. 1.), *musqué hatif*, Hort. Leaves roundish, cordate. Fruit small. Skin dull, honey yellow. Flesh pale yellow, juicy, and tender, parting from the stone. An early and excellent fruit.

2 ***White masculine*** (Hort. trans. 2. ser. 1. p. 59.), *early white masculine* (Hort. soc. cat. no. 8.), *abricot blanc* (Duham. arb. fr. 1. p. 134.), *abricot pêche* (Mayer, pom. fr. 1. p. 30, &c.), *white Algiers* of some gardens. The chief recommendation of this and the former kind is their early time of ripening.

* * *Fruit large.*

† *Channel of the stone closed up.*

‡ *Flesh parting from the stone.*

3 *Large early apricot* (Hort. trans. 2. ser. 1. p. 66. Hort. soc. cat. no. 47. Pom. mag. t. 142.), *abricot gros précoce*, and *abricot de Jaen* (Aud. cat.), *abricot de St. Jaen rouge* in Languedoc, *abricot gros d'Alexandrie* in Provence, *die grosse fruhe apricose*, (Sickler, teutsche 12. t. 12.) Leaves large, broad, oval, tapering to the petiole. Fruit large, oblong, the back nearly straight. Skin downy, bright orange, red next the sun, pale orange on the other side. Flesh orange-coloured, juicy, rich. An excellent early sort, ripening about the middle of July.

4 *Roman apricot* (Langl. pom. p. 89. t. 15. f. 4. Pom. mag. t. 13. Hort. trans. 2. ser. 1. p. 61.), *Roman* or *common* (Switzer, fruit. gard. p. 100.), *common* (Forsyth), *abricot commun* (Duham. arbr. fr. 1. p. 135. t. 2. Nois. jard. fr. p. 2. t. 1.), *gemeine apricose* (Kraft, pom. austr. 1. p. 31. &c.), *grosse gemeine apricose* (Mayer, pom. fr. 1. p. 31. t. 3.), *Brussels apricot* and *Turkey apricot* of some collections. Leaves broad, cordate. Fruit middle-sized, dull straw-coloured, with a little dotting on the sunny side, of an orange red, inclining to oval. Flesh of a dull pale straw-colour, soft, soon becoming mealy, and requiring to be eaten rather before its maturity. This sort bears abundantly, and ripens about the beginning of August; but it is more fit for preserving than for the dessert, the juice being much less highly flavoured than that of many sorts.

5 *Blotched-leaved Roman apricot* (Hort. trans. 2. ser. 1. p. 62.), *blotched Turkey, variegated Turkey, striped Turkey* (Hort. soc. cat. no. 27.), *maculè* of the French, *abricotier à feuilles panachées* (Duham. arb. fr. 1. p. 145.), *abricot commun à feuilles panachées de Jaune* (Noisett. jard. fr. p. 2.), *abricot bunte oder gefleckte apricose*, (Mayer, pom. fr. 1. p. 34. t. 4.) Leaves blotched with a pale yellow or golden colour. Fruit much like that of the *Roman* or *common apricot*.

6 *Royal apricot* (Pom. mag. 1. t. 2. Hort. trans. 2. ser. 1. p. 63.), *abricot royale*, (Bon. jard. 1827. p. 288. Nois. man. 2. p. 490.) Leaves large, roundish cordate or ovate. Fruit about the size of that of the *moorpark*, rather oval, of a dull yellow colour, slightly coloured with red in a small space. Flesh pale orange, very firm, juicy, sweet, and high flavoured, with a slight degree of acidity. This is a very valuable sort, and ripens about 10 days sooner than the *moorpark*.

7 *Brussels apricot*, (Hort. trans. 2. ser. 1. p. 64.) Fruit oval, compressed, of a pale orange colour, acquiring a brown tinge, with deep blood red specks next the sun. The flesh is juicy, rather crisp, and the fruit is most excellent for preserving.

8 *Shipley's apricot* (Hort. soc. cat. no. 24. trans. 2. ser. 1. p. 64.) *Blenheim, Shipley's large, Miss Shipley's*, of various collections. A fine looking fruit, very like the *Roman*, but larger, oval, compressed. Skin clear, yellow, minutely speckled with brown. Flesh of a very bright deep orange, juicy, with a pleasant sweetish acid flavour, without much scent. The fruit is rather more downy than the *Roman*, which it resembles. It ripens about the last week in July.

9 *Almond apricot* (Hort. trans. 2. ser. 1. p. 65.), ***abricot amandier***, (Hort. soc. cat. no. 34.) In form like the *Roman*. Skin pale straw coloured, blotched with pinkish spots next the sun. Flesh pale yellow, dry, with very little flavour. This sort has little or no merit. It ripens about the end of July.

‡ ‡ *Flesh adhering to the stone.*

10 ***Montgamet apricot*** (Hort. trans. 2. ser. 1. p. 65.), *albergier de Montgamet* (Hort. soc. cat. no. 31.) Leaves broad and rounded at the base, and acuminated at the apex. Fruit small, about half as large as the *white masculine*, which it resembles outwardly. Skin pale clear yellow, slightly tinged with red next the sun. Flesh firm, watery, juicy, but without much flavour. This sort is not much esteemed, and is chiefly used for preserving. It ripens at the end of July.

† † *Channel of the stone impervious.*

11 *Moorpark apricot* (Nicol, gard. kal. p. 167. Brookshaw, pom. brit. t. 23.), *Anson's, Dunmore's, Dunmore's Breda, Temple's, imperial Anson, Oldaker's moorpark, Sudlow's moorpark* (Hort. soc. cat.), *peach apricot* (Forsyth, treat. 1. p. 4.), *abricot de Nancy* (Duham. arb. fr. 1. p. 144. t. 6. &c.), *abricot pêche* (Duham. arb. fr. 1. p. 144.), *abricot de Tours* (Hort. soc. cat. no. 51.), *abricot pêche, abricot de Nuremberg ou de Wirtemberg, abricot de Piemont*, Aud. cat. Leaves large, roundish, acuminated. Fruit large, roundish, compressed. Skin of a brownish orange colour. Flesh dull reddish-orange, juicy, and of a high and excellent flavour, peculiar to this sort, never liable to become mealy. This is one of the best of the kinds.

12 *Hemskirke apricot* (Hort. soc. cat. no. 4. Pom. mag. 1. t. 11. Hort. trans. 2. ser. 1. p. 69.). Leaves broad, much like those of the *moorpark*. Fruit rather large, roundish, slightly compressed, very like the *moorpark*. Flesh very bright, deep, clear orange, tender, and juicy, with a particular rich delicate flavour. This sort comes next to *moorpark* for its excellence.

II. *Kernels sweet.*

* *Flesh parting from the stone.*

13 *Breda apricot* (Hort. soc. cat. no. 2. Pom. mag. t. 146.), *Brussels* or *Breda* (Langley, pom. p. 89.), *abricot de Hollande ou Amande Aveline* (Duham. arb. fr. 1. p. 138. t. 4. &c.), *Hollandische Bredäische oder Ananas apricose* (Baumann, tasch. p. 389.) *Holland* (Forsyth, treat. p. 5.), *abricot de Nancy* (Sickler, teutsche, p. 299.) Leaves broadly cordate, acuminated. Fruit rather small, roundish. Skin of a deep brownish colour where exposed to the sun. Flesh deep orange, juicy, rich and high flavoured. Kernel sweet, like a hazel-nut. Ripens from the beginning to the middle of August on walls, and its perfection is considerably prolonged on standards.

14 *Angoumois apricot* (Duham. arb. fr. p. 137. t. 3. Hort. trans. 2. ser. 1. p. 71.), *apricose aus dem Angoumois die rothe abricose* (Mayer, pom. fr. p. 32.), *rothe Angoumois* (Baumann, tasch. p. 388.). Leaves rather small, oval, tapering to both extremities. Fruit about the size of the *Breda*, and like it in shape. Skin yellow where shaded, but of a very deep reddish brown on the exposed side. Flesh reddish orange, juicy, sweet, mixed with a slight acidity, very agreeable. Kernel sweet, like a nut. This sort ripens rather earlier than the *Breda*.

15 *Musch-musch apricot* (Nois. man. p. 410. Hort. trans. 2. ser. 1. p. 72. t. 1.) *Abricot d'Alexandrie*, (Kraft. pom. austr. p. 29. t. 58. f. 1.). Leaves roundish, subcordate, acuminated, doubly serrated. Fruit about the size of the *masculine*, roundish, compressed. Skin straw coloured next the wall, deep orange in the sun, slightly downy. Flesh tender, very sweet, semi-transparent. Kernel very sweet, like a nut. It appears to be a native of the oases of Upper Egypt, where the fruit is gathered and dried in large quantities for sale. It is not sufficiently known to judge how far it may become a valuable variety in this country.

16 *Turkey apricot* (Mill. dict. no. 5. Hort. trans. 2. ser. 1. p. 73.). *Large Turkey* of some nurseries. *Abricot de Nancy, La Bretonnerie* (*Nois jard.* fr. p. 3.) Leaves middle-sized, roundish, acuminated. Fruit rather largish, very handsome, deep yellow, with a number of orange red spots and blotches next the sun, nearly spherical, not compressed. Flesh pale yellow, firm, juicy, sweet, with a little acid, very rich and excellent. Kernel sweet, like that of the almond. Ripens on a south wall about the middle of August, and in other situations may be prolonged to the end of the month. It is an excellent sort.

* * *Flesh adhering to the stone.*

17 *Orange apricot* (Switzer, fruit gard. p. 100. Hort. trans. 2. ser. 1. p. 74.), *early orange, royal orange, royal George, royal Persian* (Hort. soc. cat.), *D'orange* (Knoop, pom. p. 65.), leaves flat, pendulous, tapering. Fruit almost spherical, downy, of a more intense orange colour than other *apricots*, interspersed with some minute specks. Flesh tender, bright orange, in some seasons juicy, but not highly flavoured. Kernel sweet. Generally an abundant bearer, and is chiefly useful for preserving.

The remaining sorts are described in books, upon which no sufficient information has been procured, but none of these are of any importance.

† *List of apricots not sufficiently known, but the greater part of them are not worth notice in this country.*

1 *Albergier ordinaire.* 2 *Albergier à fruit long.* 3 *Albergier à fruit rond.* 4 *Albergier de Tours.* The *albergiers* are of little value in this country; in France they are produced from the stone, and are preferred for stocks. 5 *Algiers.* 6 *Angoumois hatif.* 7 *Angoumois tardif.* 8 *Angoumois rouge.* 9 *Blanc gros.* 10 *Brussels.* 11 *De Carpentras musqué.* 12 *George the Fourth.* 13 *De Luxembourg.* 14 *White masculine, early white masculine, blanc, white Algiers?* 15 *Musqué mi-nain.* 16 *Royal peach apricot.* 17 *Persian.* 18 *Persique.* 19 *De Portugal, male.* 20 *De Provence.* 21 *Russian.* 22 *Saint Cross.* 23 *Transparent.* 24 *Turkey, De Nancy* of some, *large Turkey.*

Choice of sorts. Those grown in the Dalkeith gardens are as follow:—1 *Moorpark.* 2 *Breda early.* 3 *Masculine, early.* 4 *Brussels.* 5 *Orange, early.* The list given should be examined, and the sorts chosen according to their quality.

Propagation.—New varieties are procured from the seed as in the peach, and approved sorts are perpetuated by budding, generally on muscle or plum stocks. The *Brussels* and *Breda*, when intended for standards, are budded on the St. Julian plum, which produces a strong clean stem, but for the rest any stock will do, provided it be free and thriving. Knight (hort. trans. 2. p. 19.) recommends budding the *moorpark* on an *apricot* stock, which he has found prevents the trees from becoming diseased and debilitated, which they generally do on plum stocks. Budding *apricots* is generally performed early in the season, from the middle of June to the end of July. For dwarfs, the bud is inserted 6 or 8 inches from the ground; and the sorts are sometimes twice budded, or one variety budded on another, which is said to keep the trees in a more dwarf state. For riders or standards they are budded on plum stocks, 4 or 5 feet from the ground. Miller prefers half standards, budded 3 or 4 feet from the ground; the trees so produced being less liable to suffer from high winds.

Choice of plants.—Abercrombie prefers trees of 2 or 3 years' growth from the bud, and fit for immediate bearing. Forsyth makes choice of those plants which have the strongest and cleanest stems; and if he can such as have been headed down of 2 or 3 years' growth, as they will bear and fill the walls much sooner than those which have not been so treated. He says, "make choice of trees with one stem, or if they have two, one of them should be cut off; for by planting those with two stems, the middle of the tree is left naked, and, of course, one third of the wall remains uncovered."

Season of planting.—Abercrombie says the best season is from the fall of the leaf until February or March. Forsyth says the best time is in August, when the leaf begins to fall.

Final planting.—The *Breda* and *Brussels* are occasionally planted as standards or espaliers in warm situations; and in these states, in fine seasons, produce more highly flavoured fruit than on walls. The other varieties are generally planted against walls, which Miller and Forsyth say should have an east or west aspect, for if they are planted full south, the heat causes them to be mealy before they are eatable. The borders should not be less than 6 or 8 feet wide, and 2 or 2½ feet deep. The soil a light rich loam, perfectly dry below. Standard *apricots*, according to Abercrombie, do not come into bearing under a considerable number of years, sometimes 10 or 12; but then the fruit, in a congenial situation, is abundant, and of the finest flavour. The training of the plant to a trellis, almost touching the south wall, will improve the flavour of the *apricot*, and render it more succulent than if trained against the wall.

Mode of bearing. The varieties of the *apricot* in general bear upon the young shoots of last year, and casually upon small spurs, rising on the two or three years' old fruit branches. The *Moorpark* bears chiefly on last year's shoots, and on close spurs formed on the two years' old wood. The bearing shoots emit the blossom-buds immediately from the eyes along the sides; and the buds have a round and swelling appearance.

Pruning wall trees.—The general culture of wall *apricots* comprehends a summer and winter course of regulation by pruning and training.

Summer pruning.—Begin the summer pruning in May, or early in June, and continue it occasionally in July and August, &c. This pruning is principally to regulate the young shoots of the same year. In the first place take off close all the foreright shoots, and others that are ill-placed or irregular, or too luxuriant in growth, taking care to retain a competent supply of choice, well-placed, moderately growing side shoots, with a good leader to each mother branch. Continue these mostly at their full length all the summer, regularly trained in close to the wall, to procure a sufficiency to choose from in the general winter pruning for new bearers next year. If the summer regulation commence early, while the shoots are quite young, and, as it were, herbaceous, 1, 2, 3, or 4 inches long, those improper to retain may be detached with the finger and thumb; but when of firmer growth they must be removed with the knife. If any very strong shoot rise in any casually vacant part, it may be topped in June, which will cause it to produce several laterals the same year of more moderate growth, eligible for training in to supply the vacancy.

Thinning the fruit.—Sometimes the fruit are much too numerous, often growing in clusters, in which case thin them in May and the beginning of June in their young green state, leaving the most promising singly at 3 or 4 inches' distance, or from about 3 to 6 on the respective shoots, according to their strength. The apricots so thinned off, and the first principal green crop are esteemed very fine for tarts.

Winter pruning.—This may be performed either at the fall of the leaf, or in mild intervals from that time until the beginning of March. When it is deferred until the buds begin to swell, the promising shoots can be the better distinguished. It comprehends a general regulation, both of the last year's shoots and the older branches. A general supply of the most regular placed young shoots must be every where retained for successional bearers the ensuing year. Cut out some of the most naked part of the two last years' bearers, and naked old branches not furnished with competent supplies of young wood or with fruit-spurs, either to their origin, or to some well-directed lateral, as most expedient, to make room for training a general supply of the new bearers retained, and cut away all the decayed wood and old stumps. Generally observe in this pruning to retain one leading shoot at the end of each branch, either a naturally-placed terminal, or one formed by cutting, where a vacuity is to be furnished with a proper leader. Let the shoots retained for bearers be moderately shortened; strong shoots reduced in the least proportion, cutting off one-fourth or less of their length; from weak shoots take away the third, and sometimes half. This shortening will conduce to the production of a competency of lateral shoots the ensuing summer from the lower and middle placed eyes; whereas without it, the new shoots would proceed mostly from the top, and leave the under part of the mother branches naked, and the lower and middle part of the tree unfurnished with proper supplies of bearing wood. Never prune below all the blossom-buds, except to provide wood, in which case, cut nearer to the origin of the branch, as in these trees, small fruit-spurs, an inch or two long, often appear on some of the two or three years' branches, furnished with blossom-buds; these spurs should generally be retained for bearing; but when any project foreright from the wall, cut them in accordingly, for the spurs projecting above 3 inches, though they may set their fruit, seldom ripen it, unless the season and situation are both favorable. The thick clusters of spurs, which are apt to form on aged trees, ought also to be thinned. As each tree is pruned, nail it, laying in the branches and shoots from 3 to 6 inches' distance, straight, and close to the wall.

Pruning espaliers.—As directed for wall trees.

Pruning standards.—Half standards will require only occasional pruning, to regulate any branches which are too numerous, too extended, or cross placed, and to remove any casually unfruitful parts, and dead wood. At the same time the regular branches forming the head of the tree should not be generally shortened, but permitted to advance in free growth.—*Abercrombie.*

Training the apricot tree.—This is generally done in the fan manner, which is the method of training not only for the *apricot*, but for wall trees generally. Forsyth recommends a mode between the fan and horizontal manner.

Renovating old decaying trees.—Forsyth had the greatest success in this department of fruit tree culture, by cutting down to within a foot or 18 inches, or more occasionally, of the ground, and then renewing the soil of the border.

Gathering.—The apricot is apt to become mealy if left on the tree till over ripe. It should be gathered with the peach-gatherer while moderately firm.

Insects, diseases, &c.—As the fruit ripens early, it is very liable to be attacked by wasps and large flies, which should be kept off by a net, stretched a foot or more apart from the wall or trellis. The other insects, and the diseases of the tree are the same as in the peach tree; but it is not nearly so obnoxious to their attacks, probably owing to the comparatively hard nature of its bark and wood, and coriaceous leaves.

Forcing the apricot.—The *apricot* does not force well; but a few are sometimes tried in pots, and placed in a peach-house and forced in the same manner as peaches and nectarines, see p. 492.

Common Apricot. Fl. Feb. Mar. Clt. 1548. Tr. 10 to 15 ft.

2 A. DASYCA′RPA (Pers. ench. 2. p. 36.) leaves ovate, acuminated, serrated; petioles glandular; flowers pedicellate; pedicels filiform. ♄. H. Native country unknown. A. atropurpúrea, Lois. in Duham. edit. nov. 5. p. 172. t. 15. f. 1. Prùnus dasycárpa, Ehrh. bietr. 6. p. 90. Lodd. bot. cab. 1250. Lindl. bot. reg. 1243.

Prùnus Armenìaca nìgra, Desf. cat. ed. 2. p. 206. In a specimen that flowered in the Botanical Garden at Geneva, the calyx was purple and 6-lobed, the petals 6 in number, and the stamens 24. This species is called *Abricot noir* in French gardens, the fruit black and eatable. It is supposed to be a native of the Levant. The flowers are white.

Thick-fruited Apricot. Fl. Apr. Clt. 1800. Tr. 10 to 15 ft.

3 A. persicifòlia (Lois. in Duham. ed. nov. 5. p. 172. t. 552. f. 1.) leaves ovate, short, or lanceolate, lobulate; petioles glandular; flowers pedicellate. ♄. H. Native country unknown. Flesh of fruit variegated with yellow and red, eatable. Called in France *Abricot noir à feuilles de pêcher*, or *peach-leaved black apricot*. Corolla white.

Peach-leaved Apricot. Fl. Mar. April. Clt. 1800. Tree 10 to 15 feet.

4 A. Sibi'rica (Pers. ench. 2. p. 36.) leaves ovate, acuminated; petiole glandless. ♄. H. Native of the ulterior mountains of Siberia. Amm. ruth. 272. t. 29. Prùnus Sibírica, Lin. spec. p. 679. Pall. ross. 1. p. 15. t. 8. This tree is much like the common *apricot* in appearance, but smaller in all its parts; the petioles are longer and destitute of any gland; the leaves are of the form of those of the birch tree; the fruit is small, juiceless, and sour or acid, and contains a bitter kernel. In transalpîne Dauria, the north side of the mountains in May are clothed with the purple flowers of *Rhododéndron Daúricum* and the south side with the rose-coloured blossoms of this tree.

Siberian Apricot. Fl. Apr. May. Clt. 1788. Sh. 4 to 6 ft.

5 A. Brigantì'aca (Pers. ench. 2. p. 36.) leaves somewhat cordate, acuminated, sharply toothed; the teeth numerous, and lapping over each other; flowers glomerate, almost sessile. ♄. H. Native of Dauphiny, near (Brigantia) Briançon. Prùnus Brigantìaca, Vill. dauph. 3. p. 535. Lois. in Duham. ed. nov. 5. t. 59. Flowers white or pink. From the seeds of this tree a fixed oil, commonly called *huile de marmote* is obtained by expression. It is used instead of olive or almond oil. Perhaps sufficiently distinct from *A. Sibírica*.

Briancon Apricot. Fl. Mar. April. Clt. 1819. Sh. 6 to 8 ft.

Cult. The species are all increased by budding on the same kind of stocks recommended for the common *apricot*. They grow in any kind of soil, and are very ornamental for shrubberies in spring.

IV. **PRU'NUS** (said to be a word of Asiatic origin, the wild plant, according to Galen, being called *προυμνος*, in Asia, from the Greek *προυνη*, which occurs in Theophrastus). Tourn. inst. t. 398. Juss. gen. 341. D. C. fl. fr. 4. p. 483. prod. 2. p. 532.—Prunóphora, Neck. elem. no. 719. Prùnus, species of Lin. and others.

Lin. syst. *Icosándria, Monogýnia.* Drupe ovate, or oblong, fleshy, quite glabrous, covered with a kind of glaucous bloom, containing a compressed nut or putamen, which is acute at both ends, and a little furrowed on the margin, the rest smooth. Trees or shrubs. Leaves convolute when young. Flowers usually disposed in umbellate fascicles, solitary on the pedicels, rising either after or before the leaves.

1 P. spinòsa (Lin. spec. 681.) branches spinose; peduncles solitary; calyx campanulate, with obtuse lobes, which are longer than the tube; leaves obovate-elliptic, or ovate, smooth except when young, sharply and doubly serrated; fruit globose. ♄. H. Native of Europe and America; plentiful in Britain, in hedges and thickets. Vahl. fl. dan. t. 926. Smith, engl. bot. 842. Woodv. med. bot. t. 84. Blackw. icon. t. 494. P. sylvéstris, Bauh. pin. 444. Σπονδιας, Theophrastus. Spìnus, Virgil. Flowers white, rising before or with the leaves. Fruit sour or acid, black, roundish, covered with bluish bloom. The *black thorn* is not so good as the *white thorn* for hedges, because it spreads its roots wide and encroaches upon the pastures; but it is excellent for dead fences, and to lay in covered drains. The fruit, when ripe, makes an excellent preserve; unripe the inspissated juice forms the German acacia, and affords an almost indelible ink, used to mark linens. It is used in home-made wines, to communicate the colour and roughness of red port. The tender leaves, dried, are sometimes used as a substitute for tea, and is the best substitute that has been yet tried, and it is said they have been used in mixing with the Chinese tea. Knight and others consider the *sloe* as the parent of the bullace plum (*P. insitìtia*) and the varieties of the common plum (*P. doméstica*). Sloes have been employed as a styptic medicine from the time of Dioscorides. They have been recommended in diarrhœas and hæmorrhages, and as gargles in the swellings of the tonsils and uvula. Dr. Cullen considers them as the most powerful of acerb fruits, and as agreeable and useful astringents. The flowers with their calyxes, are moderately purgative: the dose is an ounce infused in water. As a shrubbery plant the *sloe* is most ornamental, blossoming before all others of the *Prùnus* tribe.

Var. α, vulgàris (Ser. mss. in D. C. prod. 2. p. 532.) leaves obovate-elliptic; fruit dark purple. P. spinòsa, Lois. in Duham. ed. nov. 5. p. 185. t. 54. f. 1. There is a variegated-leaved kind of this.

Var. β, microcárpa (Wallr. exsic. cent. 1. no. 45.) leaves elliptic, narrow, bluntish; fruit smaller.

Var. γ, macrocárpa (Wallr. exsic. cent. 1. no. 45.) leaves obovate, bluntish; fruit large, dark purple. Native of Germany. Perhaps this is *P. doméstica*, var. ζ, *Juliàna.*

Var. δ, ováta (Ser. mss. in D. C. prod. 2. p. 532.) leaves ovate-roundish.—Blackw. herb. t. 494.

Thorny Plum, Black-thorn, or Sloe. Fl. Mar. Apr. Brit. Shrub 10 to 15 feet.

2 P. insiti'tia (Lin. spec. 680.) branches spiny at the apex; peduncles twin; leaves ovate or ovate-lanceolate, convolute, downy beneath; fruit roundish. ♄. H. Native of Germany and France, as well as of Britain, in hedges. Smith, engl. bot. 841.—Duham. arb. 2. t. 41. Black Bullace tree, Mill. dict. no. 31. The stipulas are fringed. The flowers are white. The fruit is globular, black, or white, of an acid taste, but so tempered by sweetness and roughness as not to be unpleasant, especially after it is mellowed by frost. A conserve is prepared by mixing its pulp with thrice its weight of sugar. The bark of the roots and branches is considerably styptic. An infusion of the flowers, sweetened with sugar, is a mild cathartic. It varies with black and white or wax-coloured fruit.

Grafted or Bullace-plum. Fl. Mar. Apr. Brit. Sh. 10 to 15 ft.

3 P. ca'ndicans (Balb. cat. taur. 1813. p. 62.) peduncles short, twin, or tern, and are as well as the branches pubescent; leaves broadly ovate, white beneath; stipulas very narrow, deeply toothed, length of petioles; calyx campanulate. ♄. H. Native country unknown. Willd. enum. suppl. p. 32. Lindl. bot. reg. 1135. Flowers white.

White-leaved Plum. Fl. Apr. Clt. 1820. Shrub 4 to 6 ft.

4 P. Cocomi'lia (Tenore, prod. suppl. 2. p. 67. cat. 1819. p. 46.) peduncles short, twin; leaves obovate, glabrous on both surfaces, crenulated, with the crenatures glandular; drupe ovate-oblong, mucronulate. ♄. H. Native of Calabria, in hedges. Flowers white. Fruit yellow, bitter, or sour. The bark of this shrub is febrifugal, and is spoken very highly of by Tenore: it is a specific for the cure of the dangerous fevers of Calabria, where it grows.

Cocomilia or Calabrian Plum. Fl. April. Clt. 1824. Sh. 2 to 3 feet.

5 P. tomentòsa (Thunb. fl. jap. 203.) branches unarmed;

peduncles solitary; leaves ovate, acute, serrated, villous above, tomentose beneath as well as the petioles. ♄. F. Native of Japan. Flowers white. Drupe the size of a pea.

Tomentose Plum-tree. Shrub 6 to 8 feet.

6 P. MARI'TIMA (Wangh. amer. 103. ex Willd. enum. 519.) peduncles twin; leaves ovate-lanceolate, serrated; fruit small, round, sweet, dark blue. ♄. H. Native of North America, in sand by the sea-side. Flowers white. Fruit size of a pigeon's egg, dark purple, good to eat.

Sea-side Plum. Fl. Apr. May. Clt. 1818. Sh. 5 to 8 feet.

7 P. ACUMINA'TA (Michx. fl. bor. amer. 284.) flowers? calyx glabrous; leaves oblong-oval, ending in a long, acute acumen; drupe ovate, acuminated, on a long peduncle. ♄. H. Native of Virginia. Perhaps the same as *P. maritima.*

Acuminated-leaved Plum. Shrub 6 to 10 feet.

8 P. PUBE'SCENS (Poir. suppl. 4. p. 584. but not of Pursh) flowers usually solitary, almost sessile; leaves ovate, thickish, and roundish, or ending in a short acumen, hardly pubescent, unequally toothed; petioles pubescent, short; fruit oval. ♄. H. Native country unknown. Flowers white.

Pubescent Plum. Fl. May. Clt. 1818. Shrub 2 to 3 feet.

9 P. DOME'STICA (Lin. spec. 680.) flowers usually solitary; leaves ovate-lanceolate, convolute; branches unarmed. ♄. H. Native of the south of Europe, in elevated places. Smith, engl. bot. 1783. Flowers white. Fruit variable, both in shape and colour. All the varieties of garden plums belong to this species. The *plum* is called *prune*, in French, *prugno* in Italian, and *pflaunzen-baum* in German. It rises usually to the height of 15 feet, branching into a moderately spreading head. The natural colour of the fruit is generally considered to be black, but the varieties in cultivation, yellow, blue, and green, and of different shapes and flavours. It is a native of or naturalized in Britain, very frequently found in hedges; but its original country is supposed to be Asia Minor; and according to Pliny it was brought from Syria into Greece, and thence into Italy.

Use.—The best varieties are esteemed a delicious dessert fruit, and the others are used in pies, tarts, conserves, and sweetmeats. A wholesome wine is also occasionally made from them, with or without other fruits or ingredients. Plums, Professor Martin observes, when sufficiently ripe and taken in moderate quantity, are not unwholesome, but in an immature state they are more liable to produce diarrhœa and similar diseases than any other fruit of the class. Considered medicinally, they are emollient, cooling, and laxative, especially the French prunes, which are peculiarly useful in costive habits. The wood of the *plum* is used in turnery, cabinet work, and in making musical instruments.

Varieties.—Tusser enumerates 10, Parkinson 60. In the Luxembourg Catalogue are 68, but in the Horticultural Catalogue for the present year there are 274, which are here disposed according to the colour and shape of the fruit.

Var. α, *armenioïdes* (Ser. ex D. C. prod. 2. p. 533.) fruit oval or roundish, yellow or greenish yellow; stone blunt. To this belong the following varieties of *plum.*

1 *Apricot, abricotée* (Duham. arb. fr. 2. p. 93. no. 20. t. 13.). Wood smooth. Fruit yellow, oval, middle-sized; flesh adhering to the stone. A bad kitchen fruit, ripening in the end of August.

2 *Abricotée hâtive*, Lois. in Duham. ed. nov. 5. p. 195. no. 23.

3 *Bonne deux fois l'an.* Wood downy. Fruit small, greenish-yellow, oblong; flesh adhering to the stone. An useless fruit, ripening in August and September.

4 *Bryanston-gage.* Wood smooth. Fruit roundish, greenish-yellow, middle-sized; flesh adhering to the stone. A second-rate dessert fruit, ripening in the beginning of October.

5 *White bullace.* Wood downy. Fruit round, yellow, small; flesh adhering to the stone. A kitchen and preserving fruit, ripening in October. An abundant bearer.

6 *Yellow Roman bullace.*

7 *Coe's golden drop, Coe's imperial golden. Golden drop, new golden drop, Burry seedling, Fair's golden drop, golden gage.* Wood smooth. Fruit oval, large; flesh adhering to the stone. One of the most valuable plums either for the table or for preserving, and a good bearer. Ripens in the end of September.

8 *White damson, small round damson.* Wood downy. Fruit oval, yellow; flesh adhering to the stone. A second-rate kitchen fruit, ripening about the end of September.

9 *Dennison's Albany.* Fruit yellow.

10 *Dennison's late.* Fruit oval, yellow, middle-sized. A good preserving fruit, ripening in October.

11 *Drap d'Or, mirabelle double* (Duham. arb. fr. 2. p. 96.), *mirabelle grosse, abricotée hâtive* (Lois. in Duham. ed. nov. 5. p. 195. no. 23.). Wood downy. Fruit small, round, yellow; flesh separating from the stone. An excellent dessert fruit, precedes the *green-gage* in ripening, and resembles it in quality.

12 *Chancellor gage.* Wood smooth. Fruit middle-sized, round, yellow. A second-rate dessert fruit.

13 *Gisborn's, Gisborn's early, Paterson's.* Wood downy. Fruit oblong, middle-sized, yellow; flesh separating from the stone. A second-rate kitchen fruit, ripening in the middle of August. A great bearer.

14 *Superior green-gage.* Wood downy. Fruit oval, yellow, middle-sized; flesh separating from the stone. A second-rate dessert fruit, ripening in the beginning of September.

15 *Guimaraen.* Wood downy. Fruit middle-sized; flesh adhering to the stone. A first-rate preserving fruit, ripening in the beginning of September.

16 *Mirabelle, mirabelle petite, mirabelle jaune.* Wood downy. Fruit small, roundish-ovate, yellow; flesh separating from the stone. A first-rate dessert fruit, and good for preserving. Ripens in the middle of August.

17 *Yellow Orleans.*

18 *Peter's large yellow.* Wood downy. Fruit middle-sized, oval; flesh adhering to the stone. A good dessert fruit, ripening in August. Bears considerable resemblance to the *green-gage*, but is not so good.

19 *Washington, new Washington, Franklin, Bolmar, Bolmar's Washington.* Wood downy. Fruit large, roundish-oval, yellow. Tree vigorous, bears well as a standard. A first-rate dessert fruit, ripening in September.

Var. β, *Claudiàna* (Pers. ench. 2. p. 35.) fruit roundish, rather depressed, green, and usually spotted with purple, rarely purple; flesh greenish yellow, more or less sugary; umbilicus hardly depressed; putamen or stone ending in a short mucrone. To this variety belong the following sorts of plums.

1 *Green-gage, brugnon green-gage, Reine Claude, abricot vert, vert bonne, Dauphine, Reine Claude blanche, grosse reine, grosse reine Claude* (Duham. arbr. fr. 2. p. 89. no. 25. t. 11.), *Damas vert, Sucrin vert, Drap d'Or* of some. Wood smooth. Fruit middle-sized, round, greenish yellow; flesh separating from the stone, ripening about the middle of August. Allowed by all to be one of the very best plums both for the dessert and for preserving.

2 *Aston green-gage.*

3 *Cowperthwait's green-gage.*

4 *Derbyshire green-gage.*

5 *Gonne's green-gage.*

6 *Hoo green-gage.*

7 *Isleworth green-gage, Wilmot's green-gage, Wilmot's new green-gage, Wilmot's late green-gage.*

8 *Late green-gage.*

9 *New green-gage.*

10 *Isle vert, de Savoye, Grüne inselpflaume.*

11 *Luscombe's nonsuch.* Wood smooth. Fruit large, greenish-yellow, round; flesh adhering to the stone. A second-rate dessert fruit, ripening in the end of August.

12 *White Orleans.* Wood smooth. Fruit round, greenish white; flesh adhering to the stone. A kitchen fruit, ripening in the middle and end of August.

13 *Reine Claude blanche, petite espèce, petite reine Claude.* Duham. arb. fr. 2. p. 91. no. 26.

14 *Reine Claude à fleur semidouble, reine Claude à fleurs demidoubles.* Flowers semidouble.

15 *Reine Claude violette* (Lois. in Duham. ed. nov. vol. 5. p. 195. no. 22. t. 57. f. 2.), *purple gage.* Wood smooth. Fruit middle-sized, purple; flesh separating from the stone. A first-rate dessert fruit, ripening in October. Succeeds as a standard, and is a good bearer.

Var. γ, Catherínea (Ser. mss. in D. C. prod. 2. p. 534.) fruit roundish-obovate or roundish, wax-coloured or yellow; umbilicus exserted; flesh sweet, hardly sapid; stone bluntish, usually rather prominent at the base, and truncate. Prùnus doméstica cèrea, Lin. spec. 680. To this variety belong the following sorts of plums.

1 *Abricotée blanche.* Lois. in Duham. ed. nov. 5. p. 205. t. 60. f. 10.

2 *Abricotée blanche à longue queue grosse.*

3 *Bingham's.* Wood downy. Fruit large, yellow, oblong; flesh adhering to the stone. A second-rate dessert kind, ripening in September.

4 *Bricette.* Duham. arb. fr. 2. p. 97. no. 31. t. 29. t. 5.

5 *Damas ambre.*

6 *Damas ballon.*

7 *Damas ballon jaune et vert.*

8 *Damas ballon rouge et jaune.*

9 *Gros damas blanc* (Duham. arb. fr. 2. p. 72. no. 7. t. 3. f. 2.), *gros damas blanc hâtif, damas blanc très hâtif.* Wood smooth. Fruit yellow, oval, middle-sized; flesh separating from the stone. A second-rate kitchen fruit, ripening in the middle of September.

10 *Petit damas blanc* (Duham. arb. fr. 2. p. 71. no. 6. t. 3.). Fruit small, yellow, oval. Wood smooth. Flesh separating from the stone. A second-rate kitchen fruit, ripening in the beginning and middle of September.

11 *Damas dronet.* Wood smooth. Fruit oval, middle-sized, yellow; flesh separating from the stone. Ripens in August.

12 *Damas d'Espagne.*

13 *White damask.*

14 *Downton impératrice.* Wood smooth. Fruit obovate, middle-sized; flesh separating from the stone. A first-rate dessert and preserving fruit, ripening in October.

15 *White imperatrice, impératrice blanche* (Duham. arb. fr. 2. p. 106. t. 18. f. 2.). Wood smooth. Fruit white, obovate, middle-sized; flesh separating from the stone. A second-rate dessert and preserving fruit, ripening in the beginning and middle of August.

16 *Jaune hâtive* (Duham. arb. fr. 2. p. 66. f. 1.), *jaune de Catalogne, Catalonian, white primordian, amber primordian, St. Barnabé, D'Avoine.* Wood downy. Fruit oval, yellow, middle-sized; flesh separating from the stone. A dessert fruit, ripening in the end of July. Only to be recommended for its earliness.

17 *Mirabelle tardive.* Fruit oval, purple and yellow, small; flesh separating from the stone. A preserving fruit, ripening in the beginning of September.

18 *White perdrigon, perdrigon blanc* (Duham. arb. fr. 2. p. 84. no. 2. t. 8.), *brignole* (Calv. pep. 2. p. 187.). Wood downy. Fruit middle-sized, yellow, oval; flesh adhering to the stone. A first-rate preserving fruit, ripening in the end of August. This and the *blue perdrigon* furnish the brignole prunes of the shops.

19 *Yellow perdrigon.*

20 *Gros perdrigon de brignole.*

21 *Saint Catharine* (Duham. arb. fr. 2. p. 109. t. 19.). Wood smooth. Fruit oblong, middle-sized, yellow; flesh adhering to the stone. A first-rate dessert and preserving fruit, ripening in the middle of September. It is a good bearer.

22 *Saint Julien.* Like the last. Used chiefly for stocks for peaches.

23 *Grosse virginale blanche.* Lois. in Duham. ed. nov. 5. p. 206. no. 62. t. 62. f. 1.

24 *White pear.* Fruit pale yellow, obovate, middle-sized; flesh adhering to the stone. A worthless kitchen fruit, ripening in the end of August. Bears abundantly. Grown chiefly for stocks for peaches.

Var. δ, Aubertiàna (Ser. mss. in D. C. prod. 2. p. 534.) fruit ovate, obtuse, yellow on all sides; umbilicus depressed; stone hardly prominent at the base. To this variety belong the following kinds of plums.

1 *White magnum bonum, yellow magnum bonum, dame Aubert* (Duham. arbr. 2. p. 107. no. 41. t. 2.), *dame Aubert blanche, dame Aubert jaune, grosse luisante, impériale blanche* (Nois. jard. fr. 143. no. 37. t. 57. and t. 58. f. 4.), *impératrice jaune* (Calv. pep. 2. p. 196. ex Lois. l. c.), *egg plum, Wentworth, white Holland, white Mogul.* Wood smooth. Fruit large, oval, yellow, and white; flesh adhering to the stone. A second-rate ki[illegible] fruit, ripening in September.

2 *New magnum bonum.*

3 *Prune datte* (Duham. arb. fr. 2. p. 202.). Fruit yellow, oval, middle-sized. A preserving fruit, ripening in September.

4 *Rognon d'ane.* Calv. pep. 2. p. 202.

5 *Prune moyenne de Bourgogne.* Calv. pep. 2. p. 202. ex Lois. l. c. p. 206. no. 61.

Var. ε, Myrobálana (Lin. spec. 680.) fruit globose, depressed at the base, red; umbilicus depressed; stone mucronulate; sepals narrow. Prùnus cerasífera, Ehrh. beitr. 4. p. 17. Prùnus Myrobálana, Lois. l. c. 5. p. 184. t. 57. f. 11. To this variety belong the following garden plums.

1 *Cerisette.* Lois. l. c. p. 190. no. 58. t. 5.

2 *Cherry plum, Virginian cherry, Myrobálan* (Duham. arb. fr. 2. p. 111. no. 46. t. 2. f. 15.), *De Virginie, early scarlet, D'Amérique rouge.* Wood smooth. Fruit middle-sized, cordate, red. A second-rate dessert and kitchen fruit, ripening in the beginning and middle of August.

Var. ζ, Damascèna (Lin. spec. 680.) fruit globose, depressed, violaceous; stone short; keel prominent, blunt at the apex. To this variety belong the following garden plums.

1 *Azure hâtive.* Wood downy. Fruit round, purple, middle-sized; flesh separating from the stone. A second-rate dessert fruit, ripening in the beginning of August.

2 *De chypre* (Duham. arb. fr. 2. p. 82. no. 18.). Wood smooth. Fruit middle-sized, round, purple; flesh separating from the stone. A second-rate dessert fruit, ripening in the end of August.

3 *Coe's fine late red.* Wood downy. Fruit middle-sized, purple, round; flesh separating from the stone. A first-rate dessert fruit, ripening in October. Valuable for its lateness.

4 *Damas de Maugeron* (Duham. arb. fr. 2. p. 76. no. 18. t.

5.). Wood smooth. Fruit middle-sized; flesh adhering to the stone. A worthless fruit.

5 *Damas musqué* (Duham. arb. fr. 2. p. 74. no. 10. t. 20. f. 3.), *prunier des Vacances* (Lois. l. c. 5. p. 192. no. 10. t. 55. f. 3. but not of Duham.). A worthless sort.

6 *Damas noir hâtive.* Lois. l. c. but not of Duham.

7 *Damas violette gros.*

8 *Damas rouge, gros damas rouge tardif.* Lois. l. c. 5. p. 198. no. 33. t. 58. f. 1.

9 *Damas rouge de Christ.*

10 *Petit damas rouge.* Lois. l. c. 5. p. 198. no. 32. t. 56. f. 8.

11 *Monsieur* (Duham. arb. fr. 2. p. 78. no. 15. t. 7.), *monsieur ordinaire.* Wood downy. Fruit middle-sized, purple, round; flesh separating from the stone. A second-rate dessert and kitchen fruit, ripening in the middle of August. Differs very little from the *Orleans.*

12 *Royale.* Duham. arb. fr. 2. p. 88. no. 24. t. 10.

13 *Kirke's.* Wood smooth. Fruit middle-sized, purple, round; flesh separating from the stone. A first-rate dessert fruit, ripening in the beginning and middle of August.

Var. η, *Turonénsis* (Ser. mss. in D. C. prod. 2. p. 533.) fruit obovate or globose; stone blunt at the apex or mucronulate. To this variety belong the following kinds of plums.

* *Fruit obovate.*

1 *D'Agen.* Fruit purple, obovate, middle-sized; flesh separating from the stone. A good bearer, and a first-rate table and preserving fruit. Ripening in the end of September.

2 *Cornemuse.* Wood downy. Fruit middle-sized, obovate, purple; flesh separating from the stone. A second-rate preserving fruit, ripening in the beginning of September.

3 *Figue grosse rouge.* Wood downy. Fruit oblong-obovate, large; flesh separating from the stone. A second-rate fruit, ripening in September.

4 *Blue impératrice, impératrice violette, véritable impératrice, violette.* Wood smooth. Fruit large, purple, obovate; flesh adhering to the stone. A first-rate dessert and preserving fruit, ripening in October. A good bearer.

5 *Imperial diadem, Mimms.* Wood smooth. Fruit obovate, large, purple; flesh separating from the stone. A first-rate dessert and kitchen fruit, ripening in the beginning of September.

* * *Fruit oval or oblong.*

6 *D'Autriche, prune datte, prune datte violette.* Fruit middle-sized, purple, oblong; flesh separating from the stone. A preserving fruit, ripening in the end of July.

7 *Bifère.* Fruit purple, oblong.

8 *Chesnut.* Wood smooth. Fruit middle-sized, purple, oblong; flesh adhering to the stone. A second-rate dessert fruit, ripening in the beginning of September.

9 *Cooper's large, Cooper's large red, Cooper's large American, La délicieuse.* Wood smooth. Fruit oval, purple, middle-sized; flesh separating from the stone. A second-rate dessert fruit, ripening in the end of September.

10 *Fotheringham.* Wood smooth. Fruit middle-sized, oblong, purple; flesh separating from the stone. A second-rate dessert fruit, ripening in the middle and end of August.

11 *Goliath, Caledonian, nectarine* of some, *Wilmot's late Orleans, Saint Cloud.* Wood downy. Fruit large, purple, oblong; flesh adhering to the stone. A second-rate kitchen fruit, ripening in the middle of August. The tree bears well.

12 *Gwalsh.* Wood smooth. Fruit large, oval, purple. A second-rate dessert fruit, ripening in September, resembling the *red magnum bonum.*

13 *Red magnum bonum, impériale, red imperial, impériale rouge.* Wood smooth. Fruit large, oval; flesh separating from the stone. A second-rate kitchen fruit, ripening in September.

14 *Orleans, red damask.* Wood downy. Fruit middle-sized, round, purple; flesh separating from the stone. A second-rate kitchen and dessert fruit, ripening in the middle and end of August. A good bearer.

15 *Coul Orleans.*

16 *Early Orleans, Grimwood's early Orleans, monsieur hâtif, monsieur hâtif de Montmorency, new early Orleans, new Orleans, Hampton Court.* Wood downy. Fruit middle-sized, round, purple; flesh separating from the stone. A second-rate kitchen and table fruit, ripening in the beginning and middle of August.

17 *Late or black Orleans.*

18 *Knevett's late Orleans.*

19 *Smith's Orleans.*

20 *Wilmot's new early Orleans, Wilmot's Orleans, Wilmot's early Orleans, Wilmot's large Orleans.* Wood downy. Fruit middle-sized, round, purple; flesh separating from the stone. A dessert and kitchen fruit, very like the *early Orleans.*

21 *Perdrigon des Alpes.* Fruit small, purple, oval; flesh separating from the stone. A worthless sort.

22 *Blue perdrigon, perdrigon violette* (Duham. arb. fr. 2. p. 82. no. 21. t. 9.?), *perdrigon de brignole.* Wood downy. Fruit oval, middle-sized, purple; flesh adhering to the stone. A first-rate dessert and preserving fruit, furnishing the brignole prunes of the shops.

23 *Perdrigon Normand.* Duham.

24 *Perdrigon rouge* (Duham. arb. fr. 2. p. 86. no. 22. t. 20. f. 6.?). Wood downy. Fruit middle-sized, purple, oval; flesh separating from the stone. A second-rate dessert fruit, ripening in the beginning and middle of September.

25 *Perdrigon tardif.*

26 *Perdrigon violet des Alpes.* Wood downy. Fruit middle-sized, oval, purple; flesh separating from the stone. A second-rate dessert and preserving fruit, ripening in the middle of August.

27 *Perdrigon violette hâtif.*

28 *Pigeon's heart.* Wood smooth. Fruit middle-sized, oval, purple; flesh adhering to the stone. A second-rate sort, ripening in the beginning of September.

29 *Précoce de Tours, Noire hâtive, early violet, perdrigon violet* of some, *blue perdrigon.* Wood downy. Fruit middle-sized, oval, purple; flesh adhering to the stone. A second-rate dessert and kitchen fruit, ripening in the beginning of August.

30 *Rodney, Rodney gage.* Wood downy. Fruit large, purple, oval; flesh adhering to the stone. A second-rate dessert fruit, ripening in August.

31 *Royal Dauphin.* Wood smooth. Fruit large, red, and oval; flesh separating from the stone. A second-rate sort, ripening in the beginning of September.

32 *Royale de Tours* (Duham. arb. fr. 2. p. 81. no. 17. t. 20. f. 8.). Wood downy. Fruit large, round, purple; flesh adhering to the stone. A first-rate dessert and kitchen fruit, equal to the *Orleans,* if not better.

33 *Saint Martin rouge, Saint Martin* (Lois. l. c. 5. p. 193. no. 12. t. 58. f. 7.). Wood downy. Fruit middle-sized, purple, oval; flesh adhering to the stone, ripening in October. A very good kind, considering its lateness.

34 *Sharp's emperor.* Wood downy. Fruit oblong, purple, large; flesh adhering to the stone. A second-rate dessert fruit, ripening in the end of September.

35 *Valance, Saint Loo.* Wood smooth. Fruit oblong, large, purple; flesh adhering to the stone, ripening in the middle and end of September. Seems only fit for drying.

36 *Suisse*, *prunier Suisse* (Duham. arb. fr. 2. p. 82. no. 19. t. 20. f. 7.), *Altesse*, *monsieur tardive*, *Simiana*.

37 *Gros damas de Tours* (Duham. arb. fr. 2. p. 69. no. 4.). Wood downy. Fruit middle-sized, oval, purple; flesh adhering to the stone. A second-rate table fruit, ripening in the beginning of August.

38 *Damas de Tours*.

39 *Damas d'Italie* (Duham. arb. fr. 2. p. 65. no. 12. f. 4.). Wood smooth. Fruit middle-sized, purple; flesh separating from the stone. A second-rate table and preserving fruit, ripening in the beginning of September.

40 *Jerusalem*, *prunier de Jerusalem* (Lois. l. c. 5. p. 194. no. 16. t. 56. f. 2.), *Œil de Bœuf*, *de Bordeaux*. Wood downy. Fruit large, purple, round; flesh adhering to the stone. A second-rate table fruit, ripening in the middle of September.

41 *Tardive de châlons*. Lois. l. c. 5. p. 193. no. 13. t. 58. f. 6.

Var. ϑ, *Juliàna* (Lin. spec. 580.) fruit ovate-globose, round, oblong or oval, small, blue or purple; umbilicus not depressed, the suture hardly evident; stone mucronulate. Prùnus damascèna, Black. herb. t. 305.? To this variety belong the following garden plums.

1 *Aston*. Fruit small, round, purple; flesh adhering to the stone. A second-rate preserving fruit, ripening in September.

2 *Auchtertyre*. Wood downy. Fruit small, purple, oval; flesh separating from the stone. A second-rate sort, ripening in August.

3 *Black bullace*. Wood downy. Fruit small, round, purple; flesh adhering to the stone. A worthless fruit, ripening in October.

4 *New large bullace*.

5 *Damas d'Espagne*. Lois. l. c. 5. p. 196. no. 25. t. 56. f. 4.

6 *Damas noir de Septembre*. Duham. arb. fr. 2. p. 77. no. 14. t. 6.

7 *Damas noir tardif* (Duham. arb. fr. 2. p. 73. no. 9. t. 20. f. 4.). Wood downy. Fruit middle-sized, purple, roundish; flesh adhering to the stone. A second-rate dessert fruit, ripening in the beginning of September.

8 *Damas petit tardif*. Wood downy. Fruit small, roundish, purple. A worthless sort, ripening in the end of September.

9 *Damas de Provence*.

10 *Damas de Provence hâtif*. Lois. l. c. 5. p. 197. no. 27.

11 *Damas Quiné*.

12 *Damas de Septembre* (Duham. arb. fr. 5. p. 77. no. 14. t. 6.), *prune de Vacance*. Wood downy. Fruit small, purple, oval; flesh adhering to the stone. A second-rate sort, ripening in the end of September.

13 *Damas de Valence*.

14 *Damas violet* (Duham. arb. fr. 2. p. 192. no. 11. t. 56. f. 5. ?). Wood downy. Fruit small, oval, purple; flesh separating from the stone. A second-rate dessert fruit, ripening in the end of August.

15 *Damas violet tardif*.

16 *Blue damask*.

17 *Domine Dull's*. Wood smooth. Fruit oval, purple, middle-sized; flesh adhering to the stone. A second-rate kitchen fruit, ripening in the beginning of September.

18 *Morocco*, *black Morocco*, *black damask*, *early Morocco*, *early black Morocco*, *early damask*. Wood downy. Fruit middle-sized, round, purple; flesh adhering to the stone. A second-rate dessert fruit, ripening in the beginning of August.

19 *Moyeu de Bourgogne*. Wood downy. Fruit middle-sized, round, purple; flesh adhering to the stone. A second-rate kitchen fruit, ripening in the middle of August.

20 *Nelson's victory*. Wood smooth. Fruit round, purple, middle-sized; flesh adhering to the stone. A worthless kind, ripening in the middle of August.

21 *Muscle*. Wood downy. Fruit purple, oval, middle-sized; flesh adhering to the stone. A third-rate kitchen fruit.

22 *Perdrigon hâtif*. Wood downy. Fruit round, purple, middle-sized; flesh separating from the stone. A second-rate dessert fruit, ripening in the middle and end of August.

23 *Saint Julien* (Lois. in Duham. ed. nov. 5. p. 189. t. 54. f. 2. and 56. f. 9.). Used chiefly for stocks for peaches.

24 *Petit Saint Julien*.

25 *Gros Saint Julien*. Lois. l. c. p. 190. no. 2. t. 58. f. 3.

26 *Stonewood*. Fruit purple, roundish, middle-sized; flesh separating from the stone. A second-rate table fruit, ripening in the beginning of September.

27 *Virgin*, *prunier de Virginie* (Duham. arb. fr. 2. p. 111. no. 45.). Wood smooth. Fruit roundish, middle-sized, purple; flesh separating from the stone. A first-rate dessert fruit, resembling the *reine Claude violette*, ripening in the beginning of September.

28 *Virginale rouge*. Lois. l. c. p. 192. no. 11. t. 56. f. 5.

29 *Prunier noir de Montreuil*. Duham. arb. fr. 2. p. 68. no. 3.

30 *Gros noir de Montreuil*.

Var. ι, *pruneauliàna* (Ser. in D. C. prod. 2. p. 534.) branches pyramidal; fruit ovate, more or less obtuse or elongated, violaceous, rarely green; umbilicus exserted; nut very much compressed, elongated, prominent at the base, more or less acute at the apex. Prùnus pyramidàlis, D. C. fl. fr. 4. p. 485. Perhaps not distinct from var. *Juliàna*. To this variety belong the following garden plums.

1 *Abricotée rouge*. Lois. l. c. p. 196. no. 24. t. 46. f. 11.

2 *Ashridge black*.

3 *D'Amérique noire*.

4 *Black ball*, *black hill*.

5 *Bonne rouge*.

6 *Damas rouge*.

7 *Damatie rouge*.

8 *Damson*, *common damson*, *round damson*, *small round damson*. Wood downy. Fruit small, purple, roundish, obovate; flesh separating from the stone. A kitchen fruit, ripening in September. *Damsons* are all raised from the stone.

9 *Black damson*.

10 *Round black damson*.

11 *Early damson*.

12 *Long damson*.

13 *Shailer's white damson*.

14 *Shropshire damson*, *prune damson*.

15 *Sweet damson*.

16 *Violet damson*.

17 *White damson*.

18 *Diaprée blanche*. Duham. arb. fr. 2. p. 104. no. 38. t. 20. f. 11.

19 *Diaprée blanche longue*.

20 *Diaprée rouge* (Duham. arb. fr. 2. p. 102. no. 37. t. 20. f. 12.), *roche corbon*. Wood smooth. Fruit middle-sized, oval, purple; flesh separating from the stone. A second-rate dessert fruit, ripening in the middle of September.

21 *Cheston*, *matchless*, *Diaprée violette* (Duham. arb. fr. 2. p. 111. no. 36. t. 17.). Wood smooth. Fruit oval, purple, middle-sized; flesh separating from the stone. A second-rate table and preserving fruit.

22 *French prune*.

23 *Elfreth's prune*.

24 *Hungarian prune*. Fruit oblong, purple, middle-sized; flesh adhering to the stone. A preserving fruit, ripening in the end of September. A sort of *quetsche*.

25 *Horse plum, Irish horse plum.*

26 *Impériale de Milan.*

27 *Impériale Ottoman.*

28 *Impériale violette.* Duham. arb. fr. 2. p. 98. no. 32. t. 15.

29 *Impériale violette à feuilles panachées.* Duham. arb. fr. 2. p. 99. no. 33.

30 *Isabella.* Wood downy. Fruit oval, red, middle-sized; flesh adhering to the stone. A first-rate dessert and kitchen fruit, ripening in the end of August.

31 *Jacinthe.* Duham. arb. fr. 2. p. 100. no. 34. t. 16.

32 *Prunallier.*

33 *Prunallier petit.*

34 *Quetsche* (Nois. jard. fr. 144. no. 42.), *common quetsche, Zwetschen* (Lois. l. c. p. 203. t. 55. f. 6.), *Zwetsche, Zwetschke, grosse quetsche, prune d'Allemagne, prunier Allemand* (Lois. l. c. p. 202. no. 45.), *gros quetsche d'Allemagne, German prune, Leipzig, impératrice violette* of many, *grosse impératrice violette, damask, gros damas, damas violette* of some, *gros damas violette.* Wood smooth. Fruit oval, middle-sized, purple; flesh separating from the stone. A second-rate kitchen and preserving fruit. Bears well in this country. In Germany it is much cultivated for the purpose of drying. It is the German prune of the shops.

35 *Austrian quetsche.* Wood smooth. Fruit oval, purple, middle-sized; flesh separating from the stone. A second-rate preserving and kitchen fruit, ripening in the end of September.

36 *Quetsche de Brême.* Wood smooth. Fruit oblong, middle-sized, purple; flesh separating from the stone. A first-rate preserving fruit, ripening in September.

37 *Hungarian quetsche.* Wood smooth. Fruit purple, oblong, middle-sized; flesh separating from the stone. A preserving fruit, ripening in September.

38 *Quetsche d'Italie.*

39 *Early Leipzig quetsche.* Wood smooth. Fruit middle-sized, oblong, purple; flesh separating from the stone. A preserving fruit, ripening in the beginning of September.

40 *Long green quetsche.*

41 *Saint James's quetsche.* Fruit oblong, purple; flesh adhering to the stone. A preserving fruit, ripening in September.

42 *Saint Martin's quetsche.*

43 *Quetsche précoce.*

44 *Quetsche Rognon de Coq.*

45 *Turkish quetsche.*

46 *Quetsche verte.*

47 *Wetherell's sweet.* Fruit round, purple, small; flesh separating from the stone. A preserving fruit, ripening in the end of September. A sort of *damson.*

48 *Wheat, wheaten, whitton, great whitton, nutmeg.* Wood smooth. Fruit roundish-oblong, middle-sized, red; flesh adhering to the stone. A second-rate dessert fruit, ripening in the middle and end of August. Remarkable for its bright fiery red-colour.

49 *Wine sour, Rotherham.* Wood downy. Fruit small, purple, roundish-oblong; flesh adhering to the stone. A first-rate preserving fruit, ripening in the middle of September.

50 *New wine sour.*

51 *Prunier haricot.* Ser. ined.

† *A list of plums not sufficiently known, but none of them are probably worth notice.*

1 *Belle de Riom.* 2 *Brompton.* 3 *Brussels.* 4 *Buchanan.* 5 *Burnet.* 6 *De Canada.* 7 *Court royal.* 8 *Cydmarine.* 9 *Dame Aubert rouge.* 10 *Dame Aubert violette.* 11 *Winter damson.* 12 *Davies's seedling.* 13 *Deron's.* 14 *Dittisham.* 15 *Double blossomed, à fleurs doubles.* 16 *Duke of Devonshire.* 17 *Dumferline.* 18 *Elfry's.* 19 *Elton.* 20 *Emperor.* 21 *Prùnier à fleur semidouble.* 22 *Fall copper.* 23 *French copper.* 24 *Blucher's gage.* 25 *Banker's gage.* 26 *Flushing gage.* 27 *Schuyler's gage.* 28 *White gage.* 29 *Garlick's early.* 30 *Goldsmith's Vienna.* 31 *Green plum of Tours.* 32 *Grove-house purple.* 33 *Honey Julien.* 34 *Horse jag.* 35 *Jean morceau.* 36 *Julien gros à feuilles panachées.* 37 *Kenellan.* 38 *Lammas.* 39 *Large green drying.* 40 *Luscombe's seedling.* 41 *Maitre Claude.* 42 *Mignonne.* 43 *Mirabelle de Lory.* 44 *Mirabelle rouge.* 45 *Miviam.* 46 *Monsieur d'Agen.* 47 *Wild Oakley park.* 48 *Oddy's.* 49 *Orange.* 50 *Panachée.* 51 *Blue primordian.* 52 *Pseudo Mirabelle.* 53 *Queen mother.* 54 *Raisin.* 55 *Roi d'Agen.* 56 *Saint Antonio.* 57 *Saint Maurin.* 58 *Saint Rême.* 59 *Scaldatello.* 60 *Scaldatone.* 61 *Small green drying.* 62 *Steer's emperor.* 63 *Svedske Ungersk.* 64 *Tidlig Leipziger Svedske.* 65 *Sweet prune.* 66 *Triancon.* 67 *La Victorine.* 68 *Violet gage.* 69 *Violet de Tours.* 70 *White corn.* 71 *Yellow gage.* 72 *Yellow Jack.*

Cultivation of the plum in orchards appears to be deserving of more encouragement than it generally meets with. Not only does the fruit make excellent pies and tarts, but it may be kept in large quantities, so as to be ready for that purpose at any period of the year. They also make a good wine, and with other fruits and ingredients form one of the substitutes for port. The *damson, bullace,* and some other kinds will grow and bear high flavoured fruit in hedges, where the soil is dry below, and not too thin. The fruit of the *sloe* is for wine-making superior to that of the plum, and nearly as good for tarts.

Selection of sorts. The following are recommended by Forsyth for a small garden: 1 *Jaune hâtive.* 2 *Morocco.* 3 *Orleans.* 4 *Royal.* 5 *Green-gage,* different sorts. 6 *Drap d'Or.* 7 *Saint Catharine and imperatrice.* 8 *Magnum bonum,* for baking. 9 *Wine-sour,* for preserving.—The table fruit in the Dalkeith garden are as under, placed in the order of their ripening, all of them being planted against walls. 1 *Violet de hâtive.* 2 *Early hâtive.* 3 *New Orleans.* 4 *Early Morocco.* 5 *Green-gage.* 6 *Blue-gage.* 7 *Blue perdrigon.* 8 *Apricot plum.* 9 *Fotheringham.* 10 *White magnum bonum.* 11 *Imperial.*

Propagation. Most of the varieties are propagated by grafting or budding on the *muscle, St. Julien, magnum bonum,* or any free growing *plums,* raised from seed or from suckers, but seedlings are preferable to stocks for a permanent plantation. The common baking plums, as the *damson, bullace, Wentworth,* &c. are generally propagated by suckers, without being either budded or grafted. *Plum* grafting is performed in February or March; budding in July or August. Miller prefers budding, because plums are very apt to gum wherever large wounds are made on them. New varieties are procured by propagating from seeds on the general principles already stated. T. A. Knight (Hort. trans. 3. p. 214.) in an attempt to combine the bulk of the *yellow magnum bonum* with the richness and flavour of the *green-gage,* produced a fruit which partook of both parents; and a good variety of the *Orleans plum* has been raised from seed by J. Wilmot, Hort. trans. 3. p. 392.

Soil. Plums, according to Miller, should have a middling soil, neither too wet and heavy, nor over light and dry, in either of which extremes they seldom do well. Abercrombie recommends any mellow fertile garden or orchard ground; and where a soil is to be made, "one-half fresh loam, one-fourth sharp sand, one-sixth road stuff, and one-twelfth vegetable remains or decomposed dung, or animal matter."

Site. The *plum* is cultivated like other indigenous fruit-trees, the hardier sorts as standards, and the finer varieties against walls. It is sometimes forced; but the blossom, like that of the cherry, is difficult to set, and on the whole it is a fruit not well adapted for forcing. The finer varieties are almost always planted against walls, which, Miller says, should have an east south-east aspect, which is more kindly to these fruits than a full south aspect, on which they are subject to shrivel and be very dry, and many sorts will be extremely mealy if exposed too much to the heat of the sun; but most sorts will ripen extremely well as espaliers if rightly managed. Some, he adds, plant *plums* for standards, in which method some of the ordinary sorts will bear very well, but then the fruit will not be near so fair as those produced on espaliers, and will be more in danger of being bruised or blown down by strong winds. Abercrombie says, "have some choice sorts against south walls for earlier and superior fruit; others on east and west walls, and espaliers to ripen in succession, with full and half standards in the orchard."

Choice of plants. Miller recommends trees of not more than one year's growth from the bud, for if they are older they are very subject to canker, or if they take well to the ground commonly produce only two or three luxuriant branches. Abercrombie and Nicol take plants from one to five years old. Forsyth chooses "clean straight plants, with single stems, and of two or three years' growth."

Final planting. Miller says it is common to see *plum* trees planted at the distance of 14 or 16 feet, so that the walls are in a few years covered with branches, and then all the shoots are cut and mangled with the knife, so as to appear like a stumped hedge, and produce little fruit; therefore the only way to have *plum* trees in good order is to give them room, and extend their branches at full length. Abercrombie directs full and half standards to be planted at 40, 30, 25, and 20 feet distance; dwarfs generally 20 feet apart, and wall trees or espaliers 15, 20, or 25 feet from stem to stem. Forsyth says *plums* and cherries thrive best by themselves, and he prefers a wall for each, placing *plums* on walls 10 feet high, 8 yards apart, and at 7 yards distance on 12 feet walls.

Mode of bearing. All the sorts produce their fruit on small natural spurs, rising at the ends and along the sides of the bearing shoots, on one, two, or three years' growth. In most sorts new fruit branches are 2 years old before the spurs bear. The same branches and spurs continue fruitful in proportion to the time which they take to come into bearing. After the formation of the head is begun, it takes from 2 to 6 years before the different sorts come into bearing. Miller trains horizontally, and is against shortening the branches of *plum* trees, since the more these trees are pruned, the more luxuriant they grow, until the strength of them is exhausted, and then they gum and spoil; therefore the safest method to manage these trees, is to lay in their shoots horizontally, as they are produced at equal distances, in proportion to the length of their leaves, pinching off the points of young shoots, where lateral branches are desired, and displacing foreright and irregular shoots, or such as shade the fruit. With thus carefully going over these trees in the growing season, there will be but little work to do to them in the winter. Abercrombie agrees with Miller in not shortening the fruitful branches. Standards, he says, must be allowed to "expand in free growth, occasionally pruning long, rambling, and cross-placed or other irregular branches. Thin crowded parts, cut away worn out bearers, also decayed and cankery wood." Forsyth says, "never cut the stems of young *plum* trees when first planted, but leave them till the buds begin to break, then you may head them down to 5 or more eyes, always observing to leave an odd one for the leading shoot; remember to cut sloping towards the wall, and as near to an eye as possible: thus managed, the shoots will soon fill the wall with fine wood. If you find that some of the shoots are too luxuriant, you may pinch the tops off with your finger and thumb about the beginning of June, in the first year after planting; by doing which you will obtain plenty of wood to fill the bottom of the wall. A great deal depends on the first and second years' management of your trees."

Renovating decaying trees.—Proceed as directed for the peach, but observe that the *plum* tree, when cut down, is very apt to run to wood, therefore the new soil must neither be very rich nor laid on in a very deep stratum.

Protecting blossoms.—This is sometimes done with the tenderer sorts, in the same way as for peaches and apricots.

Taking the crop.—The different sorts of the *plum* ripen in succession for about 3 months in summer and autumn. Some early sorts begin to ripen in July; the main varieties reach full maturity in August and September; late sorts continue ripening till the end of October or beginning of November. Each kind should be brought to table presently after being gathered, as they will not keep long in a natural state.

Insects and diseases.—See peach. The gum and canker are the most common diseases, and, as in almost every other case, the acarus is the most noxious insect. As a remedy for the former, Abercrombie directs to head down.. The insects are destroyed by the common means. The *gages*, or *reine Claudes*, when nearly ripe, are very apt to be eaten by wasps.

Forcing plums. Mr. J. Aiton (Hort. trans. 4. p. 531.) says, when an early crop of plums is desired, they are best forced in large tubs or pots, as this method admits of their being removed at pleasure into different temperatures; but for a general crop to ripen by the end of May or beginning of June, he prefers having the trees planted in the forcing house. The temperature required for cherries answers well for plums, and plenty of air must be admitted. He prefers, for forcing, the *Précoce de Tours*, *green gage*, *azure hâtive*, *white perdrigon*, *Orleans*, *new Orleans*, and *Morocco*.

Domestic or Garden-plum. Fl. April, May. Britain. Tree 10 to 20 feet.

10 P. DIVARICA'TA (Led. fl. ros. alt. ill. t. 13. fl. alt. 2. p. 211.) branches unarmed; petioles glandless; leaves oblong-elliptic, attenuated at both ends, convolute, serrated, glabrous, having the middle rib beneath bearded longitudinally; peduncles solitary; calyx reflexed; fruit elliptic, yellow. ♄. H. Native of Caucasus. Flowers white, very numerous.

Divaricate Plum. Fl. April. Clt. 1820. Shrub 8 to 10 ft.

11 P. MICROCA'RPA (Meyer, verz. pfl. p. 166.) unarmed; leaves quite glabrous, conduplicate, ovate-elliptic, or oblong, obtuse, sharply serrated; serratures immarginate and glandless; umbels many-flowered; calyx tubular; drupe and nut oblong. ♄. H. Native of Caucasus, on mount Bechvarmak.

Small-fruited Plum. Shrub.

12 P. CHINE'NSIS (Blum. bijdr. p. 1104.) leaves oblong, acuminated, furnished with 2 glands at the base, and unequally and glandularly serrulated, glabrous, except in the axils of the veins beneath, where they are pubescent; flowers rising from the buds in umbellate fascicles; sepals glandularly serrulated; fruit round, yellowish red. ♄. G. Native of China.

China Plum. Tree.

Cult. All the species grow in any kind of soil, and are either increased by seeds, by suckers from the roots, or by grafting or budding for to continue rare sorts.

V. CE'RASUS (said to have been first brought from Cerasus, a town in Pontus, in Asia). Juss. gen. 340. D. C. fl. fr. 4. p. 479. D. C. prod. 2. p. 535.—Cérasus and Lauro-cérasus, Tourn.—Prùnus species of Lin.

LIN. SYST. *Icosándria, Monogýnia.*. Drupe globose or umbilicate at the base (f. 64. *d.*), fleshy, quite glabrous, destitute of bloom, containing a smooth, rather globose, compressed stone (f. 64. *f.*).—Trees. Leaves when young conduplicate. Flowers white. Pedicels 1-flowered, rising before the leaves in fascicled umbels (f. 64.) from scaly buds, but sometimes rising after the evolution of the leaves in racemes from the tops of the branches.

Sect. I. Cerasóphora (κερασος, *kerasos*, the cherry, and *φορεω*, *phoreo*, to bear ; bearing cherries). D. C. prod. 2. p. 535. Cerasóphora, Neck. elem. no. 720.—Cérasus, Tourn. 431. exclusive of the species wherein the flowers are disposed in racemes. Flowers umbellate (f. 63.). Pedicels 1-flowered, rising from the buds (f. 64.).

1 C. Phóshia (Hamilt. ex. D. Don, fl. nep. p. 239.) leaves elliptic-oblong, acuminated, doubly serrated, pilose beneath; stipulas pectinated, bearing glands ; umbels few-flowered, sessile. ♄ . H. Native of Nipaul, at Narainhetty. Prùnus cerasoìdes, D. Don, prod. fl. nep. 289. Flowers of a pale rose colour. *Phoshia* is the name of the tree in Nipaul.

Phoshia Cherry. Tree 15 to 20 feet.

2 C. A'vium (Mœnch. meth. 672. D. C. fl. 4. p. 482. Lois. in Duham. ed. nov. 5. p. 10. no. 16. var. 1-4.) flowers rising with the leaves ; fruit roundish-ovate, depressed ; peduncles slender ; flesh of fruit very succulent and sugary, with the juice usually coloured ; epicarp adhering to the flesh ; leaves white beneath, rather pubescent ; branches strong, divaricate ; flower-bud oblong, acute. ♄ . H. Native of Europe, in woods. Prùnus Cérasus àvium, Lin. spec. 679. Prùnus nìgra, Mill. dict. no. 2. but not of Aiton. Fruit black.

Var. α, sylvéstris (Ser. in D. C. prod. 2. p. 535.) fruit small, blackish purple, having the suture hardly depressed ; flesh tender, hardly sweet. Prùnus àvium, *α* and *β*, Willd. baum. ed. 2. p. 308. Prùnus nígricans, and P. vària, Ehrh. beitr. 7. pp. 126. and 127. Merísier à petits fruits, Duh. arb. fr. 1. p. 156. To this variety belong the small *Merisier* cherries, which are not better than the wild cherries.

1 *Merise petite ronde.*

2 *Merise petite rouge.*

3 *Black Mazzard; wild black-fruited ; small wild black ; Whixley's black. Merisier à petit fruit noir.* Very like the *Black heart* cherry.

Var. β, macrocárpa (Ser. in D. C. prod. 2. p. 535.) tree middle-sized ; nerves of leaves red ; peduncles longer ; fruit large, blackish-purple, containing a red stone. This kind is cultivated in Switzerland, under the name of *Kirschwasser*, where the inhabitants distil a spirit from the fruit. To this variety belong the cherries known under the following names :

1 *Merisier à gros fruit noir*, Duham. abr. fr. 1. p. 180. and Lois. in Duham. ed. nov. 1. p. 12. t. 4. f. D.

2 *Merise rouge.*

3 *Merise grosse noire.*

4 *Merise grosse rose oblongue.*

5 *Corone ; large wild black ; Hertfordshire black.* Fruit roundish. Flesh tender. Ripens in July and bears abundantly. Does best as a standard. A second-rate sort of cherry.

Var. γ, pállida (Ser. mss. in D. C. prod. 2. p. 535.) fruit of a pale wax colour ; leaves bearing twin glands at the base. To this variety belong the following sorts of cherry.

1 *Merisier à fruit blanc.* Lois. in Duham. abr. fr. ed. nov. 5. p. 12. no. 3. t. 4. f. B.

2 *Merisier à fruit jaune.* Lois. l. c. 5. p. 12. no. 4. t. 4. f. A.

Var. δ, múltiplex (Ser. l. c.) smaller ; leaves ovate, small, bearing 2 or 3 glands at the base. This variety is frequently cultivated in gardens, under the names of *double-flowering cherry, merisier à fleurs doubles, merise à fleur double.* Only fit for ornament.

Bird's Corone, Merise, or Merisier Cherry. Fl. April, May. Britain. Tree 20 to 40 feet.

3 C. Dura'cina (D. C. fl. fr. 4. p. 483.) tree large ; branches ascending when young, but in the adult state hardly spreading ; flowers rising with the leaves ; fruit heart-shaped ; peduncles long, slender ; suture of the fruit much depressed, rarely almost obsolete ; flesh hard and brittle ; epicarp adhering firmly to the flesh ; stone of fruit ovate. ♄ . H. Native of the south of Europe. Prùnus Cérasus, var. bigarélla and durácina. Lin. spec. 679. Flowers white. To this species the *bigarreautiers, bigarreau*, and *heart cherries* belong.

Var. α, cordígera (Ser. in D. C. prod. 2. p. 353.) fruit ovate, more or less heart-shaped or 2-lobed at the apex, with the suture much depressed. To this variety belong the *cherries* known under the following names :

1 *Bigarreau belle de Rockmond, cœur de pigeon* (Lois in Duham. arb. fr. ed. nov. 5. p. 15. no. 20. t. 18.), *bigarreau commun.*

2 *Black bigarreau, black heart.*

3 *Bigarreau blanc.*

4 *Bigarreau blanc tardif de Heldesheiner.* Fruit pale yellow and red, small. A worthless fruit, ripening in August.

5 *Bigarreau couleur de chair* (Lois. in Duham. ed. nov. 5. p. 16. no. 24.), fruit pale yellow and red, large, ripening in the beginning of July. A second-rate table fruit. Does best as a standard.

6 *Bigarreau cœuret, cœur de poulet.*

7 *Bigarreau dur.*

8 *Bigarreau à fruit jaune.*

9 *Bigarreau gros cœuret.*

10 *Bigarreau gros commun.*

11 *Bigarreau à gros fruit blanc* (Duham.), Fruit pale yellow and red, tender, ripening in July. A first-rate table fruit, having the flesh more tender than that of the *bigarreau.* Does best as a standard.

12 *Bigarreau à gros fruit rouge*, Duham. 1. t. 2.

13 *Bigarreau à gros fruit rouge tardif.*

14 *Bigarreau gros monstrueux.* Fruit long, heart-shaped, dark red, firm, ripening in the beginning of July. A first-rate table fruit. Does best against a south wall.

15 *Knevett's late bigarreau.*

16 *Bigarreau de Mai.*

17 *Bigarreau monstrueux.*

18 *Bigarreau à petit fruit blanc.* Fruit small, pale yellow, ripening in July. A fruit of little value. Does best as a standard.

19 *Bigarreau à petit fruit rouge hâtif.*

20 *Bigarreau princesse ambré.*

21 *Turkey bigarreau.*

22 *White bigarreau.*

23 *Black American.*

24 *Black bud of Buckinghamshire.*

25 *Belcher's black heart.*

26 *Black heart of Buckinghamshire.*

27 *Goldsmith's black heart.*

28 *Jenkins's black heart.*

29 *Black Tartarian, Ronalds's black heart, black Russian.*

30 *Spanish black heart.*

31 *Amber heart.*

32 *Early amber heart.*

33 *American heart.*

34 *Tradescant's black heart, Elkhorn.*

35 *Elton.* Fruit pale red and yellow, large. Flesh half tender, ripening beginning of July. An excellent table fruit. Does best against a south wall.

36 *Taversham heart.*

37 *Florence.* Fruit pale yellow and red, large, ripening about

the end of July. Flesh firm. A first-rate table fruit. Does best against a south wall.

38 *Churchill's heart.* Fruit large, pale yellow and red. Flesh firm. A first-rate table fruit. Does well as a standard.

39 *Guigne grosse blanche.* Fruit pale yellow and red. Flesh firm. A second-rate table fruit, ripening about the middle of July. Does best against a south wall.

40 *Guigne grosse rouge hâtive.* Fruit red. Flesh firm. A second-rate table fruit, ripening about the beginning of July. Does best as a standard.

41 *Kruger's herz Kersche zu Frankfort.* Fruit red and pale yellow; flesh firm. Ripening in July. Does best against a south wall.

42 *Lady Southampton's yellow.* Fruit yellow. Flesh firm. A second-rate table fruit, ripening in July and August. Does best as a standard. *Lady Southampton's duke cherry, Lady Southampton's golden-drop, yellow* or *golden cherry.*

43 *Large heart cherry.*

44 *Late* or *Spanish heart.*

45 *Lukeward's heart.* Fruit blush. Flesh half tender. A second-rate table fruit, ripening in July. A bad bearer. Does well as a standard.

46 *Maple heart.* Fruit red. Flesh firm. A bad fruit.

47 *Red heart.* Fruit red. Flesh firm, ripening in July. A second-rate sort and a shy bearer.

48 *Remington heart.*

49 *Shailer's new grizzly.* Fruit yellow and red. Flesh hard. An useless sort, ripening in July. Does as a standard.

50 *Guigne grosse blanche, guigne à gros fruit blanc* (Duh. arb. fr. 1. p. 161. t. 1. f. 3.). Fruit pale yellow and red, heart-shaped. Flesh firm. A worthless fruit, ripening middle of July.

Var. β, *obtusàta* (Ser. mss.) fruit ovate, obtuse, or 2-lobed at the apex, with the suture hardly depressed. To this variety belong the following kinds of *cherries:*

1 *Bigarreau, graffion, bigarreau gros, bigarreau d'Hollande, Italian heart, Harrison's heart, West's white heart.* Fruit pale yellow and red, obtuse, heart-shaped, large, ripening in July and August. Flesh firm. A first-rate table fruit. Does best as a standard.

2 *Bigarreau Napoléon, bigarreau Lauermann, Lauermann's grosse Kirsche.* Fruit large, pale yellow and red, obtuse, heart-shaped. Flesh firm. A first rate dessert fruit. Does best on a south wall.

3 *Bigarreau rouge.* Fruit large, pale yellow and red, obtuse, heart-shaped. Flesh firm. Hardly different from the *bigarreau.* A good dessert fruit.

4 *Guigne grosse noir luisante.* Fruit middle-sized, blood-coloured, obtuse, heart-shaped. Flesh firm. A second-rate dessert fruit, ripening in the beginning of July. Does well as a standard; the branches are pendulous. A good bearer.

5 *Black Tartarian, Tartarian, Fraser's black, Fraser's Tartarian, Fraser's black heart, Ronald's black heart, Circassian, black Russian.* Fruit blood-coloured, large, obtuse, heart-shaped. Flesh half tender. A first-rate table fruit, ripening about the end of June. In appearance it is the finest. Does best against a wall.

6 *White Tartarian, Fraser's white Tartarian, Fraser's white transparent.* Fruit middle-sized, pale yellow, obtuse, heart-shaped. Flesh half tender. A second-rate dessert fruit, ripening beginning of July. Does well as a standard.

7 *Bigarreau noir, cerise de Norwège,* Lois. in Duham. ed. nov. 5. p. 17. no. 36. t. 18. f. B.

8 *Bigarreau noir tardif,* Lois. in Duham. ed. nov. p. 17. no. 27. t. 18. f. A.

Var. γ, *mamillàris* (Ser. mss.) fruit ovate, ending in a drop-like process at end, with the suture more profound at the base. To this variety belong the following sorts of *cherries:*

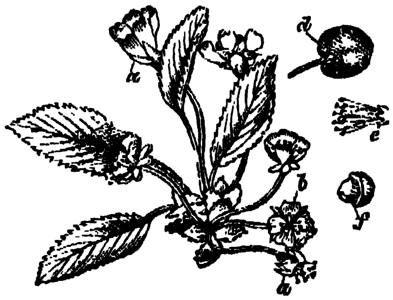
1 *Four to the pound, bigarreau à grandes feuilles* (Nois. jard. fr. p. 17. no. 6.), *cerisier de quatre à la livre, guigne à feuilles de tabac, Prùnus macrophýlla* (Poir. suppl. 5. p. 584.), *Cérasus nicotianæfòlia* (Hortul.), *Cérasus decumàna* (Delauny). Leaves large. Fruit middle-sized, heart-shaped. Flesh firm. A worthless fruit, ripening about the end of July.

2 *Gascoigne's heart, red heart* of some, *bleeding heart, Herefordshire heart, guigne rouge hâtive.* Fruit middle-sized, dark red, heart-shaped, the apex terminating in the form of a drop. Flesh half tender. A second-rate fruit, ripening in July.

3 *Bigarreau piquant, guigne piquante, guigne à piquet,* Lois. in Duham. ed. nov. 5. p. 13. no. 12. t. 16. f. A.

Hard or Bigarreau Cherry. Fl. April, May. Tr. 10 to 20 ft.

FIG. 64.



4 C. Julia'na (D. C. fl. fr. 4. p. 482.) branches ascending when young, but when in an adult state hardly spreading; flowers rising with the leaves; fruit ovate, depressed, heart-formed; flesh of fruit sweet, rather soft, epicarp adhering to the flesh; leaves glabrous. ♄. H. Native of Europe. The varieties of this species of *cherry* are commonly called *guigniers, geans,* or *heaumiers.* The sorts are as follow:

1 *Black eagle.* Fruit middle-sized, black, obtuse, heart-shaped; flesh tender. A first-rate dessert fruit, ripening beginning of July. A good bearer. Does either as a standard or wall tree.

2 *Bowyer's early heart.* Fruit obtuse, heart-shaped, middle-sized. Flesh tender. A good bearer and excellent middle-sized cherry, ripening about the end of June.

3 *Amber gean.* Fruit pale red, obtuse, heart-shaped, small. Flesh tender. A first-rate table fruit, ripening end of July. Does well as a standard. An abundant bearer.

4 *Black gean.* Useless fruit.

5 *Black caroon gean.*

6 *Early gean.*

7 *Flemish gean.* Fruit small, red, obtuse, heart-shaped. Flesh half tender. A second-rate dessert fruit, ripening end of July. Does well as a standard.

8 *Hungarian gean.* Fruit middle-sized, amber-coloured, obtuse, heart-shaped. Flesh half tender. A second-rate dessert fruit, ripening in July. Does best as a standard.

9 *Black Hungarian gean.* Fruit middle-sized, black, round. Flesh tender. A second-rate dessert fruit, ripening in July.

10 *White Hungarian gean.* Fruit middle-sized, amber-coloured, obtuse, heart-shaped. Flesh tender, transparent. A second-rate dessert-fruit, ripening in July. Does best as a standard.

11 *Late gean.* Fruit black, heart-shaped, small. A worthless fruit, ripening about the end of July.

12 *Large black gean.* Fruit black, middle-sized, heart-shaped. Flesh firm. A worthless kind, ripening end of July.

13 *Lundie gean.* Fruit black, heart-shaped, middle-sized.

A second-rate dessert fruit, ripening in July. Does well as a standard.

14 *Polton gean.*

15 *White gean.*

16 *Guigne d'Argovie, Tokeli seiler.*

17 *Guigne ecarlate.* Fruit red, oval, middle-sized. Flesh firm. A worthless sort, ripening in July.

18 *Guigne blanche,* Lois, in Duham. ed. nov. 5. p. 13. no. 7.

19 *Guigne noir, guigne à petit fruit noir,* Duham. arb. fr. 1. p. 166. t. 1. f. 2.

20 *Guigne rose hâtive.*

21 *Guigne rouge hâtive,* Lois. in Duham. ed. nov. 5. p. 12. no. 6.

22 *Guigne grosse noire.*

23 *Guigne grosse rouge tardive, guigne à fruit rouge tardif,* Duham. arb. fr. 1. p. 162.

24 *Guigne jaune.*

25 *Guigne noir.* Resembles the *black heart.*

26 *Guigne petite blanche.*

27 *Guigne petite rouge.* Worthless.

28 *Guigne de Russie à fruit blanc.*

29 *Guigne précoce, guigne de Pentecôte,* Lois. in Duham. ed. nov. 5. p. 12. no. 5. f. 15.

30 *Guigne de dure peau,* Lois. l. c. p. 14. no. 13. t. 16. f. D.

31 *Guigne à petit fruit noir,* Duham. arb. 1. p. 160. t. 1. f. 2.

32 *Guigne bigandelle,* Le Berr. trait. jard. 1. p. 231. ex. Lois. l. c.

33 *Guigne ou cerise cœur de poule,* Calv. pepin. 2. p. 139. ex Lois. l. c.

34 *Hertfordshire black.* Fruit black, obtuse, heart-shaped. Flesh tender. A second-rate dessert fruit, ripening about the middle of July. Does well as a standard.

Var. β? Heaumiàna (Ser. mss.) taller trees; leaves thin, large, elongated, finely serrulated; flesh of fruit not brittle. To this variety belong the following sorts of *cherry:*

1 *Heaumier blanc,* Lois. in Duham. ed. nov. 5. p. 17. no. 28.

2 *Heaumier rouge,* Lois. l. c. p. 17. no. 29. t. 19. B.

3 *Heaumier noir,* Lois. l. c. p. 17. no. 30. t. 19. f. A.

Var. γ, pèndula (Ser. mss. in D. C. prod. 2. p. 536.) branches pendulous.—*Allsaints, weeping cherry, cerise de la Tout-saint, cerise tardive, cerise de St. Martin, guignier à rameaux pendans* (Lois. in Duham. ed. nov. 5. p. 15. no. 16.). Fruit round, red, small, watery, ripening in July and October. This sort is of little value as a fruit, being more curious than useful.

St. Julian, Guigniers, or Gean-cherry. Tree 20 to 40 feet.

5 C. Caproniàna (D. C. fl. fr. 4. p. 482.) small trees, with spreading branches; flowers rising with the leaves; calyx large, campanulate; peduncles usually thick, stiffish, not long; fruit globose, depressed, with the suture hardly depressed; flesh soft, more or less acid and styptic; epicarp not adhering to the flesh; stone roundish. ♄. H. Native of Europe. C. vulgàris, Mill. dict. no. 1. Lois. in Duham. ed. nov. 5. p. 18. var. 1-3. Prùnus austèra and P. ácida, Ehrh. beitr. 7. p. 129. Commonly called *round cherries, Morellos, May-dukes,* and in France *cerises de Paris, cerises à fruits ronds,* and *griottiers.* In consequence of this species containing a greater number of the best *cherries* than any of the other species, we have given the history and cultivation of all kinds of *cherries* under it. The *cherry* is a middle-sized tree, with ash-coloured, shining, roundish branches, ovate, serrated leaves, and white flowers, produced in umbellate fascicles, and succeeded by a red drupe with an acid pulp. The leaf and flower-buds are distinct, the former terminal, the latter produced from the sides of the 2 or more years' old branches. The cultivated *cherry* was brought to Italy by the Roman general Lucullus in 73 A.C. from a town in Pontus in Asia, called Cerasus, whence the generic name, and was introduced to Britain 120 years afterwards. Many suppose that the *cherries* introduced by the Romans into Britain were lost, and that they were re-introduced in the time of Henry VIII. by Richard Haines, the fruiterer to that king. But though we have no proof that *cherries* were in England at the time of the Norman Conquest, or for some centuries after it, yet Warton has proved by a quotation from Lidgate, a poet who wrote about or before 1415, that the hawkers in London were wont to expose cherries for sale, in the same manner as is now done, early in the season. The tree is now very generally cultivated, both as a wall and standard fruit, and has been forced for upwards of two centuries.

Use.—The cherry is a refreshing summer fruit, highly grateful at the dessert, and affording pies, tarts, and other useful and elegant preparations in cookery and confectionery. Steeping cherries in brandy qualifies and improves its strength and flavour; a fine wine is made from the juice, and a spirit is distilled from the fermented pulp. The gum which exudes from the tree is equal to gum arabic; and Hasselquist relates, that more than 100 men, during a siege, were kept alive for nearly two months without any other sustenance than a little of this gum taken sometimes into the mouth and suffered gradually to dissolve. Cherry wood is hard and tough, and is used by the turner, flute-maker, and cabinet-maker.

Varieties.—The Romans had 8 sorts: red, black, tender fleshed, hard fleshed, small, bitter flavoured, and a dwarf sort. Tusser, in 1573, mentions cherries red and black. Parkinson mentions 34 sorts, Ray 24, and Miller has 18 sorts, to which he says others are continually adding,' differing little from those he has described. The catalogue of the Luxembourg contains 42, and the catalogue of the London Horticultural Society, published last February, 219 sorts, the greater part of which are not well known.

The French divide their *cherries* into *griottes,* or those belonging to the present species; *bigarreau,* or hard-fruited *cherries,* the *Cérasus duràcina; Merisiers,* or wild *cherries;* the *Cérasus àvium,* and *guignes* or *geans,* the *Cérasus Juliàna.*

The varieties of the present species are as follow:

Var. α, Montmorencyàna (Ser. mss. in D. C. prod. 2. p. 536.) fruit globose, depressed, pale red, generally hardly depressed at the suture; flesh white, more or less acid; peduncles rather long; leaves ovate, acuminated. To this variety appertain the following sorts of *cherry:*

1 *Adam's crown.* Fruit pale red, round, heart-shaped, middle-sized. Flesh tender. A first-rate dessert fruit, worthy of cultivation for its earliness, being ripe about the beginning of July.

2 *Arch-duke, late arch-duke, late duke.*

3 *D'Aremberg.* Fruit middle-sized, dark red, roundish. Flesh tender. A first-rate dessert fruit, ripening beginning of July, allied to the *May-duke.* Does either as a standard or wall fruit.

4 *Belle de Choisy, ambrée de Choisy, cerise de La Palembre, cerise doucette, griottier de Palembre* (Lois. in Duham. ed. nov. p. 25. no. 20. t. 11.). Fruit very handsome and good, large, red, round. Flesh tender and sweet. A first-rate dessert fruit, ripening beginning and middle of August. Answers well either as a wall or standard fruit.

5 *Carnation, English bearer* of some, *cerise nouvelle d'Angleterre, cerise de Portugal, griotte de Villenes, Guindoux rouge* (Lois. in Duham. ed. nov. 5. p. 22. no. 14. t. 7.), *grosse cerise rouge pâle* (Nois. jard. fr. p. 20. no. 17. t. 5.), *griottier rouge pâle, cerise à gros fruit pale* (Duham. arbr. fr. 1. p. 182. t. 9.). Fruit large, round, pale red; flesh tender. A first-rate sort, ripening in July.

6 *English bearer.* Fruit large, dark red, round. Flesh

tender. A first-rate kitchen fruit, ripening in July. Does well as a standard. It is a variety of the *Kentish cherry*.

7 *English cherry, cerise d'Angleterre.* Fruit middle-sized, round, red. Flesh tender. A first-rate kitchen fruit, ripening in July. It is a variety of the *Kentish*. Does well as a standard.

8 *English preserve.* Fruit round, red, middle-sized. Flesh tender. A first-rate kitchen fruit, ripening about the beginning of July. It is a sort of *Kentish*, and good for drying.

9 *Large honey cherry.* Fruit roundish, red, small. Flesh sweet. A second-rate table fruit, but too small for cultivation.

10 *Jeffries' duke.* Fruit middle-sized, round, red. Flesh tender. A first-rate dessert fruit, ripening about the beginning of July. Answers either as a wall or standard fruit.

11 *D'Ostheim.* Fruit round, dark red. Flesh tender. A first-rate table and kitchen fruit. Answers best as a dwarf standard.

12 *De Soissons.* Fruit round, dark red. Flesh tender. A second-rate dessert fruit, ripening middle of July. Answers best as a standard.

13 *Cerise de Montmorency*, Duham. arb. fr. 1. p. 181.

14 *May-duke, early duke, early May-duke, large May-duke, Morris's duke, Benham's fine early duke, Thomson's duke, Portugal duke, Buchanan's early duke, Anglaise, royale hâtive, De Hollande, Courlande, De Hollande à larges feuilles, d'Espagne, griotte d'Espagne, griotte precoce* of some, *cerise nain à fruit rond précoce* (Duham. arb. fr. 1. p. 168. t. 3.). Fruit middle-sized, obtuse, heart-shaped. Flesh tender. This is certainly one of the best dessert cherries, when all its properties are taken into consideration. It answers either as a wall or standard fruit.

15 *Cerise griot marasquin*, Lois. in Duham. 5. p. 21. no. 7.

16 *Cerise à crochet*, Duham. arb. fr. 1. p. 175.

17 *Cerise à noyeau tendre*, Duham. l. c. p. 174.

18 *Cerise d'Italie, cerise du pape goix*, Lois. in Duham. ed. nov. 5. p. 27. no. 35.

Var. β, pallèscens (Ser. in D. C. prod. 2. p. 536.) fruit globose, depressed, or ovate-globose, amber-coloured. To this variety belong the following *cherries:*

1 *Blanche, cerise à fruit blanc, cerise ambre* (Duham. arb. fr. 1. p. 185. no. 18. t. 11.). Fruit small, pale yellow. Flesh tender. Not worthy of cultivation.

2 *Downton.* Fruit roundish, heart-shaped, pale yellow and red. Flesh tender. A good bearing and excellent dessert cherry, ripening about the beginning of July. Does well either as a wall or standard fruit.

3 *White heart.* Fruit heart-shaped, pale yellow and red. Flesh tender. A second-rate dessert fruit, ripening end of July.

Var. γ, gobbétta (Ser. in D. C. prod. 2. p. 536.) fruit red, depressed, the suture also depressed; flesh white; peduncles short; leaves tapering to both ends. To this variety belong the following sorts of *cherry:*

1 *Early May, griotte naine précoce.* Fruit red, round, small. Flesh watery. A poor fruit, owing to its smallness and acidity, ripening in the middle of June.

2 *Flemish, Kentish* of many, *yellow Ramonde, cerise de Kent* (Lois. in Duham. 5. t. 12.), *cerise de Montmorency à gros fruit* (Duham. arb. f. 1. p. 180. t. 8.), *Montmorency à courte queue, cerise à courte queue, gros gobet, gobet à courte queue, double volgers* of the Dutch. Fruit round, red, middle-sized. Flesh watery. A first-rate kitchen fruit, ripening in July. Does best as a standard.

3 *Kentish, common red, Flemish* of many, *Virginian May, early Richmond, Kentish red* or *pie cherry, Sussex, de Montmorency, Montmorency à longue queue, commune à Trochet* of some. Fruit middle-sized, round, red. Flesh watery. A good bearer and a first-rate kitchen fruit, ripening end of July. Does best as a standard.

4 *Kentish drier.* Fruit round, red, middle-sized. Flesh watery. A first-rate kitchen fruit, ripening in July. Does best as a standard.

5 *Wild Rosshire.* Fruit small, red, round. Flesh watery. A wild *cherry*, allied to the *Kentish*.

Var. δ, polýgyna (Ser. mss. in D. C. prod. 2. p. 537.) flowers numerous, usually polygynous; fruit numerous, on the same peduncle; flesh white? leaves glandular at the base. C. polýgyna, D. C. herb.—Cerise à bouquet, Duham. arb. fr. 1. p. 173. t. 53.—*Cluster cherry, chevreuse.* Fruit round, red, small. Flesh watery. A cluster of fruit is formed from several styles in the same flower. A kitchen fruit. Does best as a standard.

Var. ε, múltiplex (Ser. in D. C. prod. 2. p. 537.) flowers semi-double or double; pistils simple, fertile, or petaloid; fruit pale red; flesh thin and very acid.—*Double-flowering cherry, cerise à fleurs doubles, semi-double-flowering cherry, cerise à fleurs semi-doubles.* Only cultivated for ornament.

Var. ϑ, persiflòra (Ser. in D. C. prod. 2. p. 537.) flowers double, red.—*Cerise à fleur de pêcher, peach-flowered cherry.*

Var. η, persifòlia; leaves narrow, like those of the peach or willow.—*Willow-leaved May-duke cherry, fern-leaved cherry, cerise à feuilles de pécher, cerise à feuilles de saul de balsamine* (Lois. in Duham. ed. nov. 5. p. 25.), *cerise de Hollande à feuilles de saul.* This kind of *cherry* bears but an inferior fruit.

Var. θ, variegàta (Ser. l. c.) leaves variegated with white.—*Cerise à feuilles panachées* (Lois. in Duham. ed. nov. 5. p. 20. no. 4.), *variegated-leaved cherry.*

Var. ι, griòtta (Ser. l. c.) fruit globose, depressed, dark purple; flesh red. To this variety belong the following sorts of *cherries:*

1 *Griotte de chaux, griotte d'Allemagne* (Duham. arb. fr. 1. p. 192. t. 141.), *grosse cerise de M. le Compte de Maur.*

2 *Griotte commune, griottier*, Duham. arb. fr. 1. p. 187. t. 12.

3 *Early purple griotte.* Fruit dark red, heart-shaped, middle-sized. Flesh tender. A first-rate dessert fruit, ripening about the beginning of June. A valuable *cherry*, particularly on account of its earliness. Does well either as a standard or wall fruit.

4 *Griotte de Kleparow, la bonne Polonaise.* Fruit middle-sized, round, red. Flesh tender. A second-rate dessert fruit, ripening in July. Does best as a standard.

5 *Griotte à petit fruit, griotte à petit fruit noir*, Duham. abr. fr. 1. p. 190.

6 *Griotte de Portugal* (Duham. arb. fr. 1. p. 190. no. 18. t. 13.), *arch-duke* of some. A kind of *May-duke.*

7 *Griotte de Ratafia, griotte à Ratafia, cerise à tres petit fruit noir* (Duham. arb. fr. 1. p. 189. no. 16.), *cerise* or *griotte du nord tardive, de St. Martin, wild Russian, brune de Bruxelles, gros griotte noire tardive* (Lois. in Duham. ed. nov. 5. p. 26. no. 21. t. 14.), *cerise du nord* (Lois. l. c. p. 26. no. 22. t. 5.). Fruit roundish, dark red. Flesh watery. A good bearer, but inferior in size to the *Morello*, which it closely resembles; ripens in August. It is a kitchen fruit.

8 *Griotte de Turquie.* Fruit round, red, large. Flesh tender. A first-rate dessert fruit, ripening end of July. Like the *belle de Choisy*. Does well either as a wall or standard fruit.

9 *Griotte ou cerise de Prusse*, Lois. in Duham. ed. nov. 5. p. 29. t. 33. t. 13. f. A.

10 *Griotte ou guindoux de Poitou*, Le Berr. trait. jard. 1. p. 252. ex. Lois. l. c. p. 27. no. 29. t. 12. f. C.

11 *Morella extra noir.*

12 *Morellen dobbeete.*

13 *Sweet Morello.*

14 *Langstilkede sode Moreller.*

15 *Morello, small Morello* of some, *Dutch Morello, large Morello, black Morello, late Morello, Ronald's large Morello, du nord, griotte ordinaire du nord.* Fruit dark red, round, heart-shaped, large. Flesh tender. A first-rate kitchen fruit, ripening in July and August. For north walls and for preserving the *Morello* is well known to be most valuable.

16 *Wild Morello.*

Var. κ, cordígera (Ser. in D.C. prod. 2. p. 537.) fruit ovate-globose; flesh red. To this variety belong the following sorts of *cherry:*

1 *Cerise guigne,* Duham. arb. fr. 1. p. 195. t. 16. f. 1.

2 *Griotte guigne, cerise d'Angleterre,* Lois. in Duham. ed. nov. 5. p. 28. no. 32. t. 14. f. B.

3 *Griotte ou cerise cœur,* Le Berr. trait. jard. 1. p. 257. ex Lois. l. c.

4 *Plumstone Morello.* Fruit red, round, heart-shaped. Flesh watery, inferior to the *Morello.*

Capronian, Griotte, Duke, and Morello Cherry. Fl. April. May. Tree 20 feet.

† *Names of cherries not so well known as to be placed in either species or varieties.*

1 *Adlington.* 2 *Affane.* 3 *Ambrée à gros fruit.* 4 *Ambrée à petit fruit.* 5 *American heart.* 6 *Ansell's fine black.* 7 *Belle Bosc.* 8 *Black American.* 9 *Black Orleans.* 10 *Black Spanish.* 11 *Broughton's early black duke.* 12 *Bount's Dantzic cherry.* 13 *Buttner's herz kirsche.* 14 *Buttner's October zucker weichsel.* 15 *Buttner's sehrspate.* 16 *Denner's black.* 17 *Double Natte.* 18 *Franche.* 19 *Grosse blanche carrée.* 20 *Grosse blanche.* 21 *Hartlib.* 22 *Hâtive ou précoce.* 23 *Hâtive de St. Jean.* 24 *De Jacap.* 25 *Læder kirsebær.* 26 *Lamper's knorpel-kirsche.* 27 *Millet's late heart-duke.* 28 *Monstrueuse Hennequine.* 29 *Muscat de Prague.* 30 *New Royal.* 31 *Nouvelle d'Angleterre, cerise guigne.* 32 *Noyau tendre.* 33 *Cerise à petit fruit blanc.* 34 *Précoce.* 35 *Prince's duke.* 36 *Black prolific.* 37 *De Prusse.* 38 *Rainer's French cherry.* 39 *Remington heart.* 40 *Rothmelirt Bernstein kirsche.* 41 *Rouge pale tardive.* 42 *Royal tardive, duke cherry.* 43 *Russie à fruit blanc.* 44 *Thramer's Muscateller aus Minorka.* 45 *Tilger's Weisse herz kirsche.* 46 *Robertson's Tradescant's.* 47 *Turkine.* 48 *Transparent.* 49 *White transparent.* 50 *Cerise à trochet, commune à trochet, très fertile.* 51 *Unique novelle, early unique, early unique novelle.* 52 *De Varenne.* 53 *Wellington.* 54 *White Spanish.* 55 *Winter's schwarze knorpel kirsche.*

Selection of sorts.—Forsyth recommends for a small garden: 1 *May-duke.* 2 *Morello.* 3 *Archduke.* 4 *Black heart.* 5 *Bigarreau.* 6 *Graffion.* 7 *Turkey heart.* 8 *Kensington duke cherry.*

Those in the Dalkeith garden are:—1 *May-duke, two sorts.* 2 *Harrison's heart.* 3 *Black heart.* 4 *White heart.* 5 *Amber heart.* 6 *Morello.* All against walls.

Miller says the best sorts for an orchard are: *the common red* or *Kentish, the duke cherry,* and *the Lukeward's heart;* all of which are plentiful bearers.

Propagation.—Varieties of the *cherry* are continued by grafting or budding on stocks of the *black* or *wild red cherries,* which are strong growers and of a longer duration than any of the garden kinds. The *hearts,* which are all ill bearers, are sometimes grafted on *bird cherry* stocks, which are said to have the same effect on the *cherry* that the paradise stock has on the apple, that of dwarfing the tree and rendering it more prolific. Some graft on the *Morello* for the same purpose. The stones of the cultivated *cherries* are sometimes, but improperly, substituted for those of the wild sort, as being more easily procured. New varieties are produced by propagating from seed.

The *cherry,* Mr. T. A. Knight observes, (Hort. trans. 2. p. 38.) "sports more extensively in variety when propagated from seeds, than any other fruit which I have hitherto subjected to experiments; and this species is therefore probably capable of acquiring a higher state of perfection than it has ever yet attained. New varieties are also much wanted; for the trees of the best old kinds are every where in a state of decay in the cherry orchards; and I am quite confident that neither healthy nor productive trees will ever be obtained from grafts of old and expended varieties of this or any other species of fruit tree."

Cherry stones, whether for stocks or new varieties, are sown in light sandy earth in autumn, or are preserved in sand till spring and then sown. They will come up the same season, and should not be removed till the second autumn after sowing. They may then be planted out in rows, 3 feet apart, and the plants about 1 foot asunder in the rows. The succeeding summer they will be fit to bud, if intended for dwarfs; but if for standards they will require to stand one or more seasons, generally till four years old. They should be budded or grafted near 6 feet from the ground; the usual way is to bud in summer, and graft those which do not succeed the following spring.

Soil.—The *cherry* delights in dry sandy soil and elevated situations; but some sorts, as the *May-duke,* will thrive in all soils and aspects, and all the varieties may be planted in a common mellow garden or orchard ground. In Kent, this tree prospers in the deep loam lying on rock. Miller says, the soil which *cherries* thrive best in, is a fresh hazel loam; if it be a dry gravel they will not live many years, and will be perpetually blighted in the spring.

Site.—To obtain fruit early, some sorts, as the *May-duke,* are planted against walls; but all the varieties will do well as dwarfs or espaliers in general situations, and most of them as standards. The *May-duke,* Nicol observes, does well as a standard; but against a south wall the fruit becomes considerably larger, and contrary to what happens in other fruits, it seems to acquire flavour. The *Morello* is much improved in flavour when planted against a wall of good aspect. Abercrombie says, "allot to the finest of the early kinds south walls for fruit in May and June, train others against west and east walls, for supplies in succession, and some on north walls for the latest ripeners, particularly the *Morello,* which, so situated, will continue in perfection till September and October; but it is also proper to plant some trees of this sort on south walls, to have the fruit ripen earlier, with an improved flavour."

Final planting.—Plant full standards from 20 to 30 feet apart; small standards 15, 18, or 20 feet apart. The proper season for planting is from the middle or end of October, or any time in November or December, if open weather, till February or March. Miller says, never plant standard or rider *cherry* trees over other fruits; for there is no sort of fruit that will prosper under the drip of *cherries.* He allows 40 feet square for standards in orchards for the same reason.

Mode of bearing.—*Cherry* trees in general produce the fruit upon small spurs or studs, from half an inch to 2 inches in length, which proceed from the side and ends of the two year or 3 year and older branches; and as new spurs continue shooting from the extreme parts, it is a maxim in pruning both standard and wall trees, not to shorten the bearing branches where there is room for their regular extension. The *Morello* is, in some degree, an exception.

Pruning cherry trees in general. To standards give only an occasional pruning to reform or remove any casual irregularity from cross-placed or very crowded branches, and take away all cankery and decayed wood. To wall trees a summer pruning should commence in May or June, in order to regulate the shoots of the same year. Disbud the superfluous or foreright shoots, or if they have been suffered to spring, pinch or cut them off with such as are disorderly. Retain a competent supply of the best well placed side and terminal shoots, to remain for selection at the winter pruning. Nail or lay in the reserve close to the wall at their full length, and so train them all summer. The winter pruning may be performed at the fall of the leaf, or at any time in moderate weather till February or March. It comprises a regulation both of the old and young wood. Carefully preserve the sound and productive branches and bearers in their full expansion, and reduce or remove such only as are irregular in growth, too crowded, unfruitful, decayed, or cankery. Any branches extending out of bounds prune into some good lateral shoot or fruit-bud. According to the time the bearers have already lasted, look to some promising shoots for successors to those which may first wear out. To fill immediate vacancies retain select shoots of the last year and the year before, with uniformly a leader to the advancing branch where there is room, and with lateral shoots in any open or unproductive space nearer the origin of the branches, to be trained as bearers between the main branches. Some cut superfluous fruit-shoots clean away; others leave a sprinkling of short stubs cut very short if foreright. The new laterals and terminals are to be trained in at full length as far as room will permit. They will come into bearing the first and second year. In pruning *cherry* trees in general be careful to preserve the small clustering fruit spurs, except where on wall trees any old spurs project considerably, and assume a rugged disorderly appearance; cut such clean out smoothly.

Pruning the Morello cherry. "The *Morello cherry* bears principally on the shoots of last year, the fruit proceeding immediately from the eyes of the shoots, and bears but casually, and in a small degree, on close spurs formed on the two year old wood, and hardly ever on wood of the third year. Therefore both in the summer and winter pruning leave a supply of last year's shoots on all the branches, from the origin to the extremity of the tree, for next year's bearers, cutting out past bearers to make room. It is plain that the *Morello* ought to have no stubs left with a view to spurs, and all foreright shoots ought to be disbudded while young. To leave a convenient space for young wood train the present bearers 6 inches apart; lay in between each of these one young shoot for bearing next year, which will make the promiscuous distance 3 inches." Underwood (Caled. hort. mem. 1. p. 427.) has often observed, when the branches of *cherry* trees are laid in too near to one another, or are crossed by branches of the same kind, or by plum-tree branches, as is sometimes the case, that although there be abundance of blossom, yet there is no crop even in good seasons. On examining the blossoms produced on such crowded shoots he found that in 50 flowers there were not above two styles, of course no fruit could be expected. By not laying in the branches so close, and by removing all superfluous summer shoots, more light and air was admitted, and he had in consequence plentiful crops.

Renovating old or *decayed trees.* Proceed as in the renovating the plum, see p. 504.

Growing cherry trees in orchards. Near large towns cherries might be cultivated in orchards to a certain extent. In Kent and Hertfordshire are the cherry orchards which afford the chief supply for the London market. The sorts are chiefly the *caroon, small black* or *Kentish*, the *May-duke*, and the *Morello;* but *Holman's duke*, the *black heart*, and *large black gean* will do well in orchards.

Protecting from birds. "As cherries in the ripening state are frequently attacked by birds, it is advisable to have choice wall-trees or espaliers defended with large nets in due time. Old fishing nets may also be spread over the branches of dwarf standards. To protect other standard trees let scare-crows and clap-boards be put up."

Gathering the fruit. Use the hand, taking hold of the fruit-stalk in gathering from the wall, and the cherry gatherer, in gathering from the distant branches of high standards.

Insects and diseases, &c. Wall *cherry* trees are often infested with the red-spider, but standards are generally not much injured by insects. Nasmith says, "our *cherry* trees both in the open air, and on the natural walls, particularly the tops of young shoots, are much attacked with a small black insect, provincially called the black beetle. The remedy I have found most effectual for their destruction is a mixture of pitch with one-sixteenth part of powdered orpiment, one-sixteenth part of sulphur, dissolved over a slow fire in an earthen pipkin, until they be well incorporated; when cold, divide it into small pieces about the size of a hen's egg, and burn it under the trees with damp straw, directing the smoke as much as possible where the insects are most numerous. In an hour afterwards, if the state of the fruit will admit, give the trees a good washing with a garden engine, which generally clears off the half dead beetles, and prevents the spreading of the red-spider." Caled. hort. mem. 2. p. 90.

Of the culture of the cherry-house.

Though the *cherry* be a native of Britain no fruit is more difficult to force. M'Phail observes, "no tree forced for obtaining fruit early is more liable to fail of a good crop than the *cherry;* the blossoms are apt to fall off before the fruit is set, and the fruit will keep falling off before and after they are as large as peas. This is occasioned by a kind of stagnation of air about them, which affects the tender blossoms and young shoots."

Soil. M'Phail says, "take light, sandy, rich, mellow earth, and make a border of it the whole width of the house, and 4 feet deep." According to Nicol, "the border should be from 24 to 30 inches deep; the bottom, if not naturally mild and dry, to be drained and paved. The soil should be a sandy loam or light hale garden earth, made moderately rich with stable-yard dung well reduced, or with other light compost. If a small portion of lime, or a moderate quantity of marl, were mixed with it so much the better. The soil for *cherries* to be forced in pots or tubs should be considerably richer than the above." Torbron (Hort. trans. 4. p. 116.) uses fresh virgin soil and rotten dung.

Choice of sorts. M'Phail, Nicol, and all gardeners agree in giving the preference to the *May-duke*. Nicol says, "none of the other kinds set so well, except the *Morello*, which I do not hesitate to say well deserves a place; it is a good bearer, and the fruit when forced acquires superior size and flavour." Nicol, kal. p. 295.

Choice of plants. M'Phail takes standards of different heights in a bearing state; Nicol clean, healthy, young plants, that have been one or two years in training against a wall; Torbron trees 8 or 10 years from the bud, and selected of such various heights as best suits the size of the house.

Choice of situation. M'Phail and Torbron plant in rows, beginning with the tallest in the back side, reserving the shortest for the front, letting them slope to the south gradually, somewhat in the form in which plants are set in the green-house." (Gard. rémem. 146. and Hort. trans. 4. p. 116.) Nicol has a trellis against the back wall for wall-trained trees, and a border in front in which he plants dwarf-standards. The dwarfs against the back trellis he plants 8 or 10 feet apart. Riders that have been 3 or 4 years trained, and are well furnished with fruit-spurs, may be planted between the dwarfs. They may probably yield a few fruit the first season, and will hardly fail to produce plentifully in that following. In the border may be planted, as dwarf standards, to be kept under 5 feet in height, some well furnished plants that have been kept in large pots or tubs for a year or two; such being more fruitful, and less apt to go to wood, than plants that have grown in the open ground. In planting these the ball of earth should not be much reduced, only a few of the under roots should be spread out, for if the ball were reduced, and the whole roots spread out as in the ordinary way of planting, when it is wished that the plant may push freely, the intention here would be thwarted, which is to have the plant dwarf and fruitful, growing little to wood. Along with these may be planted in the same way an apricot or two, or figs, or both, that have been dwarfed in pots or tubs as above. If they succeed it would give a pleasant variety, of which there need be little doubt, as the temperature, soil, and general treatment for cherries will suit apricots, and not far disagree with figs. These little standards may be allowed a space of about 4 feet square each, which is sufficient, as they must not be suffered to rise high or spread far, on account of shading the trees on the trellis. In planting of the principal dwarfs and riders, let the work be carefully performed. They should be raised with as good roots, and be kept as short time out of the ground as possible, placing them just as deep as they have been before, spreading out their roots and fibres, and filling in with fine earth. The whole should have a moderate quantity of water, and have air freely admitted every day, defending them, however, from snow or much rain. The house should not be forced the first year; and it will be better to defer heading in the plants till the middle or end of March than to prune them now. I shall, therefore, take no further notice of them till then, supposing they are to be attended to with respect to air and moderate waterings. It is necessary, however, to remark, that the plants should be carefully anointed with the liquor recommended for vines, see vol. 1. p. 708. either just now or sometime in the course of the month.

Time of planting. According to Nicol and M'Phail January and February; to Torbron early in the autumn.

Pruning. Trees planted in January may be pruned about the middle or end of March. The dwarfs planted against the trellis should be well cut in, that is, each shoot of last year should be shortened back to three or four buds, that the plants may throw out a sufficiency of young shoots to fill the rail from the bottom. The dwarfs planted in the border as little standards need not be headed in so much, as the intention is to have the fruit full, and that they may grow little to wood from the beginning. Their short shrubby shoots need not be touched, unless bruised or hurt in transplanting, shortening back the longer and weaker ones a few inches, according to their strength. The riders planted against the back trellis may be treated very much in the same manner, the sole intention being to obtain a few crops of them while the dwarfs are making wood, and filling their spaces. In November following the trees may be pruned for the succeeding season. In order to produce wood to fill the trellis as soon as possible, the dwarfs should be pretty much headed in. The shoots may be pruned very much in the manner of the trees in the early house, shortening no shoots that are fully ripened, except a few of those at the extremities of the tree, in order to make them throw out others for its full extension upwards next year. November is also the proper time for pruning an established cherry-house preparatory to forcing for the next year. As *cherry* trees which have been forced make very little wood, the pruning required is probably nothing further than moderately to thin out the spurs, and to prune off any accidental breast-wood or water-shoots that may have risen since the crop was gathered. "The leading shoots, except for the purpose of producing wood to fill up any blank or vacancy, need not be shortened; nor need those in the lower parts of the tree, except for the same reason. But if it be necessary to shorten these, let them be cut pretty well in, as otherwise they will push very weakly. Shoots on the extreme parts of the tree that should be shortened for the above purpose, need not however be cut so closely in. If they be headed back one-third or to half their lengths, it will generally be found sufficient."

Summer pruning. Very little of this is requisite, such water-shoots or breast-wood as arise among the spurs are to be pinched off as they appear, laying in such shoots only of this description as may be wanted to fill an occasional vacancy. Train in the summer shoots of the dwarfs as they advance at the distance of about 8 or 9 inches from each other; and otherwise observe the general rules for pruning *cherries* on walls and espaliers.

Stirring the soil. After pruning, the borders are to be forked up, and a little well-rotted dung mixed with sand worked in if thought necessary. In summer they may be slightly stirred on the surface, and weeded to keep them fresh, clean, and neat, and where a part of the border is outside the house cover with horse-dung or litter in the early part of the season.

The time of beginning to force is sometimes December, but more generally January and February. "Newly planted trees," Nicol observes, "will bear gentle forcing next spring, from the first or middle of March, which ought to be considered merely as preparatory to forcing them fully, till about the first of February the third year." Torbron, if the trees have been removed with good balls, admits of gentle forcing the first spring, but prefers deferring it till the third year. He says, "I have had an abundant crop of fine cherries from trees which had been planted only a few months before forcing, but would not recommend the risking of a whole crop, unless the trees have been longer established." Where cherries are to be ripened early in the season he "shuts in about the beginning of December, and lights the fires about the third or last week of that month." Hort. trans. 4. p. 116.

Temperature. Abercrombie begins at 40°, "and throughout the first week lets the minimum be 40°, and the maximum 42°, giving plenty of air. By gradual advances in the second, third, and fourth week, raise the course to 42° min. and 45° max. In strong sunshine admit air freely rather than have the temperature above 52°, by collecting the warm air. In the fifth and sixth week the artificial minimum may be gradually elevated to 45°, but the maximum should be restrained to 48° from fire heat, and to 55° from sun heat, until the plants are in flower. After the blossoms are shown, and until the fruit is set, aim to have the heat from the flues at 48° min. and 52° max. At this stage maintain as free an interchange of air as the weather will permit, and when the sun heat is strong do not let the temperature within exceed 60°. As the fruit is to be swelled and ripened, the requisite heat is 60° min. and 65° max." In January M'Phail does not let the cherry-house rise higher than 50°. In February "if the thermometer in the morning is as low as 35° there is no danger, but it should rise in the course of the day to imitate nature as near as possible. In the month of March the thermometer in the open air in the shade seldom rises above 55°. In the month of April it seldom rises above 65°. But it is observed that when the sun shines on a *cherry* tree or other trees in the open air, the heat on them is higher than in the shade. The *cherry* tree is of such a delicate nature to force, that it is impossible for any person to write down the exact temperature of the air, which would insure a crop from it in the forcing way." When the fruit is beginning to colour and swell off for ripening, the temperature may be raised 4 or 5 degrees. Torbron (Hort. trans. 4. p. 119.) says, "for the first three, four, or five weeks of lighting fires, if the weather be so severe as to depress the thermometer in the open air from 22° to 12° degrees; then let the thermometer inside the house be kept from 35° to 40°, or just sufficient to exclude the frost. If the weather be not severe during the above period the thermometer may be kept to 45° inside the house. As the season advances and becomes more mild, and the days longer, probably about the first or middle of February, the thermometer may be raised to 50°, and then it is expedient to give gentle sprinklings by an engine or syringe two or three times a week in the evening. Whilst the trees are in bloom no sprinkling must be used, but the flues when only moderately hot are to be steamed morning and evening, and every day and hour of sunshine, and in calm and mild weather fresh air must be copiously admitted. When the petals begin to drop, and when the fruit is set, the temperature may be raised to 55°, the house being engined three or four times a week in the evening, but never till the bloom is all down. When the cherries are completely stoned the thermometer may be raised to 60° by fire heat, sprinkling every evening by the engine till the fruit is nearly ripe; the house may be kept higher by day as well as by night after stoning.

Watering. M'Phail waters occasionally at the root and over the top till the trees are in blossom; but when the stones in the fruit are become hard, the trees may be washed all over occasionally with clean water, not too cold. Let this be done in a fine sunny morning. In April, when the cherries are grown large, give the border a good watering now and then, which will enable the trees to swell their fruit to a good size; by keeping them in a healthy growing state the fruit will be fine flavoured, and the trees will make strong flower-buds for the ensuing season. If the fruit is not ripening, wash the trees occasionally, in a sunshiny morning, with sweet clean water. According to Torbron, "from the time the flower begins to open till the fruit is completely stoned, the soil should be but sparingly watered; but when the stoning is effected water may be applied to the roots freely till the fruit is nearly ripe, when he desists." (Hort. trans. 4. p. 119.) Before the fruit begins to colour the engine should be exercised with force, and often for a week or two, to subdue the red spider. After the crop is gathered the watering must be resumed, and continued till the foliage begins to drop. The border may be kept in a moderately moist state until the leaves begin to fall, or till the house be exposed or be uncovered.

Air. In forcing the *cherry* it is essential to continue a free circulation of air; always sustaining the minimum heat in the different stages. The blossoms will sometimes fall abortive, or the young fruit drop off after setting, from no other cause than a stagnant atmosphere. At first beginning to force M'Phail gives plenty of air night and day. In February, when the trees are in blossom, "let the house have air day and night, and as much as you can when the fruit are swelling off." Nicol says, "the airing of the cherry-house may be performed by the sashes with every safety till the buds begin to expand, and after that in frosty or bad weather air may be admitted by the ventilators. In February nothing is more conducive to the health of the plants, and the setting of the fruit, than a regular and free circulation of air. A day should never pass without less or more air being admitted. As the fruit begins to ripen give as large and regular portions of air as possible, opening the sashes by 8 or 9 o'clock in the morning, giving full air about 10 o'clock, reducing about 2 or 3, and shutting up about 4 or 5, sooner or later according to the state of the atmosphere. In conducting this matter, however, regard must be had to the temperature, but air may be admitted in sunshine to such an extent as to keep down the mercury or spirits in the thermometer to 65°, and at other times to 60°." Gard. kal. p. 339. Torbron says, "the *cherry* in forcing requiring more fresh air than most other fruits, particular attention must be paid to its admission, by the gardener having it in his power occasionally to make as many inlets or openings as convenient. It will be conducive to this end that the roof and the upright or front sashes, if any, be moveable, and all with little difficulty, because in changeable weather the current of air may be required to be augmented or reduced many times in one day. Air must be admitted freely and copiously when the weather is mild and calm, and accompanied with sunshine, during the time the cherries are in bloom, and also near the time of their ripening." Hort. trans. 4. p. 119.

Insects and diseases. "The *cherry* is liable to be infested by a small grub-worm, which rolls itself up in the leaves, and extends its ravages to the fruit. As soon as the insect is perceived the trees should be searched daily, that it may be destroyed by the hand, and prevented from spreading. It usually shows itself first about the time of flowering." Pract. gard. p. 661. The cherry-house, as the season advances, may be smoked once a week or ten days, which will prevent the trees from being infested with a blackish kind of insect, frequently very pernicious. Birds are apt to get into the house and eat the fruit, therefore narrow nets should be employed, which will prevent birds as well as wasps and flies from getting to the fruit. Torbron fumigates for the black fly, and picks off the grub.

Gathering and keeping the fruit. If it be found necessary cherries will keep some time on the trees, provided the birds can be kept from them. Keep the house for the purpose dry, cool, and well aired. Gard. rem. p. 246.

Exposing the wood. This, according to all the authors quoted, may be done from the time the fruit is gathered till within a week or ten days of the recommencement of forcing. The glass should be entirely taken off, unless the cherry-house is in part used for some other purpose, to which this practice would be injurious.

Forcing cherry trees in pots. M'Phail and Nicol concur in approving the very general practice of planting *cherry* trees in pots; in which, or in tubs of a foot or 15 inches in diameter, they may be successfully forced. Three or four dozen good plants managed in this way would give a great deal of fruit, which might be had in succession for a considerable length of time by dividing the plants into 3 or 4 classes or divisions, and shifting them from one compartment to another. In January the first 12 trees may be placed in the green-house or conservatory, if there be one, or in a peach-house now at work, placing them in the coolest part of the house, but in the full light, and where they may have plenty of air. They must be duly attended to with water at the roots, and be frequently syringed at top, generally once in two days. The pots being occasionally watered with the drainings of the dung-hill would add much to the vigour of the plants; there is no method of manuring more effectual or so readily accomplished. The plants may remain here till the fruit be fairly set, the stoning over, and all danger of dropping past. They may then be placed in a vinery or stove to ripen off, where they would come in early, and be very high flavoured, if placed near the light, and so as that they may have free air daily. In February a second and third dozen should be taken in, and a fourth in the beginning of March, and each similarly treated. Gard. kal. It is very common with early forced *cherry* trees to bear a second crop late in the same season. Hort. trans. 3. p. 367. Mr. B. Law (Hort. trans. series 2. vol. 1.) finds the following method of forcing *cherries* attended with greater success than any other he is acquainted with. He puts the *cherry* trees into his houses, giving them but very little water at the close of the year, by which he finds them better prepared for blooming in the spring. Their pots have a capacity of from two quarts to two gallons, according to the size of the plants, but the soil in which they are planted is by no means rich, for he finds that highly manured soil makes the shoots too luxuriant, and causes them to gum. When he begins to force he waters but sparingly, and admits air both by night and by day as much as the weather will permit; for he finds alternate ventillation by day and confinement by night to be very injurious. He opens his back lights in any kind of weather close to the trees. In frosty weather he increases his fires, to enable him to give constant air without actually allowing the temperature to fall to 32°. In this manner he proceeds very slowly until the blossoms are all set. He subsequently raises the temperature to 65°, and afterwards gradually to 70°, increasing the moisture of the atmosphere at the same time, and always taking care to keep the ventillation as abundant as he possibly can. By which means he finds the crop certain and abundant without the use of any kind of bottom heat, as tan leaves, &c.

Forcing by a temporary structure. Torborn observes, that "where a portion of wall (especially with a southern aspect) already well furnished with *may-dukes* perfectly established, and in a bearing state, can be spared for forcing, a temporary glass case may be put up against it; the flue may be built on the surface of the border without digging or sinking for a foundation; neither will any upright or front wall be requisite, the wooden plate on which the lower end of the rafters are to rest may be supported by piles sunk or driven into the soil of the border, one pile under every or every alternate rafter. The place between the surface and the soil should be filled by boards nailed against the piles to exclude the external air, for the plate must be elevated above the level of the surface from 18 to 30 inches, or whatever height may be sufficient to let the sashes slip down, in order to admit fresh air. I believe this to be an uncommon structure, and it may perhaps be objected to; but I am confident it will suit well for cherries, for I have constructed such places even for forcing peaches with good success, as well as for maturing and preserving a late crop of grapes." Hort. trans. 4. p. 117.

6 C. SEMPERFLÒRENS (D. C. fl. fr. 4. p. 481. Lois. in Duham. ed. nov. p. 30. no. 18. t. 5. f. A.) branches drooping; leaves ovate, serrated; flowers late, axillary, solitary; calyxes serrated; fruit globose, red. ♄. H. Native country unknown. Prùnus semperflòrens, Ehrh. beitr. 7. p. 132. Prùnus serótina, Roth. cat. 1. p. 58. Flowers white. This is the *All-saints* or *weeping-cherry*, the *cerise de la toussaint, cerise tardive, cerise de Saint Martin*, and *Guignier à rameaux pendans* of the French. The fruit is small, round, red, watery, but it is of little value.

Var. β, *sessiliflòra* (Ser. mss. in D. C. prod. 2. p. 537.) This is a monstrosity, bearing earlier sessile flowers, and foliaceous styles.

Ever-flowering Weeping or All Saints' Cherry. Fl. May. Tree 10 to 20 feet.

7 C. CHAMÆCE'RASUS (Lois. in Duham. ed. nov. 5. p. 29. t. 5. f. A.) flowers umbellate; umbels usually sessile; peduncles longer than the leaves when in fruit; fruit round, reddish purple, very acid; leaves obovate, shining, crenated, bluntish, quite glabrous, rather coriaceous, hardly glandular. ♄. H. Native of Siberia and Germany. C. intermèdia, Lois. l. c. p. 30. Prùnus intermèdia, Poir. dict. 5. p. 674. Prùnus fruticòsa, Pall. fl. ross. 1. p. 19. t. 8. B. Chamæcérasus fruticòsa, Pers. ench. 2. p. 34. Lower serratures of leaves glandular. Flowers white.

Ground-cherry or Siberian-cherry. Fl. May. Clt. 1597. Tree 2 to 4 feet.

8 C. PERSICIFÒLIA (Lois. l. c. p. 9.) flowers umbellate, numerous; peduncles rather capillary; leaves ovate-lanceolate, acuminated, unequally-serrulated; petioles biglandular. ♄. H. Native of North America? Prùnus persicifòlia, Desf. arbr. 2. p. 205. This kind of *cherry* was raised from seeds sent by Michaux from North America.

Peach-leaved Cherry. Fl. May. Tree 8 to 10 feet.

9 C. PU'DDUM (Roxb. Wall. pl. rar. asiat. 2. p. 37. t. 143.) leaves ovate, lanceolate, acuminated, sharply serrulated; flowers umbellate; umbels on short peduncles; bracteas ciliated; calyx tubular, length of the peduncle; limb of calyx reflexed; fruit roundish, red. ♄. H. Native of Nipaul, between Hurdwar and Sirinaghur. Flowers rose-coloured. The wood is reckoned very useful in Nipaul. The fruit is like that of a common *cherry;* it is refreshing, but not very sweet. The tree is found in the south of Hindostan, Nipaul, Kamaon, Deyra, Sirmore, and elsewhere in great abundance. *Puddum* is the vernacular name of the tree.

Puddum Cherry. Fl. Oct. Nov. Tree 20 to 30 feet.

10 C. PU'MILA (Michx. fl. bor. amer. 2. p. 286.) striated; branches twiggy; flowers subumbellate, pedunculate; calyx short, campanulate; leaves obovate-oblong, erect, glaucous beneath, glabrous, hardly serrulated; fruit ovate, red. ♄. H. Native of Canada. Lois. in Duham. ed. nov. 5. p. 31. Prùnus pùmila, Lin. mant. 73. Mill. fig. t. 89. f. 2. Cérasus glaùca, Mœnch. meth. 672. Stature of Amýgdalus nàna. In Canada it is commonly called *Ragouminier*. Flowers white. Fruit red, acid.

Dwarf Canadian-cherry. Fl. May. Clt. 1756. Sh. 3 to 4 ft.

11 C. PYGMÆ'A (Lois. in Duham. ed. nov. 5. p. 32. no. 21.) unarmed; umbels sessile, few-flowered; leaves ovate-elliptic, acutish, glabrous on both surfaces, tapering to the base, sharply serrated, bearing 2 glands at the base; fruit black, hardly succulent, about the size of a large pea. ♄. H. Native of North America. Prùnus pygmæ'a, Willd. spec. 2. p. 993. Flowers white, size of those of *Prùnus spinòsa*.

Pigmy Cherry. Fl. May. Clt. 1823. Shrub 3 to 4 feet.

12 C. NÌGRA (Lois. l. c. p. 32. no. 22.) unarmed; umbels sessile, few-flowered; lobes of calyx obtuse; leaves ovate, acuminated; petioles biglandular. ♄. H. Native of Canada, and from Fort William in lat. 48 deg. to the Saskatchawan, Lake Huron, and Newfoundland. Sims, bot. mag. 1117. Prùnus nìgra, Ait. hort. kew. ed. 1. vol. 2. p. 165. ed. 2. vol. 3. p. 198. Calyx purple, with obtuse segments, having glandular margins.

Black Canadian-cherry. Fl. April, May. Clt. 1773. Shrub.

13 C. BOREA'LIS (Michx. fl. bor. amer. 1. p. 286. Lois. l. c. 5. p. 32. no. 23.) flowers sub-corymbous; pedicels longish; leaves oval-oblong, acuminated, membranous, glabrous, erosely denticulated; fruit small, egg-shaped, red, with sweet flesh. ♄. H. Native of North America, on the high mountains of New England. Prùnus boreàlis, Poir. dict. 5. p. 674. Leaves like those of the common almond, with the serratures inflexed, and tipped by glands at the apex.

Northern Cherry or Choke-cherry. Fl. May. Clt. 1822. Sh.

14 C. GLANDULÒSA (Lois. in Duham. ed. nov. 5. p. 33. no. 26.) flowers solitary; peduncles pendulous; leaves oblong, acute, with glandular serratures, glabrous, of the same colour on both surfaces; branches unarmed. ♄. H. Native of Japan. Prùnus glandulòsa, Thunb. fl. jap. 203. Corolla flesh-coloured.

Glandular-leaved Cherry. Shrub 5 to 8 feet.

15 C. A'SPERA (Lois. l. c. 5. p. 33. no. 24.) branches dotted; flowers solitary, terminal, pedunculate; leaves ovate, acuminated, serrated, scabrous on both surfaces. ♄. H. Native of Japan. Prùnus áspera, Thunb. fl. jap. 201. Poir. dict. 5. p. 675. Drupe the size of pepper, blue, glabrous, edible, containing a hard acutish stone. The upper surface of the leaf is so hard that it is used for polishing in Japan.

Rough-leaved Cherry. Shrub 5 to 6 feet.

16 C. INCÌSA (Lois. l. c. 5. p. 33. no. 27.) branches unarmed; flowers solitary; peduncles capillary, twice the length of the leaves; leaves ovate, deeply serrated, villous; calyx cylindrical, ferruginous. ♄. H. Native of Japan. Prùnus incìsa, Thunb. fl. jap. 202. Petals rose-coloured.

Cut-leaved Cherry. Shrub 6 feet.

17 C. DEPRE'SSA (Pursh. fl. amer. sept. 1. p. 331.) branches angular, depressed, prostrate; umbels few-flowered, sessile, aggregate; leaves lanceolate-cuneated, a little serrated, glabrous, glaucous beneath; fruit ovate. ♄. H. Native of North America, from Canada to Virginia, throughout Canada, and as far as the Saskatchawan. Cérasus pùmila, Michx. fl. bor. amer. 1. p. 286. but not the Prùnus pùmila of Lin. Prùnus Susquehànæ, Willd. enum. 519. baumz. ed. 2. p. 286. Flowers white.

Depressed or Sand-cherry. Fl. May. Clt. 1805. Shrub prostrate.

18 C. HYEMA'LIS (Michx. fl. bor. amer. 1. p. 284.) umbels sessile, aggregate; segments of the calyx lanceolate; leaves oval-oblong or obovate, abruptly acuminated; fruit subovate. ♄. H. Native of Canada, Virginia, and in the shady woods of Carolina. Lois. in Duham. ed. nov. 5. p. 194. Flowers white. Fruit black and astringent, eatable only in the winter.

Winter or Black Choke-cherry. Fl. May. Clt. 1805. Shrub 3 to 4 feet.

19 C. PROSTRA'TA (Ser. in D. C. prod. 2. p. 538.) decumbent; flowers usually solitary, almost sessile; calyx tubular; leaves ovate, deeply-serrated, glandless, clothed with hoary tomentum beneath; fruit ovate, red, with tender flesh, and with the sutures of the stone very blunt. ♄. H. Native of the mountains of Candia, and on mount Lebanon, and of Siberia. Prùnus prostràta, Labill. syr. dec. 1. p. 15. Lois. in Duham. ed. nov. 5. p. 182. t. 53. f. 2. good. Curt. bot. mag. 136. Prùnus incàna, Steven in mem. soc. mosq. 3. p. 263. Petals ovate, retuse, rose-coloured.

Prostrate Cherry. Fl. April, May. Clt. 1802. Sh. pros.

20 C. HU'MILIS (Moris, elench. sard. p. 17.) stems depressed; flowers usually solitary, pedicellate; calyx tubular; leaves oblong or ovate, unequally serrated, glabrous, and green on both surfaces, reticulately veined beneath; fruit ovate. ♄. H. Native of Sardinia. Habit of *C. prostràta*, but differs from it in the nerves being hoary. Petals ovate, of a pale rose colour.

Humble Cherry. Fl. June, July. Shrub depressed.

21 C. CHI'CASA (Michx. fl. bor. amer. 1. p. 284.) branches rather spinescent, quite glabrous; flowers usually twin; pedicels very short; calyx glabrous, with very short segments; leaves oval-oblong, acute or acuminated; fruit nearly globose, small, yellow. ♄. H. Native of Carolina, to which country it has been introduced by the Indians, and by them called *Chicasaw*.

Chicasaw Cherry or Plum. Fl. April, May. Clt. 1806. Shrub 6 feet.

22 C. PUBE'SCENS (Ser. in D. C. prod. 2. p. 538.) umbels sessile, few-flowered; peduncles and calyxes pubescent; leaves short, oval, serrulated, for the most part biglandular at the base; fruit globose. ♄. H. Native of New England and Pennsylvania. Prùnus pubéscens, Pursh. fl. bor. amer. 1. p. 331. Prùnus sphærocárpa, Michx. fl. amer. sept. 1. p. 284. but not of Swartz. Young branches pubescent. Fruit on short pedicels, of a brownish purple-colour, and astringent.

Pubescent Cherry. Fl. April, May. Clt. 1820. Shrub.

23 C. JAPO'NICA (Lois. in Duham. ed. nov. 5. p. 33.) leaves ovate, acuminated, glabrous, shining; peduncles solitary; lobes of calyx shorter than the tube. ♄. G. Native of Japan. Prùnus Japónica, Thunb. fl. jap. p. 201. Prùnus Sinénsis, Pers. ench. 2. p. 36. Flowers red. Drupe the size of a pea.

Var. β, múltiplex (Ser.) flowers semidouble, with the petals white on the upper side, and red on the under. Prùnus Japónica, Ker. bot. reg. 27.

Japan Cherry. Fl. March, May. Clt. 1810. Sh. 2 to 4 feet.

24 C. CHINE'NSIS; leaves ovate-lanceolate, doubly serrated, wrinkled from veins beneath; peduncles sub-aggregate. ♄. H. Native of China. Amýgdalus pùmila, Lin. mant. 74. Sims, bot. mag. 2176. exclusive of the synonyme of Pluck. Flowers semidouble, red.

China Cherry. Fl. March, May. Clt. 1810. Sh. 2 to 3 ft.

25 C. SERRULA'TA (G. Don, in Loud. hort. brit. p. 480.) leaves obovate, acuminated, setaceously serrulated, quite glabrous; petioles glandular; flowers in fascicles. ♄. G. Native of China, where it is called *Yung-to*. Prùnus serrulàta, Lindl. hort. trans. 7. p. 238. This species is generally known by the name of *double Chinese-cherry*. The flowers are pale white, and very ornamental.

Serrulated-leaved Cherry. Fl. April. Clt. 1822. Shrub 4 to 6 feet.

26 C. SALÍCINA (G. Don, in Loud. hort. brit. p. 480.) flowers usually solitary, shorter than the leaves; leaves obovate, acuminated, glandularly serrated, glabrous; stipulas subulate, glandular, length of the petiole; petiole glandless. ♄. F. Native of China, where it is called *Ching-cho-lee* or *Tung-chok-lee plum*. Prùnus salícina, Lindl. hort. trans. Flowers small, white. Fruit about the size of those of the Myrobalan plum. It seems to come nearest to *C. glandulòsa*.

Willow Cherry. Fl. April, May. Clt. 1822. Shrub 4 to 6 feet.

SECT. II. LAUROCE'RASUS (the name indicates it is a cherry in fruit, and laurel in leaves). Laurocérasus and Cérasus species, Tourn. inst. t. 493. Flowers disposed in racemes, rising from the branches.

§ 1. *Pàdus* (from παδος, *pados*, a name given by Theophrastus to a tree analogous to the *cherry*). *Leaves caducous.*

27 C. PENNSYLVA'NICA (Lois. in Duham. ed. nov. 5. p. 9.) umbels almost sessile, aggregate, sometimes in the form of panicles; leaves oblong-lanceolate, acuminated, glabrous, biglandular at the base. ♄. H. Native of North America, Canada as far as the Saskatchawan, and from Newfoundland to the Rocky Mountains. Prùnus Pennsylvánica, Lin. fil. suppl. 252. Prùnus lanceolàta, Willd. arb. 240. t. 3. f. 3. Flowers white. Fruit smaller than those of the *cherry*, agreeable to eat.

Pennsylvanian Bird-cherry. Fl. May. Clt. 1773. Shrub 6 to 8 feet.

28 C. PANICULA'TA (Lois. l. c. 5. p. 9. Ker. bot. reg. t. 80.) flowers panicled, spreading; leaves ovate. ♄. G. Native of Japan. Prùnus paniculàta, Thunb. fl. jap. 200. Flowers large, white. Very like *C. Mahàleb*, but differs in the panicle of flowers being larger and more spreading, in the flowers being smaller, in the leaves being more oblong and attenuated at the base, and acutely serrated.

Panicled-flowered Bird-cherry. Fl. May. Shrub.

29 C. PSEU'DO-CE'RASUS (G. Don, in Loud. hort. brit. 200.) leaves obovate, acuminated, flat, serrated; flowers racemose; branches and peduncles pubescent; fruit small, pale red, of a pleasant subacid flavour, with a small smooth stone. ♄. H. Native of China, where it is called *Yung-to*. Prùnus pseudocérasus, Lindl. hort. trans. 6. p. 90. Prùnus paniculàta, Ker. bot. reg. 800. but not of Thunb. Flowers white. This species of *cherry* forces well.

False-cherry. Fl. April, May. Clt. 1821. Sh. 6 to 10 feet.

30 C. MAHA'LEB (Mill. dict. no. 4. D. C. fl. fr. 4. p. 480.) racemes somewhat corymbose, leafy; leaves broad, roundish-cordate, denticulated, glandular, folded together; fruit ovate-roundish, black. ♄. H. Native of the south of Europe. Lois. in Duham. ed. nov. 5. p. 6. t. 2. Prùnus Mahàleb, Lin. spec. 678. Jacq. fl. austr. t. 227. Resembling the apricot in foliage. Flowers white. The wood is red, very hard, and sweet-scented, and on that account is greatly esteemed by the French for making cabinets and other furniture, under the name of *bois de Sainte*

Lucie. The fruit is black, yielding a bitter purple juice, the stain of which is not easily effaced. A fragrant and pleasant distilled water is made from both leaves and flowers.

Mahaleb Bird-cherry. Fl. Ap. May. Clt. 1714. Tree 10 ft.

31 C. Pa'dus (D. C. fl. fr. 4. p. 580.) racemes elongated, leafy, drooping; petals obovate; leaves ovate-lanceolate, rather acuminated; fruit round, black, astringent. ♄. H. Native of Europe and Siberia, in hedges and in woods; plentiful in some parts of Britain. Prùnus Pàdus, Lin. spec. 677. Smith, engl. bot. t. 1383. Flowers white. Fruit black, called *bird-cherry*, *fowl-cherry*, *cluster-cherry*, and in Scotland *hag-berry*. A strong decoction of the bark is used by the Finlanders to cure venereal complaints. The fruit is nauseous to most palates, but infused in gin or whiskey it greatly improves these spirits, and is only surpassed by an infusion of peach leaves.

Var. α, vulgàris (Ser. in D. C. prod. 2. p. 539.) flowers large, loose, on long peduncles; fruit black. Prùnus pàdus α, D. C. fl. fr. 4. p. 580. Lois. in Duham. ed. nov. 5. p. 2. t. 1.

Var. β, parviflòra (Ser. l. c.) flowers smaller; peduncles shorter and denser; fruit black. Oed. fl. dan. t. 205.

Var. γ, rùbra (Ser. in D. C. prod. 2. p. 539.) fruit red. C. Pàdus fructu rubro, D. C. fl. fr. 4. p. 580. Lois. l. c. Prùnus rùbra, Willd. arbr. 237. t. 4. f. 2. ex Ait. hort. kew. ed. 2. p. 299. This is the *Cornish* or *red-bird cherry*.

Var. δ, bracteòsa (Ser. mss. in D. C. prod. 2. p. 539.) flowers very numerous; pedicels furnished with long bracteas. C. Pàdus δ, D. C. herb.

Common *Padus* or Bird-cherry. Fl. April, May. Britain. Tree 10 to 30 feet.

32 C. acumina'ta (Wall. pl. rar. asiat. 2. p. 78. t. 181.) leaves lanceolate, acuminated, remotely serrated, and are, as well as the flowers, glabrous, sometimes with a few glands beneath; racemes axillary, solitary, or in fascicles, a little shorter than the leaves. ♄. G. Native of the mountains of Nipaul. Flowers white. Racemes nodding. *Aroa* is the Nipaul name of the tree.

Acuminated-leaved Bird-cherry. Tree 20 to 30 feet.

33 C. Virginia'na (Michx. fl. bor. amer. 1. p. 285.) racemes erect, elongated; petals orbicular; leaves oblong, acuminated, doubly-toothed, smooth; petioles usually bearing about 4 glands; fruit red. ♄. H. Native of Virginia, Carolina, and Canada. Prùnus rùbra, Ait. hort. kew. ed. 1. vol. 2. p. 162. Willd. arb. 238. t. 5. f. 1. Prùnus argùta, Bigelow in litt.—Catesb. car. 2. t. 19. —Park. par. 599. t. 597. f. 6. Flowers white. Fruit globose. Wood beautifully veined with black and white. The tree retains its foliage late in autumn.

Virginian Bird-cherry. Fl. May, June. Clt. 1724. Tree 20 to 80 feet.

34 C. Canade'nsis (Lois. in Duham. ed. nov. 5. p. 3.) leaves without glands, broad-lanceolate, wrinkled, pubescent on both surfaces, and green, drawn down into the petiole. ♄. H. Native of Canada. Prùnus Canadénsis, Willd. spec. 2. p. 986.—Pluk. alm. t. 158. f. 4. Flowers white.

Canada Bird-cherry. Fl. May, June. Clt. 1820. Tree 20 to 30 feet.

35 C. móllis (Dougl. mss. Hook. fl. bor. amer. 169.) racemes short, pubescently tomentose, as well as the calyxes; calycine segments reflexed; leaves obovate-oblong, crenated, pubescent beneath; fruit ovate. ♄. H. Native of the north-west coast of America, near the mouth of the Columbia, and on subalpine hills near the source of the river. Like *C. pubéscens* in habit. Young branches dark brown and downy. Flowers white.

Soft Bird-cherry. Tree 12 to 24 feet.

36 C. emargina'ta (Dougl. mss. Hook. fl. bor. amer. p. 169.) racemes corymbose; pedicels elongated, glabrous; calyx glabrous, with ovate, obtuse, reflexed segments; leaves oval, denticulately serrulated, glabrous, acute at the base, and biglandular, but obtuse at the apex, and usually emarginate; fruit globose. ♄. H. Native of north-west America, on the upper part of the Columbia river, especially about the Kettle Falls. Flowers white. Fruit astringent. Wood red spotted with white. Leaves 2 inches long.

Emarginate-leaved Bird-cherry. Shrub 4 to 8 feet.

37 C. Capo'llin (D. C. prod. 2. p. 539.) racemes rather compound, lateral, and terminal; leaves lanceolate, serrated, glabrous; fruit globose. ♄. G. Native of Mexico, in cold and temperate places. Prùnus Virginiàna, Moc. et Sesse, fl. mex. icon. ined. Prùnus Canadénsis, pl. mex. ined.—Hern. mex. 95. with a figure. The leaves are about the size and form of those of *Sàlix fràgilis*. The fruit is the colour and form of that of *C. àrium*. The bark of this tree is employed in Mexico as a febrifuge.

Capollin Bird-cherry. Shrub.

38 C. Nipaule'nsis (Ser. in D. C. prod. 2. p. 540.) leaves long, lanceolate, acuminated, bluntly serrated, glabrous, conspicuously and reticulately veined beneath, and whitish, pilose in the axils of the nerves; peduncles short, rather villous, as well as the rachis; calyx glabrous; fruit*?* ♄. H. Native of Nipaul. The leaves are almost the form of those of *Sàlix fràgilis*.

Nipaul Bird-cherry. Clt. 1820. Shrub.

39 C. caprícida; leaves elliptic, acuminated, coriaceous, glabrous, quite entire, with undulately curled margins; petioles glandless; racemes either solitary or aggregate by threes, many-flowered, glabrous, shorter than the leaves. ♄. G. Native of Nipaul, at Narainhetty. Prùnus caprícida, Wall. in litt. Prùnus undulàta, Hamilt. ex D. Don, prod. p. 239. Cérasus undulàta, Ser. in D. C. prod. 2. p. 540. The leaves of this shrub contain so large a quantity of prussic-acid as to kill the goats of Nipaul. This shrub is probably evergreen.

Goat-killing Bird-cherry. Sh.

40 C. ellı'ptica (Lois. in Duham. ed. nov. 5. p. 4.) leaves elliptic, serrated, bluntish, veiny, glabrous. ♄. H. Native of Japan. Prùnus ellíptica, Thunb. fl. jap. 199. Drupe oblong, about the size of a small grape.

Elliptic-leaved Bird-cherry. Tree.

41 C. serótina (Lois. in Duham. ed. nov. 5. p. 3.) racemes loose, at length pendulous; leaves oval or obovate, acuminated, simply serrated, opaque, shining above, naked on both surfaces, bearded in the axils of the veins beneath; petioles biglandular; fruit dark purple, globose. ♄. H. Native of North America, in Canada and Newfoundland. Prùnus serótina, Willd. arbr. 239. t. 5. f. 2. Prùnus Virginiàna, Mill. dict. no. 2. Leaves rather coriaceous, shining, the floral ones very narrow at the base. Flowers white. This is the *Tawquoy-meen-ahtik* of the Cree Indians. Its fruit is termed *Tawqawy-mena* or *Choke-cherry;* it is not very edible in a fresh state, but when dried and bruised it forms an esteemed addition to pemmican. Dr. Richardson says it is the *C. Virginiàna*.

Var. β, retùsa (Ser. mss. in D. C. prod. 2. p. 540.) leaves roundish, obovate, rather villous beneath, very blunt, and rather retuse at the apex; the middle nerve pilose on both sides. ♄. S. Native of South America.

Late Bird-cherry, or Choke-cherry. Fl. May, June. Clt. 1629. Tree 20 feet.

§ 2. *Laurocérasus* (*laurus*, the laurel, and *cérasus*, the cherry; the trees are cherries in fruit but laurels in the leaves). *Leaves coriaceous, permanent, evergreen.*

42 C. occidenta'lis (Lois. in Duham. ed. nov. 5. p. 4.) racemes lateral; leaves glandless, oblong, acuminated, quite entire, glabrous on both surfaces. ♄. S. Native of the West

Indies. Prùnus occidentàlis, Swartz, fl. ind. occ. 2. p. 925.—Catesb. car. 2. p. 94. t. 94.? Flowers white.

Occidental Bird-cherry. Fl. year. Clt. 1784. Tree 20 ft.

43 C. Lusita'nica (Lois. in Duham. ed. nov. 5. p. 5.) racemes erect, axillary, longer than the leaves; leaves ovate-lanceolate, serrated, glandless. ♄. H. Native of Portugal and Pennsylvania. Prùnus Lusitánica, Lin. spec. 678. Mill. fig. 131. t. 196. f. 1.—Dill. hort. elth. 193. t. 159. f. 193. Fruit ovate, red when ripe. The *Portugal laurel* is one of the most elegant shrubs which we have in our plantations, especially when planted in a proper situation and soil. The evergreen shining leaves and the long racemes of white flowers make altogether a very striking appearance. It was brought to England from Portugal, but whether it is a native of that country is doubtful.

Var. β, Híxa (Ser. in D. C. prod. 2. p. 540.) leaves larger; racemes more elongated; flowers looser. ♄. H. Native of Teneriffe, the Grand Canary, and Palma. Prùnus Híxa, Brouss. ex Willd. enum. 517. Prùnus multiglandulòsa, Cav. ann. sci. nat. 3. p. 59. The lower serratures of the leaves are glandular, according to Willdenow.

Portugal Laurel. Fl. June. Clt. 1648. Tree 10 to 20 feet.

44 C. lauro-ce'rasus (Lois. in Duham. ed. nov. 5. p. 6.) racemes shorter than the leaves; leaves ovate-lanceolate, remotely serrated, furnished with 2 or 4 glands beneath; fruit ovate, acute. ♄. H. Native of the Levant, Caucasus, the mountains of Persia, and the Crimea. Prùnus Laurocérasus, Lin. spec. 678. Clusius received it in 1576 from David Ungand, then ambassador from the Emperor of Germany at Constantinople, with some other rare trees and shrubs, all of which perished except the common *laurel* and horse-chestnut. It was sent by the name of *Trabison Cumasi* or *Date of Trebisond*. The leaves have a bitter styptic taste, accompanied with a flavour resembling that of the bitter almond; this flavour has caused them to be used for culinary purposes in custards, puddings, blanc-mange, &c., and as the proportion of the sapid matter of the leaf to the quantity of milk is inconsiderable, no bad effects are produced. Laurel-water is prepared, according to the Prussian pharmacopœia, by drawing off 3 pounds of distilled water from 2 pounds of the fresh leaves. See *Amýgdalus*.

Cherry-laurel or Common Laurel. Fl. April, May. Clt. 1629. Shrub 6 to 10 feet.

45 C. sphæroca'rpa (Lois. l. c. 5. p. 4.) racemes axillary, erect, small, shorter than the leaves; leaves glandless, quite entire, shining; flowers distant; fruit nearly globose. ♄. S. Native of Jamaica, St. Domingo, Hispaniola, and Brazil, in woods. Prùnus sphærocárpa, Swartz, fl. ind. occ. 2. p. 927. but not of Michx.—Sloane, hist. 2. p. 9. t. 193. f. 1. Wood very hard and white. Leaves 2 inches long and about an inch and a half broad, nearly round. Fruit purple when ripe.

Round-fruited Evergreen Bird-cherry. Fl. June, July. Clt. 1820. Tree 10 to 12 feet.

46 C. Brasilie'nsis (Cham. et Schlecht. Linnæa. 2. p. 542.) racemes axillary, shorter than the leaves, erect; leaves elliptic, acuminated at both ends, quite entire, with revolute edges, furnished with a gland on both sides of the middle nerve at the base beneath. ♄. S. Native of Brazil. Drupe black.

Brasilian Evergreen Bird-cherry. Tree.

47 C. Carolinia'na (Michx. fl. bor. amer. 1. p. 285.) leaves on short petioles, oblong-lanceolate, mucronate, smooth, rather coriaceous, almost entire; racemes axillary, dense, shorter than the leaves; flowers rather large; fruit nearly globose, mucronate. ♄. H. Native of North America, from Carolina to Florida. Lois. in Duham. ed. nov. 5. p. 5. Prùnus Caroliniàna, Ait. hort. kew. 2. p. 163. Leaves about 2 inches long, ¾ of an inch broad, with a few indentures on their edges. Flowers white.

Carolina Evergreen Bird-cherry. Fl. May. Clt. 1759. Tree 20 to 30 feet.

48 C. salicifòlia (D. C. prod. 2. p. 540.) quite glabrous; leaves oblong-lanceolate, ending in a very long acumen, sharply serrulated, smooth, permanent; calyx permanent, with the lobes denticulated; petioles furnished with 1 or 2 glands; style curved. ♄. S. Native of New Granada. Prùnus salicifòlia, H. B. et Kunth, nov. gen. amer. 4. p. 241. t. 563. Leaves like those of *Sàlix fràgilis*. Flowers white.

Willow-leaved Evergreen Bird-cherry. Tree 20 to 30 feet.

49 C. ferrugínea (D. C. prod. 2. p. 540.) leaves obovate, permanent, on short petioles, retuse; petioles and branches clothed with rusty velvety down; racemes length of leaves. ♄. S. Native of Mexico. Fruit unknown.

Rusty Evergreen Bird-cherry. Shrub.

50 C. Capu'li (Ser. mss. in D. C. prod. 2. p. 541.) leaves lanceolate, sharply serrated, glandless, glabrous. ♄. S. Native of Peru. Prùnus Capùli, Cav. ex Spreng. syst. 2. p. 477. Perhaps the same as *C. Capóllin* of Mexico.

Capuli Evergreen Bird-cherry. Tree.

Cult. All the hardy kinds of this genus are well adapted for shrubberies; they are generally increased by cuttings or layers, which should be planted in September, in as sheltered a border as possible; some of them are raised more readily by seeds, as the *Portugal laurel*. Ripened cuttings of the stove and greenhouse kinds root freely if planted in a pot of sand, with a hand-glass placed over them; those of the stove species require bottom heat to make them strike root.

VI. POLYDO'NTIA (from *πολυ*, *poly*, many, and *οδους οδοντος*, *odous odontos*, a tooth; calyx having more teeth than other genera in the order). Blum. bijdr. 1104.

Lin. syst. *Icosándria, Monogýnia.* Calyx inferior, campanulate, with a 6-cleft deciduous limb. Petals 6, very minute, inserted in the limb of the calyx. Stamens 12-18, nearly equal, inserted with the petals. Ovary free, 1-celled. Stigma peltate. Drupe kidney-shaped, dry, 1-seeded. Embryo exalbuminous, inverted.—A tree 30 to 50 feet high, with alternate, oblong, quite entire, exstipulate leaves, for the most part biglandular at the base. Racemes axillary and lateral, solitary or crowded, tomentose. Flowers small, furnished with 1 bractea each. This genus is hardly distinct from *Amýgdalus*.

1 P. arbòrea (Blum. bijdr. p. 1105.). ♄. S. Native of Java, in mountain woods.

Tree Polydontia. Tree 30 to 50 feet.

Cult. A mixture of loam, peat, and sand will suit this tree; and ripened cuttings will strike root, if planted in sand, under a hand-glass, in heat.

LXXXI. SPIRÆA'CEÆ (plants agreeing with *Spiræ'a* in important characters). Ulmàriæ, Vent. t. 3. p. 351.—Rosàceæ, Tribe III. Spiræacèæ, D. C. prod. 2. p. 541.

Calyx 5-cleft (f. 65. *a.* f. 66. *a.* f. 67. *a.*), imbricate in æstivation, with a disk either lining the tube (f. 67. *b.*), or surrounding the orifice, the fifth lobe next the axis. Petals 5 (f. 65. *b.* f. 66. *b.* f. 67. *c.*), perigynous, equal. Stamens from 20-50, arising from the calyx or the disk, with the petals curved inwards in æstivation; anthers innate, 2-celled, bursting lengthwise. Ovaries superior, several together (f. 65. *d.*), free from the calyx. Follicles or carpels several (f. 65. *d.*), distinct, disposed in a whorl, around an imaginary axis of the flower, usually 5 (f. 65. *d.*) in number, but sometimes fewer from abortion, apiculate by the styles, they at length become capsular, and open inwardly, somewhat 2-valved. Seeds 2-4, rarely solitary from abortion, rising from the margin of the inner suture, at the middle or near the base, suspended, without aril and without albumen. Embryo straight, inverted in *Spiræ'a*, but probably erect in the other genera. Cotyledons flat, thickish. This order is composed of shrubs or herbs, with simple, trifoliate, or pinnate leaves. The roots of all the plants contained in it are so astringent as to be sometimes used for tanning. The *Gillènia trifoliàta* is remarkable in having, in addition to its astringency, an emetic property, on which account it is employed in North America as Ipecacuanha. It is said a similar power exists in other plants of this order.

This order is distinguished from *Chrysobalàneæ* by the numerous follicular dehiscent carpels, and from *Rosàceæ* in the carpels, and in the styles being terminal, not lateral, as in that order.

Synopsis of the genera.

1 **Pu'rshia.** Lobes of calyx all obtuse. Stamens about 25, rising from the calyx. Carpels 1-2, ovate, oblong, containing 1 seed, which is inserted at the base of the carpel. Leaves cuneated, deeply toothed at the apex.

2 **Ke'rria.** Lobes of calyx 5, 3 of which are obtuse, and the other 2 mucronate. Stamens about 20, arising from the calyx. Carpels 5-8, globose, containing 1 seed each, which adheres to the side.

3 **Spiræ'a.** Calyx 5-cleft (f. 65. *a.* f. 66. *a.*). Stamens 20-50, inserted with the petals in the torus, which adheres to the calyx. Carpels 2-5 (f. 65. *d.*), rarely solitary, free, rarely joined, containing 2-6 seeds in each, fixed to the inner suture.

4 **Gille'nia.** Calyx 5-cleft (f. 67. *a.*). Petals linear, contracted at the base (f. 67. *c.*), rising from the top of the tube. Stamens 10-15, inclosed (f. 67. *b.*). Carpels 5, somewhat connate into a 5-celled fruit; cells 2-seeded.

† *A genus doubtful whether it belongs to the present order.*

5 **Adenile'ma.** Calyx glandular, 5-cleft. Stamens numerous, inserted with the petals in the calyx. Ovary simple. Style 1. Capsule inclosed in the calyx, 1-celled, dehiscent, many-seeded. Seeds albuminous.

I. PU'RSHIA (in honour of Frederick Pursh, author of Flora Americæ Septentrionalis, 2 vols. 8vo. London, 1817). D. C. in Lin. trans. 12. p. 154. prod. 2. p. 541.—Tigàrea, Pursh, fl. amer. sept. 1. p. 33. t. 15. but not of Aublet.

Lin. syst. *Icosándria, Mono-Digýnia.* Calyx 5-cleft; lobes ovate, obtuse. Petals 5, obovate. Stamens about 25, rising with the petals from the calyx. Carpels 1-2, ovate-oblong, pubescent, tapering into the style at the apex, at length opening by a longitudinal chink. Seed 1, inserted in the base of the carpel. —A much-branched shrub, with scaly buds. Leaves crowded, wedge-shaped, deeply 3-toothed at the apex, smoothish above, but clothed with hoary tomentum beneath. Stipulas very small. Flowers yellow.

1 P. **tridenta'ta** (D. C. l. c.). ♄. H. Native of North America, on the banks of the Columbia river, and in the prairies of the Rocky Mountains, &c. Hook. fl. bor. amer. t. 8. Tigàrea tridentàta, Pursh, fl. amer. sept. 1. p. 33.

Tridentate-leaved Purshia. Clt. 1826. Shrub 1 to 2 feet.

Cult. A dry light sandy soil will answer this shrub best. Cuttings may be rooted under a hand-glass, but the shrub is easier increased by seeds.

II. KE'RRIA (in honour of — Kerr, sometime superintendant of the botanic garden in Ceylon). D. C. in Lin. trans. 12. p. 156. prod. 2. p. 541.

Lin. syst. *Icosándria, Pentagýnia.* Calyx 5-cleft; lobes ovate, 3 of which are obtuse, and the other 2 callosely mucronate at the apex, imbricate in æstivation. Petals 5, orbicular. Stamens about 20, arising from the calyx with the petals, exserted. Carpels 5-8, globose, free, glabrous, each ending in a filiform style. Seed solitary in the carpels, adhering laterally.—An evergreen shrub, with smooth green bark, twiggy branches, ovate-lanceolate, coarsely and unequally serrated, feather-nerved, conduplicate leaves, linear-subulate stipulas, and large yellow flowers, which are usually double in the gardens.

1 K. **Japónica** (D. C. l. c.). ♄. H. Native of Japan. Rùbus Japónicus, Lin. mant. 245. Córchorus Japónicus, Thunb. fl. jap. p. 227. Andr. bot. rep. 587. Sims, bot. mag. 1296. Spiræ'a Japónica, Cambess. ann. sc. nat. 1. p. 389. Flowers yellow. The single-flowered *Kerria* has not yet been introduced to the gardens, but the double-flowering variety is very common.

Japan Kerria. Fl. all the year. Clt. 1700. Sh. 4 to 10 ft.

Cult. *Kérria* is an elegant shrub when in blossom, being clothed with double yellow flowers all the summer. It is hardy enough to stand the winter in the open air, if planted against a south wall. Cuttings, taken off at a joint when in a young state, root readily, if planted under a hand-glass.

III. SPIRÆ'A (said to be from σπειραω, *speirao*, to become spiral; in allusion to the fitness of the plants to be twisted into garlands). Lin. gen. 630. Gærtn. fruct. 1. p. 337. t. 69. D. C. prod. 2. p. 541.—Spiræ'a, Ulmària, and Filipéndula, Tourn. inst. —Spiræ'a species, Cambéssedes, mon. spir. in ann. sc. nat. 1. p. 227.

Lin. syst. *Icosándria, Di-Pentagýnia.* Calyx 5-cleft (f. 65. *a.* f. 66. *a.*), permanent. Stamens 10-50, inserted in the torus, lining the calyx along with the petals. Carpels solitary, or several together (f. 65. *d.*), rarely connected at the base, ending in short points, sessile, rarely stipitate. Seeds 2-6, fixed to the inner suture of the carpel. Embryo inverted. Cotyledons thickish. —Unarmed shrubs or perennial herbs, with alternate branches. Leaves usually simple, but sometimes pinnately cut, as in Section *Ulmària,* having pinnate or palmately ternate nerves. Flowers white or reddish, never yellow.

Sect. I. Physoca'rpos (φυσα, *physa*, a bladder, and καρπος, *karpos*, a fruit; in reference to the bladdery carpels). Cambess. in ann. sc. nat. 1. p. 385. D. C. prod. 2. p. 542. Ovaries connected at the base. Torus lining the calycine tube. Carpels bladdery, rather membranous. Ovula 2-3, fixed to the seminiferous margin of the carpel, ovoid, at first horizontal, but at length suspended. Flowers hermaphrodite, disposed in umbels; pedicels 1-flowered. Leaves toothed or somewhat lobed, usually stipulate.

1 S. **opulifòlia** (Lin. spec. 702.) leaves cordate, 3-lobed, biserrated, stalked; corymbs pedunculate, hemispherical; flowers numerous; pedicels slender, glabrous; sepals spreading; carpels large, diverging; seeds obovate, shining, yellow. ♄. H. Native of North America, from Canada to Carolina, on the mountains. Cambess. in ann. sc. nat. 1. p. 386. Lois. in Duham. ed. nov. 6. p. 61. t. 14.—Comm. hort. 1. p. 169. t. 87. Flowers white. Carpels 3.

Var. β, tomentélla (Ser. in D. C. prod. 2. p. 542.) peduncles and calyxes tomentose. Native at the grand rapids of the Columbia river.

Guelder-rose-leaved Spiræa. Fl. June, July. Clt. 1690. Sh. 5 to 6 feet.

2 S. MONO'GYNA (Torrey, in ann. lyc. 2. p. 194.) leaves broad-ovate, slightly 3-lobed, deeply serrated, glabrous; corymbs umbellate; flowers monogynous; lobes of calyx erectly spreading; ovaries villous. ♄. H. Native of North America, on the Rocky Mountains. Flowers white. Carpel solitary.

Monogynous Spiræa. Shrub 3 to 4 feet.

3 S. CAPITA'TA (Pursh, fl. amer. sept. 1. p. 342.) leaves ovate, a little lobed, doubly serrated, tomentose, and reticulated beneath; corymbs terminal, crowded, somewhat capitate, on long peduncles. ♄. H. Native of North America, on the eastern coast, and at the river Columbia. Cambess. l. c. 1. p. 365. Flowers white. Carpels 2. Said by Hooker to be a variety of *S. opulifòlia.*

Capitate-flowered Spiræa. Shrub 3 to 4 feet.

SECT. II. CHAMÆ'DRYON (*Chamædrys*, the name of the germander; form of leaves). Ser. mss. in D. C. prod. 2. p. 542.—Spiræa species, Cambess. mon. spir. in ann. sc. nat. 1. p. 384. Ovaries free. Torus free at the apex, but adhering to the calycine tube at the base. Shrubs, with hermaphrodite flowers, disposed in umbels or corymbs; pedicels undivided, 1-flowered. Leaves entire or toothed, exstipulate.

4 S. ULMIFÒLIA (Scop. fl. carn. ed. 2. vol. 1. p. 349. t. 22.) leaves ovate-lanceolate, acute, flat, sharply serrated, glabrous; flowers disposed in sub-hemispherical, terminal corymbs; sepals reflexed. ♄. H. Native of Carinthia and Siberia. Cambess. l. c. 1. p. 367. Lois. in Duham. ed. nov. 6. p. 40. t. 13. S. chamædrifòlia, Jacq. hort. vind. t. 140. Lindl. bot. reg. t. 1222. Lodd. bot. cab. 1042. Flowers white.

Var. β, phyllántha (Ser. mss. in D. C. prod. 2. p. 542.) sepals distinct, stipitate, transformed into verticillate, lanceolate, sharply serrated leaves; petals and stamens wanting, or if present more or less deformed. S. foliòsa, Poir. dict. 7. p. 353.

Elm-leaved Spiræa. Fl. June, Jul. Clt. 1790. Sh. 3 to 5 ft.

5 S. FLEXUÒSA (Fisch. in litt. and Cambess. l. c. p. 365. t. 26.) leaves lanceolate, glabrous, dentately serrated from the apex to the middle; flowers disposed in corymbs. ♄. H. Native country unknown. S. alpìna, Hort. par. ex Cambess. and Fisch. in litt. Perhaps only a variety of *S. ulmifòlia.* Flowers white.

Flexuous Spiræa. Fl. Ju. Jul. Clt. 1820. Sh. 4 to 6 feet.

6 S. CRATÆGIFÒLIA (Link. enum. 2. p. 40.) leaves obovate, obtuse, doubly serrated in front, glabrous; corymbs terminal, compound, subcapitate. ♄. H. Native country unknown. Flowers white.

Hawthorn-leaved Spiræa. Fl. June, July. Clt. 1823. Sh. 4 to 6 feet.

7 S. BE'LLA (Sims, bot. mag. 2426.) stems glabrous, rufous; leaves ovate, glabrous, serrated, petiolate, glaucous beneath; lobes of calyx deflexed; cymes terminal, spreading, and are as well as the branches pubescent. ♄. H. Native of Nipaul. Shrub erect, branched, with the habit of *S. chamædrifòlia.* Flowers beautiful red. Carpels 5, shining.

Pretty Spiræa. Fl. July, Aug. Clt. 1820. Sh. 2 to 3 feet.

8 S. CHAMÆDRIFÒLIA (Lin. spec. 701.) leaves ovate, deeply serrated at the apex, pubescent; flowers disposed in hemispherical corymbs; pedicels slender, elongated; sepals veiny, reflexed. ♄. H. Native of Siberia, Kamtschatka, Dahuria, and north-west coast of America. Cambess. l. c. 1. p. 362. Pall. fl. ross. 1. p. 32. t. 15. Flowers white.

Germander-leaved Spiræa. Fl. June, July. Clt. 1789. Sh. 1 to 2 feet.

9 S. BLU'MEI; leaves obovate, obtuse, deeply toothed at the apex, smoothish; cymes pedunculate, terminal, and are as well as the calyxes glabrous. ♄. G. Native of Java and Japan. S. chamædrifòlia Japónica, Blum. bijdr. 1114. Flowers white.

Blume's Spiræa. Shrub 3 to 6 feet.

10 S. ME'DIA (Pursh, fl. amer. sept. 1. p. 342.) leaves obovate, few-toothed at the apex, rather villous; corymbs pedunculate. ♄. H. Native of Canada. S. chamædrifòlia β, mèdia, Ser. in D. C. prod. 2. p. 542. Flowers white.

Intermediate Spiræa. Fl. June, Jul. Clt.? Sh. 1 to 2 feet.

11 S. OBLONGIFÒLIA (Waldst. et Kit. pl. hung. 3. p. 261. t. 235.) leaves oblong-lanceolate, narrowed at the base, deeply serrated at the apex, or entire, pubescent, ciliated; corymbs pedunculate. ♄. H. Native of Hungary. Flowers white. Like *S. chamædrifòlia* in the form of the leaves, but sufficiently distinct.

Oblong-leaved Spiræa. Fl. May, Ju. Clt. 1816. Sh. 3 to 6 ft.

12 S. LANCEOLA'TA (Poir. dict. 7. p. 354.) leaves lanceolate, deeply serrated, glabrous, paler beneath; umbels few-flowered, axillary, pedunculate. ♄. G. Native of the Mauritius and China. S. Cantonénsis, Lour. coch. p. 322. ex Cambess. l. c. p. 366. t. 25. Leaves like those of *S. salicifòlia.* Flowers white. Leaves deeply serrated only at the apex.

Lanceolate-leaved Spiræa. Shrub 2 to 4 feet.

13 S. CA'NA (Waldst. et Kit. pl. hung. 3. p. 252. t. 227.) leaves ovate, acute, quite entire, or a little toothed, clothed with hoary villi; corymbs somewhat spicate, lateral, pedunculate, few-flowered, loose; sepals spreading; styles thick; carpels diverging, and rather villous. ♄. H. Native of Croatia on high rocks. Cambess. l. c. 1. p. 364. Leaves about the size of those of *Sàlix rèpens*, var. *argéntea.* Flowers white.

Hoary Spiræa. Fl. June, July. Clt. 1825. Sh. 1 to 2 ft.

14 S. VACCINIFÒLIA (D. Don, prod. fl. nep. p. 227.) leaves elliptic, acute, glabrous, glaucous beneath, serrated at the apex; branches hairy; cymes terminal, few-flowered, tomentose. ♄. H. Native of Nipaul. Lodd. bot. cab. 1403. Shrub small, erect. Flowers white.

Whortle-berry-leaved Spiræa. Fl. July, Aug. Clt. 1820. Shrub 2 feet.

15 S. INCÌSA (Thunb. fl. jap. 213.) leaves ovate, deeply 5-parted, serrated, pale and villous beneath; cymes terminal. ♄. H. Native of Japan. Cambess. l. c. p. 262. Flowers small, white.

Cut-leaved Spiræa. Shrub 2 to 3 feet.

16 S. TRI'LOBA (Lin. mant. 244.) leaves roundish, 3-lobed, crenated, glabrous, glaucous beneath and reticulately veined; flowers disposed in corymbous umbels; sepals ascending; carpels glabrous. ♄. H. Native of the Altaian mountains. Cambess. l. c. p. 361. Wats. dent. brit. 68. Pall. ross. 1. p. 33. t. 17. Flowers white. Carpels glabrous.

Three-lobed-leaved Spiræa. Fl. May. Clt. 1801. Sh. 2 to 4 ft.

17 S. ALPI'NA (Pall. fl. ross. 1. p. 35. t. 20.) leaves lanceolate, sessile, serrulated, glabrous, with the middle nerve pinnate; corymbs terminal, pedunculate, nearly leafless; sepals ascending. ♄. H. Native on the alps of Siberia, in woods. Flowers white.

Alpine Spiræa. Fl. June. Clt. 1806. Shrub 4 to 6 feet.

18 S. THALICTROÌDES (Pall. fl. ross. 1. pp. 34. and 78. t. 18.) leaves obovate, obtuse, somewhat 3-lobed; umbels lateral, sessile. ♄. H. Native of Dahuria, on the alps. S. aquilegifòlia, Pall. itin. 3. append. 734. no. 94. t. P. f. 3. Leaves glaucous beneath, finely 3-nerved. Flowers white.

Meadow-rue-like Spiræa. Fl. May, June. Clt. 1816. Sh. 2 to 3 feet.

19 S. ARGE'NTEA (Mutis, in Lin. fil. suppl. 261.) plant clothed with silky silvery down; leaves crowded, obovate, or oblong, serrated towards the apex, fan-nerved: racemes axillary and terminal, panicled; ovaries silky, biovulate. ♄. S. Native

of New Granada. H. B. et Kunth, nov. gen. amer. 6. p. 235. t. 562. Flowers white.

Silvery Spiræa. Shrub 4 to 6 feet.

20 S. Pikowie'nsis (Besser, enum. pl. pod. p. 46. no. 1428.) leaves lanceolate-cuneate, obtuse, rarely cuspidate, triple-nerved, unequally serrated at the apex; corymbs pedunculate. ♄. H. Native of Podolia, about Pikow. Flowers white.

Pikow Spiræa. Fl. June, July. Clt. 1827. Sh. 3 to 4 feet.

21 S. hypericifòlia (Lin. spec. 701.) leaves obovate, 3-4-nerved, quite entire, glabrous; corymbs sessile; pedicels glabrous; sepals ascending. ♄. H. Native of Canada. S. hypericifòlia, var. β, Plukenetiàna, Ser. in D. C. prod. 2. p. 543.—Pluk. phyt. t. 218. f. 5. Leaves full of dots. Flowers white.

St. John's-wort-leaved Spiræa. Fl. June, July. Clt. 1640. Shrub 4 to 6 feet.

22 S. acutifòlia (Willd. enum. p. 540.) leaves ovate-cuneated, acute, quite entire, rarely a little toothed, puberulous; corymbs sessile. ♄. H. Native of Siberia. S. Sibírica, Hort. par. ex Cambess. l. c. p. 356. S. hypericifòlia, var. δ, acùta, Ser. in D. C. prod. 2. p. 543. S. ambígua, Pall. Flowers white.

Acute-leaved Spiræa. Fl. May, Ju. Clt. 1817. Sh. 3 to 4 ft.

23 S. crena'ta (Lin. spec. 701.) leaves obovate, rather pubescent, crenulated at the apex; corymbs stalked; pedicels puberulous. ♄. H. Native of Spain, Hungary, and other parts of Europe. S. obovàta, Walds. et Kit. in Willd. enum. p. 541. Cambess. l. c. p. 359.—Barr. icon. rar. no. 1376. t. 564. S. hypericifòlia γ, D. C. fl. fr. 5. p. 645. S. hypericifòlia, var. δ, crenàta, Ser. in D. C. prod. 2. p. 543. Led. fl. ross. alt. ill. t. 428. S. hypericifòlia var. α Uralénsis, Ser. in D. C. prod. 2. p. 215. Flowers small, white.

Crenate-leaved Spiræa. Fl. May, June. Clt. 1739. Shrub 4 to 6 feet.

24 S. Savra'nica (Bess. in litt.) plant clothed with pubescence in every part; leaves obovate, entire, elongated; corymbs terminal, dense. ♄. S. Native of Siberia, about Barnaoul, and of Podolia. S. crenàta, Pall. fl. ross. 1. p. 35. t. 19. S. hypericifòlia, var. ε, Savránica, Ser. in D. C. prod. 2. p. 543. S. hypericifòlia var. β longifòlia, Led. fl. ross. alt. ill. t. 429. Flowers small, white.

Var. β, *Besseriàna* (Ser.) smoothish; leaves usually entire, glabrous? corymbs terminal, loose. ♄. H. Native of Podolia and Caucasus. Lodd. bot. cab. 1252. S. crenàta, Besser, in litt.

Savranic Spiræa. Fl. May, June. Clt. 1819. Sh. 3 to 6 ft.

25 S. Thunbe'rgii (Blum. bijdr. 1115.) leaves linear-lanceolate, acuminated at both ends, smoothish, sharply serrated towards the apex; fascicles of flowers sessile, lateral, racemose in consequence of the leaves falling off; calyx glabrous. ♄. G. Native of Java and Japan. Thunb. fl. jap. p. 210. Flowers white.

Thunberg's Spiræa. Shrub 3 to 6 feet.

26 S. cane'scens (D. Don, fl. nep. p. 227.) leaves oval or obovate, obtuse, stalked, quite entire, villous; corymbs crowded, and are as well as the branches tomentose. ♄. G. Native of Sirinagur. S. cuneàta, Wall. Shrub erect, branched, canescent, with the habit of *S. hypericifòlia*. Flowers apparently red. Carpels 5, connivent.

Canescent Spiræa. Shrub.

27 S. ceanothifòlia (Horn. hort. hafn. 2. p. 466.) leaves ovate, rounded at the base, sharply and unequally serrated from the middle to the apex; corymbs terminal, on short peduncles. ♄. H. Native country unknown. Flowers white.

Ceanothus-leaved Spiræa. Fl. June, July. Clt. 1823. Sh. 3 to 4 feet.

28 S. corymbòsa (Rafin. prec. som. 36. and Desv. journ. bot. 1814. p. 168.) leaves oval-oblong, unequally serrated, glabrous, discoloured; corymbs terminal; flowers trigynous. ♄. H. Native of Virginia. Lodd. bot. cab. 671. Flowers white.

Corymbous Spiræa. Fl. June, Jul. Clt. 1819. Sh. 2 to 3 ft.

Sect. III. Spira'ria (an alteration of the generic name). Ser. in D. C. prod. 2. p. 544.—Spiræ'a species, Cambess. mon. spir. in ann. sc. nat. 1. p. 354. Ovaries free (f. 65. *d.*). Torus free at the base, but lining the bottom of the calycine tube. Carpels not inflated.—Shrubs with hermaphrodite, paniculate flowers, and serrated exstipulate leaves.

29 S. betulifòlia (Pall. fl. ross. 1. p. 33. t. 16.) leaves broadly oval, serrated, on short petioles, glabrous; flowers disposed in fastigiate panicles; carpels 5, erect, glabrous. ♄. S. Native of Siberia and North-west America, and in valleys of the Rocky Mountains. Camb. l. c. p. 368. t. 27. Flowers pink. Wats. dend. brit. 67. Perhaps the same as *S. cratægifòlia* of Link. enum. 2. p. 40.?

Birch-leaved Spiræa. Fl. Ju. Jul. Clt. 1812. Sh. 2 to 4 ft.

30 S. læviga'ta (Lin. mant. p. 244.) leaves obovate-oblong, smooth, glaucous, quite entire, sessile, mucronate; branches of panicles cylindrical; bracteas linear, hardly the length of the calyx; calycine segments triangular, ascending. ♄. H. Native of Siberia. Camb. l. c. p. 369. S. Altaiénsis, Laxm. nov. act. petrop. 15. p. 555. t. 29. f. 2. S. Altàica, Pall. fl. ross. 1. p. 272. t. 23. Flowers white, disposed in thyrsoid racemose panicles. The leaves being gently astringent, may serve as a substitute for tea.

Smooth-leaved Spiræa. Fl. May, June. Clt. 1774. Shrub 4 to 6 feet.

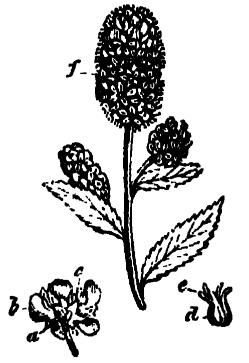
31 S. Magella'nica (Poir. dict. 7. p. 350.) leaves petiolate, lanceolate, unequally serrated, nerved; racemes terminal, almost simple. ♄. H. Native of the Straits of Magellan. Flowers white.

Magellan Spiræa. Shrub.

32 S. Japónica (Siebold, ex Blum. bijdr. 1114.) leaves rhomboid-lanceolate, acutish, deeply serrated from the middle to the apex, smooth, grey beneath; corymbs terminal, simple, and are as well as the calyxes glabrous. ♄. G. Native of Japan. Said to be like *S. Magellánica*.

Japan Spiræa. Shrub.

FIG. 65.



33 S. salicifòlia (Lin. spec. 700.) stem and peduncles glabrous; leaves lanceolate, glabrous, somewhat doubly serrated; racemes rather spicate; calycine lobes triangular, spreading; carpels 5, glabrous. ♄. H. Native of Siberia, Tartary, Bohemia, and Silesia. It is to be found in England, although perhaps not truly indigenous; in many parts of Westmoreland; in many places on the borders of Winandermere, and also between Poolbridge and Colthouse, near Hakshead, Cumberland, and in a wood at Hafod, Cardiganshire. Smith, engl. bot. 1468. Gmel. fl. sib. 3. t. 49. Pall. fl. ross. 1. p. 36. t. 21. Duham. arb. 2. t. 75. Flowers red or rose-coloured, disposed in thyrsoid racemes.

Willow-leaved Spiræa. Fl. Ju. Aug. Brit. Sh. 4 to 6 ft.

34 S. alpe'stris (Pall. fl. ross. 1. p. 36, t. 22.) leaves lanceolate, acute, deeply serrated almost to the base, canescent; racemes loose, thyrsoid. ♄. H. Native of Siberia, on rocks about the rivers Oby and Yenessee. Amman, ruth. 188. t. 28. Flowers pale red.

Alp Spirœa. Fl. June, Aug. Clt. 1800. Sh. 2 to 3 feet.

35 S. PANICULA'TA (Willd. spec. 2. p. 1055.) leaves lanceolate, acute, sharply serrated; racemes panicled, divaricate; bark of branches red. ♄. H. Native of North America, Canada, and Newfoundland. S. álba, Ehrh. beitr. 7. p. 137. S. salicifòlia, var. γ, paniculàta, D. C. prod. 2. p. 544.—Mill. fig. 171. t. 257. f. 2. Flowers white, disposed in terminal thyrsoid panicles.

Panicled Spiræa. Fl. June, Aug. Clt. 1663. Sh. 4 to 5 ft.

36 S. TOMENTÒSA (Lin. spec. p. 701.) stem and peduncles clothed with rufous tomentum; leaves ovate, somewhat doubly serrated, densely clothed with tomentum beneath; calycine lobes tomentose on the outside, triangular, deflexed; carpels 5, tomentose, divaricate. ♄. H. Native of Canada, and in many places of North-west America on mountains. Camb. l. c. p. 373.—Mill. fig. 257. f. 1. Schmidt, arb. 1. t. 51.—Pluk. phyt. t. 321. f. 5. Flowers small, of a beautiful red colour, disposed in dense compound, terminal racemes.

Tomentose Spiræa. Fl. July, Sept. Clt. 1736. Sh. 4 to 6 ft.

37 S. MENZIE'SII (Hook, fl. bor. amer. p. 173.) branches pubescent at the apex, as well as the peduncles and calyxes; sepals reflexed; leaves elliptic, coarsely and unequally serrated towards the apex, glabrous, the same colour on both surfaces; panicle crowded with flowers, oblong, obtuse; flowers small, stamens twice the length of the corolla; ovaries 5, glabrous. ♄. H. Native of North America, on the west coast. Flowers rose-coloured.

Menzies's Spiræa. Shrub.

38 S. DOUGLA'SII (Hook, fl. bor. amer. p. 172.) branches and peduncles pubescent; leaves elliptic, coarsely and unequally serrated towards the apex, clothed with hoary tomentum beneath; panicle crowded with flowers, oblong, obtuse; flowers small; stamens twice the length of the corolla; calycine lobes triangular, reflexed; carpels 5, glabrous, shining. ♄. H. Native of the north-west coast of America, about the Columbia and the Straits of Fuca.

Douglas's Spiræa. Shrub 4 to 5 feet.

39 S. CARPINIFÒLIA (Willd. enum. p. 540. Wats. dend. brit. t. 66.) leaves ovate-elliptic, acute at both ends, glabrous, coarsely serrated; racemes divaricate, panicled. ♄. H. Native of North America. Spiræ'a salicifòlia δ, latifòlia, Willd. spec. 2. p. 1056. S. obovàta, Rafin. but not of Walds. et Kit. Flowers white.

Hornbeam-leaved Spiræa. Fl. Ju. Aug. Clt. ? Sh. 3 to 6 ft.

40 S. ARIÆFÒLIA (Smith, in Rees' cycl. vol. 33.) leaves elliptic-oblong, toothed, pale, somewhat lobed, villous beneath; panicle large, branched, villous; pedicels bracteate; lobes of calyx acute, spreading; carpels 5, compressed, hairy. ♄. H. Native of North America, principally on the north-west coast. Flowers rose-coloured.

Aria-leaved Spiræa. Shrub.

41 S. CALLÒSA (Thunb. fl. jap. 209.) leaves lanceolate, acutely serrated, tapering to both ends, glaucous, smoothish beneath; corymbs terminal, compound, fastigiate, and are as well as the calyxes villous; stem and peduncles villous. ♄. G. Native of Japan and Nepaul. S. expánsa, Wall. Differs from *S. salicifòlia*, in the leaves being stalked. Flowers red.

Callous-leaved Spiræa. Shrub 4 feet.

42 S. CŒRULE'SCENS (Poir. dict. 7. p. 350.) leaves almost sessile, lanceolate-oblong, entire, bluish; panicles axillary, branched; sepals obtuse, shorter than the corolla. ♄. G. Native of India. Cambess. l. c. p. 374. Flowers white.

Bluish-leaved Spirœa. Shrub.

43 S. DÍSCOLOR (Pursh, fl. amer. sept. 1. p. 342.) leaves ovate, lobed; lobules toothed, and somewhat plicate, clothed with white tomentum beneath; panicle pedunculate, much branched. ♄. H. Native of North America, on the banks of the river Kooskoosky.

Discoloured-leaved Spiræa. Shrub.

SECT. IV. SORBA'RIA (so named from the leaves being pinnate, resembling those of the mountain ash, *Sórbus*). Ser. in D. C. prod. 2. p. 545.—Spiræ'a, spec. Lin. Camb. l. c. 1. p. 375. Ovaries 5, joined. Torus wholly lining the tube of the calyx. Flowers hermaphrodite, disposed in thyrsoid panicles.

44 S. SORBIFÒLIA (Lin. spec. 702.) leaves pinnate; leaflets sessile, lanceolate, opposite, doubly and sharply serrated; panicles thyrsoid. ♄. H. Native of Siberia, in bogs. Pall. fl. ross. 1. t. 88. t. 24.—Gmel. fl. sib. 3. p. 190. t. 46. Flowers white, sweet scented. The hollow shoots are used for tobacco-pipes in Siberia. S. pinnàta, Mœnch. meth. 663.

Sorbus-leaved Spiræa. Fl. July, Aug. Clt. 1759. Shrub 3 to 4 feet.

45 S. PALLA'SII; leaves pinnate; leaflets sessile, ovate-lanceolate, deeply serrated, almost pinnatifid, opposite; flowers corymbous. ♄. S. Native of Siberia, on the high mountains about Lake Baikle. S. sorbifòlia, var. β, alpina, Pall. fl. ross. 1. p. 34. t. 25. Flowers white, larger than those of the preceding species.

Pallas's Spirœa. Fl. July, Aug. Clt. ? Shrub.

SECT. V. ARU'NCUS (from *αρογγος*, *aroggos*, a goat's beard). Ser. in D. C. prod. 2. p. 545. Spiræ'a species, Cambess. l. c. 1. p. 376. Carpels 5, free, pendulous. Torus very thick, free at the apex.—Herbs, with tripinnate leaves, without stipulas, and dioecious flowers.

46 S. ARU'NCUS (Lin. spec. p. 702.) leaflets acuminated, terminal ones ovate, lateral ones oblong; flowers very numerous; carpels glabrous. ♃. H. Native of Europe, in woods, as in Germany, Carniola, Piedmont, Siberia, Kamtschatka, &c. Camb. l. c. p. 376. Pall. fl. ross. 1. p. 39. t. 26.—Cam. hort. 26. t. 9. Flowers white, disposed in long spikes, forming a terminal panicle.

Var. β, Americàna (Michx. fl. bor. amer. 1. p. 294.) leaves more shining; flowers more loose on the spikes. ♃. H. Native of North America.

Goat's-beard Spiræa. Fl. Ju. Jul. Clt. 1633. Pl. 4 to 6 ft.

SECT. VI. ULMA'RIA (from *ulmus*, the elm; form of leaflets of most of the species). Cambess. l. c. 1. p. 378.—Ulmària, Mœnch. meth. p. 663. Torus obsolete. Style clavate, retroflexed. Ovula 2, about the middle of each ovary, fixed to the suture, and pendulous. Carpels hardly double the size of the ovaries, erect, rarely twisted.—Herbs with pinnate, stipulate leaves and cymose umbels of hermaphrodite flowers.

47 S. ULMA'RIA (Lin. spec. 702.) leaves interruptedly pinnate, white from tomentum beneath; leaflets coarsely serrated, terminal one the largest and 3-lobed; sepals reflexed; styles elongated; carpels glabrous, twisted. ♃. H. Native of Europe and Siberia, in meadows and bogs; plentiful in Britain. Smith, engl. bot. 960. Curt. fl. lond. 5. t. 33. Ulmària palústris, Mœnch. meth. 663. Stem and peduncles puberulous. Stipulas roundish, joined to the petiole. Flowers white, in large compound cymes. The *Meadow-sweet* abounds in moist meadows, about the banks of rivers, brooks, and ditches, perfuming the air with the sweet hawthorn-like scent of its numerous blossoms, from June to August. The green parts of the herb partake of a similar aromatic flavour when rubbed or chewed. The flowers, infused in boiling water give it a very fine flavour, which rises in distillation. The leaves and tops have been used in medicine.

Var. α, variegàta; leaves variegated with white or yellow.

Var. β, múltiplex; flowers double. Cultivated in gardens.

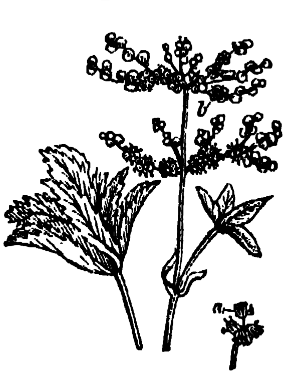
Meadow-sweet. Fl. June, Aug. Britain. Pl. 2 to 3 feet.

49 S. DENUDA'TA (Presl. fl. cech. 101.) leaves interruptedly pinnate, green, and glabrous on both surfaces; leaflets coarsely serrated, terminal one the largest and 3-lobed; sepals reflexed; carpels glabrous, twisted. ♃. H. Native of Sicily and the south of Europe. S. ulmarioìdes, Bory, voy. sout. p. 124. S. ulmària β, denudàta, Cambess. l. c. p. 380. Stem and peduncles smoothish. Flowers white, sweet scented, disposed in compound cymes.

Naked-leaved Meadow-sweet. Fl. June, Aug. Clt.? Pl. 2 to 3 feet.

50 S. LOBA'TA (Murr. syst. ed. 14. p. 472.) leaves palmately pinnate, glabrous beneath; lower leaves palmately bipinnate; stipulas reniform; styles short; sepals reflexed; carpels glabrous, parallel, not curved. ♃. H. Native of North America. Jacq. hort. vind. 1. p. 38. t. 88. S. palmàta, Lin. fil. but not of Thunb. nor Pall. Leaflets lobed, terminal ones 5-lobed, lateral ones 3-lobed. Flowers red, disposed in compound cymes.

FIG. 66.



Lobed-leaved Meadow-sweet. Fl. July, Aug. Clt. 1765. Pl. 2 feet.

51 S. PALMA'TA (Thunb. fl. jap. 212. but not of Lin. nor Pall.) leaves 5-7-lobed; lobes oblong, acuminated, acutely and doubly serrated. ♃. H. Native of Japan. Cambess. l. c. p. 384. Flowers white or red. Panicle cymose, decompound. It comes nearest to *S. opulifòlia*, according to Thunberg.

Palmate-leaved Meadow-sweet. Fl. June, Aug. Clt. 1823. Pl. 1 to 2 feet.

52 S. KAMTSCHA'TICA (Pall. fl. ross. 1. p. 41. t. 28.) leaves palmately lobed, upper stem leaves somewhat hastate or lanceolate; petioles appendiculate; flowers corymbose; sepals pilose, reflexed; carpels very hairy, parallel; styles subcapitate. ♃. H. Native of Kamtschatka and Behring's Island. Cambess, l. c. 385. Root leaves often a foot wide and 8 inches long, white, with hairs beneath, 5-lobed; lobes acute, doubly serrated, lower stem leaves 3-lobed. Flowers white, sweet-scented, larger than those of *S. Ulmària*, disposed in branched cymes.

Kamtschatka Meadow-sweet. Pl. 6 to 9 feet.

53 S. VESTI'TA (Wall. mss.) leaves cordate, 5-lobed, tomentose beneath, sharply and unequally serrated; petioles furnished with numerous unequal leaflets, generally the 2 in the centre very large; flowers corymbose, terminal. ♃. H. Native of Kamaon. Flowers white. Like *S. Kamtschática* and *S. Ulmària.*

Clothed Meadow-sweet. Pl. 2 to 3 feet.

54 S. QUINQUE'LOBA (Baumg. ex Spreng. syst. 2. p. 503.) leaves pinnately ternate, clothed with white tomentum beneath; lateral leaflets 5-cleft, outer one 7-cleft; segments acute, serrated; panicle corymbose. ♃. H. Native of Transylvania.

Five-lobed-leaved Meadow-sweet. Pl. 1 to 2 feet.

55 S. DIGITA'TA (Willd. spec. 2. p. 1061.) leaves pinnate, clothed with tomentum beneath; terminal leaflet largest and 7-lobed, lateral ones 5-lobed; corymbs branched, contracted; carpels parallel, villous; styles thickish, capitate. ♃. H. Native of Eastern Siberia, in meadows and moist valleys in the subalpine regions beyond the Baikal, especially in Dauria. S. palmàta, Pall. fl. ross. 1. p. 40. t. 27. itin. 3. append. 735. no. 95. t. 2. f. 1. but not of Thunberg nor Lin. Flowers white. Allied to *S. lobàta.*

Digitate-leaved Meadow-sweet. Fl. July, Aug. Clt. 1823. Pl. 1 to 2 feet.

56 S. FILIPE'NDULA (Lin. spec. 702.) root tuberous; leaves interruptedly pinnate; leaflets uniform, oblong-linear, acutely toothed; stipulas somewhat reniform, clasping the stem, toothed; corymbs loose; sepals reflexed; carpels parallel, villous, numerous; stigmas thick. ♃. H. Native of Europe, in meadows, and very common in high pastures on a calcareous soil. Smith, engl. bot. 284. Oed. fl. dan. 635.—Black. herb. 647. Root consisting of tubers hanging by threads, hence called *Filipéndula* or *Dropwort.* Flowers white inside and red on the outside, sweet-scented, disposed in loose terminal corymbs. The whole herb is astringent, and was formerly used in medicine, but it is now altogether neglected.

Var. α, *vulgàris* (Cambess. l. c. p. 379.) stems tall, and are as well as the leaves glabrous; leaves with scabrous margins; teeth usually piliferous at the apex.

Var. β, *múltiplex* (Ser. in D. C. prod. 2. p. 546.) flowers double. Cultivated in gardens.

Var. γ, *minor* (Cambess. l. c. p. 380.) stem humble; leaves much smaller.

Var, δ, *pubéscens* (Cambess. l. c. p. 379.) leaves clothed with hairy pubescence. ♃. H. Native of Provence, about Fonchateau. S. pubéscens, D. C. fl. fr. 5. p. 546.

Dropwort. Fl. June, Oct. Britain. Pl. 1 to 1½ foot.

Cult. The hardy shrubby species of *Spiræ'a* are very pretty when in flower, and are therefore well adapted for shrubberies; they thrive well in any soil, and are easily increased by cuttings or layers. The greenhouse species are also of easy cultivation. The hardy herbaceous kinds will grow in any kind of soil, but prefer a moist situation; they are well fitted for flower borders, and are increased by dividing the plants at the root.

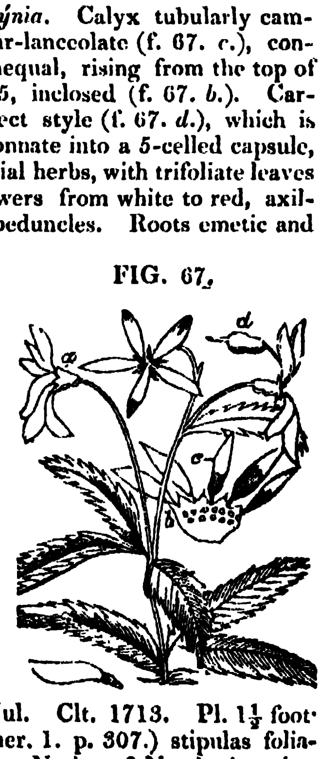
◆

IV. GILLE'NIA (probably from Gillen, the name of some obscure botanist). Mœnch. suppl. 286. Nutt. gen. amer. 1. p. 307. D. C. prod. 2. p. 546.—Spiræ'a species of Lin. Cambess. and others.

LIN. SYST. *Icosándria, Pentagýnia.* Calyx tubularly campanulate, 5-cleft. Petals 5, linear-lanceolate (f. 67. *c.*), contracted near the claws, rather unequal, rising from the top of the calycine tube. Stamens 10-15, inclosed (f. 67. *b.*). Carpels 5, terminated by a filiform erect style (f. 67. *d.*), which is capitate at the apex, somewhat connate into a 5-celled capsule, with 2 seeds in each cell.—Perennial herbs, with trifoliate leaves and stalked serrated leaflets. Flowers from white to red, axillary and terminal, on very long peduncles. Roots emetic and cathartic.

1 G. TRIFOLIA'TA (Mœnch. suppl. p. 286.) stipulas linear, acuminated, entire. ♃. H. Native of North America, in shady humid woods, from Florida to Canada. Spiræ'a trifoliàta, Lin. spec. 702. Curt. bot. mag. 486. Bigel. med. bot. t. 41. Mill. fig. 171. t. 256. Flowers in panicles. The roots of this plant possess properties analogous to Ipecacuanha. It requires, however, a larger dose, and then it is not so certain in its effects. Some authors have attributed a tonic power to the roots of *Gillènia* in small doses.

FIG. 67.



Trifoliate Gillenia. Fl. June, Jul. Clt. 1713. Pl. 1½ foot.

2 G. STIPULA'CEA (Nutt. gen. amer. 1. p. 307.) stipulas foliaceous, ovate, deeply cut. ♃. H. Native of North America, in humid woods from Tennessee to Kentucky. Spiræ'a stipu-

làta, Willd. enum. 542. Pursh, fl. amer. sept. 1. p. 343. Bart. med. bot. p. 71. t. 6. Cambess. l. c. t. 28. Radical leaves pinnatifid. Flowers from white to rose colour.

Stipulaceous Gillenia. Fl. Ju. Aug. Clt. 1805. Pl. 1 to 1½ ft.

Cult. The species of *Gillènia* are elegant plants, and therefore are worth cultivating in every collection of hardy herbaceous plants. They grow best in a peat border, and are readily increased by dividing the plants at the root, in spring.

† *A genus doubtful whether it belongs to the present order.*

V. ADENILE'MA (from ἀδὴν, *aden*, a gland, and ἴλημι, *hilemi*, to be near; glands on calyx). Blum. bijdr. 1120.

Lin. syst. *Icosándria, Monogýnia.* Calyx campanulate, 5-cleft, clothed with glandular pili on the outside. Petals 5, small, inserted in the calyx. Stamens numerous, inserted with the petals. Ovary 1. Style 1, crowned by a subpeltate stigma. Capsule inclosed in the calyx, beaked by the permanent style, 1-celled, opening at the side, containing 8-12 seeds, which are 1-ribbed, and fixed in a twin order on the sides of the opening suture. Spermaderm testaceous. Embryo albuminous, with leafy cotyledons and a short centripetal radicle.—A sarmentose, unarmed shrub, with the habit of *Rùbus*, with alternate, cordate, acuminated, 3-lobed, deeply serrated, bistipulate leaves. Flowers unibracteate, disposed in terminal racemose panicles. This genus apparently approaches the *Neìllia*.

1 A. fa'llax (Blum. l. c. 1121.). ♄. S. Native of Java, on mount Gede.

Fallaceous Adenilema. Shrub rambling.

Cult. For culture and propagation, see *Kagenèckia*.

Order LXXXII. QUILLA'JEÆ (plants agreeing with *Quillàja* in important characters). D. Don, in edinb. phil. journ. for Jan. 1831.

Calyx 5-cleft (f. 68. *a.*), valvate in æstivation (f. 68. *d.*). Petals 5 (f. 68. *b.*), alternating with the calycine segments, but sometimes wanting. Stamens definite in number from 10-15, inserted in the calyx; anthers bilocular. Ovaries 5 (f. 68. *c.*), connate at the base, 1-celled, containing numerous erect ovula. Styles 5 (f. 68. *f.*). Stigmas unilateral, papillous. Follicles 5 (f. 68. *e.*), disposed in a circle, connate at the base. Seeds disposed in 2 rows, inserted on the inner suture of the follicles, ascending, winged at the apex, with the umbilicus at the base; the testa simple and membranous. Albumen wanting. Embryo erect, with foliaceous convolute cotyledons, and a terete radicle, which is shorter than the cotyledons, pointing to the umbilicus.—South American trees, with alternate undivided leaves, small caducous stipulas, and terminal dioecious flowers. This order differs essentially both from *Rosàceæ* and *Spiræàceæ* in the erect ovula, and from the latter also in the valvular æstivation of the calyx. The habit of the plants composing this order is likewise abundantly different.

Synopsis of the genera.

1 Kagene'ckia. Calyx saucer-shaped, furnished with a ring a little elevated on the inside, girding the ovaries. Petals wanting? Stamens 15, 5 of which alternate with the lobes of the calyx, the rest by pairs opposite the lobes.

2 Quilla'ja. Calyx 5-cleft (f. 68. *a.*). Disk 5-lobed (f. 68. *c.*), stellate, fleshy. Petals 5 (f. 68. *b.*), spatulate, unguiculate. Stamens 10, disposed in 2 series, 5 of which are inserted in the middle of the calycine lobes, and the other 5 in the throat of the calyx.

3 Vauqueli'nia. Calyx 5-cleft. Petals 5. Stamens 15-20, exserted with the petals from the throat of the calyx.

4 Lindle'ya. Calyx 5-cleft. Petals 5. Stamens 15-20, inserted in the disk in the throat of the calyx. Carpels 5, connate their whole length. Styles 5, concrete.

I. KAGENE'CKIA (the authors of the Flora Peruviana have dedicated this genus to Frederick de Kageneck, ambassador from the king of Holland to the king of Spain). Ruiz et Pav. fl. per. prod. t. 37. H. B. et Kunth, nov. gen. amer. 6. p. 236. D. C. prod. 2. p. 547. D. Don, in edinb. phil. journ. Jan. 1831.

Lin. syst. *Icosándria, Pentagýnia.* Calyx saucer-shaped, 10-ribbed on the outside, permanent; limb 5-cleft, furnished on the inside with an elevated hardly membranous ring girding the ovaries; lobes recurved, acuminated or obtuse. Petals wanting? or 5, orbicular? Stamens 15, 5 of which alternate with the calycine lobes; the rest by pairs opposite the calycine lobes; filaments dilated at the base. Anthers cordate, oblong. Stigmas with cucullate disks. Carpels 5, follicular.—Trees, with dotless, glandularly serrulated leaves. Stipulas small, gland-formed. Flowers terminal, polygamous.

1 K. oblónga (Ruiz et Pav. fl. per. syst. 1. p. 289.) leaves oblong, obtuse, coriaceous, serrulated; glands of teeth deciduous; flowers solitary. ♄. G. Native of Chili, on mountains about Conception. Lydæ'a Lyday, Mol. chil. ed. 2. p. 300. In its native country it is commonly called *guayo colorado*, but according to Molino, *Lyday*. The wood is used to build houses in Chili. The leaves being very bitter are used by the inhabitants of Chili to cure intermittent fevers, as also those of the following species.

Oblong-leaved Kageneckia. Fl. Aug. Dec. Tree 30 feet.

2 K. lanceola'ta (Ruiz et Pav. fl. per. syst. p. 290. gen. p. 145. t. 37.) leaves lanceolate or obovate, membranous, serrulated; glands of teeth permanent; flowers corymbose. ♄. G. Native of Peru, on hills in the province of Canta.

Lanceolate-leaved Kageneckia. Fl. Nov. Dec. Tree 20 ft.

3 K. glutinòsa (H. B. et Kunth, nov. gen. amer. 6. p. 237.) leaves oblong and oblong-lanceolate, acute, narrow at the base, sharply crenately serrated; branches clammy. ♄. G. Native of South America, on the Andes in the province of Jaen de Bracamoros.

Clammy-branched Kageneckia. Tree 12 to 20 feet.

Cult. These trees will grow well in a mixture of loam, peat, and sand, and ripened cuttings will probably root if planted in a pot of sand, with a hand-glass placed over them in a little bottom heat.

II. QUILLA'JA (*Quillai* or *Cullay* is the name of *Q. saponària* in Chili). Mol. Juss. gen. 444. Kunth, nov. gen. amer. 6. p. 236. in a note. D. C. prod. 2. p. 547. D. Don, in edinb. phil. journ. Jan. 1831. Smegmadérmos, Ruiz et Pav. fl. per. prod. 2. t. 31.

Lin. syst. *Decándria, Pentagýnia.* Calyx 5-cleft (f. 68. *a.*); segments ovate, bluntish, thick, tomentose, with truncate margins. Disk concrete, with the calyx 5-lobed (f. 68. *c.*), stellate, fleshy, smooth, nectariferous; lobes elevated from the calyx, roundish, emarginate. Petals 5 (f. 68. *b.*), spatulate, unguiculate, alternating with the segments of the calyx. Stamens 10 (f. 68.), disposed in a double order, 5 of which are inserted in the middle of the calycine lobes, rising from the notches of the lobes of the disk (f. 68. *a.*), the other 5 inserted in the throat of the calyx, and opposite the petals (f. 68. *b.*); filaments subulate. Carpels 5 (f. 68. *e.*), connate, spreading. Styles 5 (f. 68. *f.*), terminal, permanent. Stigmas unilateral.—Evergreen trees, with undivided leaves. Stipulas 2, petiolar, caducous. Flowers corymbose, polygamous.

1 Q. saponaʹria (Mol. chil. p. 182. ed. 2. p. 298.) leaves oval, for the most part toothed. ♄. G. Native of Chili, very plentiful in the woods of the provinces of Rire d Richacay. Q. Molìnæ, D. C. prod. 2. p. 547. Q. Smegmadérmos, D. C. prod. 2. p. 547. Smegmadérmos emarginàtus, Ruiz et Pav. fl. per. syst. 1. p. 288. Smegmària emarginàta, Willd. spec. 4. p. 1123. In Chili the bark is used as a substitute for soap.

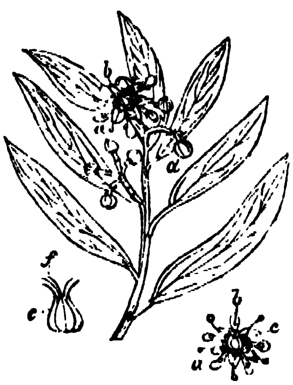
Soap Quillaja. Fl. Dec. Feb. Tree 60 feet.

2 Q. lanceolaʹta (D. Don, in edinb. phil. journ. Jan. 1831.) leaves lanceolate, acute, entire. ♄. S. Native of Brazil. (f. 68.)

Lanceolate - leaved Quillaja. Tree.

Cult. See *Kagenèckia* for culture and propagation, p. 522.

FIG. 68.



III. VAUQUELI'NIA (in honour of M. Vauquelin, the celebrated French chemist, whose discoveries have been extended to the vegetable kingdom). Corr. in Humb. et Bonpl. pl. æquin. 1. p. 140. t. 40. D. C. prod. 2. p. 547.

Lin. syst. *Icosándria, Pentagýnia.* Calyx 5-cleft, permanent. Petals 5, permanent. Stamens 15-20, permanent, exserted with the petals from the calyx. Anthers oblong. Carpels 5, joined into a 5-celled, 5-styled ovarium. Styles 5. Stigmas capitate. Capsule ovate, 5-celled; cells 2-valved, dehiscent, 2-seeded. Seeds ending in a membranous wing, as in the rest of the genera, erect.—A tree, with alternate, lanceolate, unequally toothed, exstipulate? leaves, and terminal corymbs of white flowers. Flowers probably dioecious.

1 V. corymbòsa (Corr. l. c.) ♄. S. Native of Mexico, in temperate parts near Actopan. H. B. et Kunth, nov. gen. amer. 6. p. 238.

Corymbose-flowered Vauquelinia. Tree 50 feet.

Cult. See *Kagenèckia* for culture and propagation, p. 522.

IV. LINDLE'YA (in honour of John Lindley, F.R.S. F.L.S. professor of botany in the London university). H. B. et Kunth, nov. gen. amer. 6. p. 239. D. C. prod. 2. p. 548.

Lin. syst. *Icosándria, Pentagýnia.* Calyx 5-cleft, permanent. Petals 5. Stamens 15-20, inserted in the disk in the throat of the calyx. Anthers lanceolate, uncinately reflexed at the base. Carpels 5, connected into a 5-celled, 5-styled ovarium, containing 2 pendulous? ovula each. Capsule 5-celled, propped by the calyx, woody, 5-angled. Seeds with winged margins.—A smooth tree, with scattered simple crenulated bistipulate leaves, and axillary solitary white bracteate flowers. This genus approaches very near *Vauquelinia.*

1 L. mespiloiʹdes (H. B. et Kunth, nov. gen. amer. 6. p. 239. t. 562.) ♄. S. Native of Mexico, very common about the village of Magdalena. Habit of *Pỳrus màlus,* or the apple-tree.

Mespilus-like Lindleya. Tree 20 to 30 feet.

Cult. See *Kagenèckia* for culture and propagation, p. 522.

Order LXXXIII. ROSA'CEÆ (plants agreeing with *Rosa* in important characters). Juss. gen. 334. part.

Calyx 4-5-lobed, valvate in æstivation, with the disk surrounding the orifice (f. 74. *g.* f. 75. *e.*), having the fifth lobe next the axis. Petals 5 (f. 71. *b.* f. 72. *b.* f. 75. *c,* &c.), perigynous, equal. Stamens indefinite (f. 69. *c.* f. 71. *c.*), arising from the calyx, just within the petals; they are curved inwards in æstivation; anthers innate, 2-celled, bursting lengthwise. Ovaries superior (f. 71. *d.*), several, 1-celled, 1-seeded. Ovula usually suspended, rarely erect. Styles lateral, near the apex of the ovaries. Stigmas simple and emarginate on one side. Fruit either 1-seeded nuts or akenia (f. 71. *d.* f. 72. *c.*). Seeds erect or inverted. Embryo straight, with a taper short radicle, pointing to the hylum, and flat cotyledons. Albumen wanting.—This order is composed of herbaceous plants or shrubs, but never trees. Leaves simple or compound, with 2 stipulas at the base. *Rosàceæ* are distinguished from *Pomàceæ* by their superior fruit, and usually suspended seeds; from *Leguminòsæ* by their regular petals and stamens, and especially by the odd segment of the 5-lobed calyx of that order, which is anterior, not posterior, as in *Rosàceæ;* from *Chrysobalàneæ* in their styles proceeding from the side of the ovarium near the apex, and not from the base, as in that order, by their more regular petals and stamens, and by their fruit not being a drupe; *Amygdalàceæ* differ from *Rosàceæ* by their terminal styles, drupaceous fruit, and presence of prussic-acid, along with the formation of gum; *Sanguisórbeæ* differ from *Rosàceæ* in their apetalous flowers and definite stamens, alternating with the segments of the calyx; *Spiræàceæ* and *Quillàjeæ* differ from *Rosàceæ* by their follicular fruit, and in the æstivation of the calyx.

Rosaceous plants are always wholesome; they are chiefly remarkable from the presence of an astringent principle, which has caused several of them to be reckoned febrifugal. The root of *Tormentílla rèpens* is used for tanning in the Feroe Islands; *Potentílla ansérina* has been used by tanners; *Potentílla rèpens* as a febrifuge. *Gèum urbànum* and *rivàle* have been compared for efficacy to *Cinchòna.* The fruit of many species of *Fragària* or strawberry, and *Rùbus* or raspberry and cloudberry, are valuable articles for the dessert. The leaves of *Rùbus árcticus* and *Ròsa rubiginòsa* have been employed as a substitute for tea. *Agrimònia eupatòria* yields a decoction useful as a gargle. The root of *Rùbus villòsus* is a popular astringent in North America in cholera infantum. One of the most powerful anthelmintics in the world belongs to this family, an Abyssinian plant, *Brayèra anthelmíntica.* Upon the authority of Dr. Brayer two or three doses of the infusion are sufficient to cure the most obstinate case of tænia. The various species of roses form some of the greatest beauties of the garden. The fruit of *Ròsa canìna,* and other allied species, is astringent, and is employed against chronic diarrhœa and other maladies. The petals of *Ròsa damascèna* yield a highly fragrant essential oil, called attar of roses; those of *Ròsa gállica* are astringent when dried with rapidity, and are sometimes found useful in cases of debility, such as leucorrhœa and diarrhœa, &c.

Synopsis of the genera.

Tribe I.

Drya'deæ. *Calyx* 8-10-*cleft* (f. 70. *b.*), *rarely many parted*

(f. 69. *a.*), *valvate in æstivation, the outer lobes accessory* (f. 70. *b.*), *and alternating with the inner lobes. Petals* 4-5, *rarely more* (f. 69. *b.* f. 70. *c.*). *Carpels numerous* (f. 70. *d.*), *free, inserted in a dry or fleshy polyphore, dry* (f. 70. *d.*) *or baccate* (f. 71. *d.*), 1-*seeded. Herbs or shrubs, usually with compound leaves, with* 2 *stipulas adnate to the sides of the petiole.*

1 Dry'as. Calyx 8-9-parted (f. 69. *a.*). Petals 8-9 (f. 69. *b.*). Stamens numerous (f. 69. *c*). Carpels dry, numerous, ending each in the feathery style (f. 69. *e.*). Seed ascending.

2 Ge'um. Calyx 10-cleft, the 5 outer segments accessory. Petals 5. Stamens numerous. Carpels numerous, dry, ending each in a kneed style.

3 Sieve'rsia. All as in *Geum*, but differs in the carpels ending in a feathery (f. 70. *d.*) jointless style or awn.

4 Colu'ria. Calyx 10-parted, the 5 outer lobes accessory. Petals 5. Stamens numerous. Carpels numerous, scrobiculate, tailless.

5 Cowa'nia. Calyx 5-cleft. Petals 5. Stamens numerous. Carpels awned by the feathery styles.

6 Waldstei'nia. Tube of calyx turbinate, crowned by a crenulated ring under the stamens, bearing bracteas on the outside. Petals 5. Stamens numerous. Carpels 2-4, globose, naked at the apex, coriaceous. Seed erect.

7 Comaròpsis. Calyx 5-cleft. Petals 5. Stamens numerous. Carpels few, dry, ending in filiform styles. Seeds erect.

8 Ru'bus. Calyx 5-cleft. Petals 5. Stamens numerous. Carpels fleshy, inserted on an elevated torus. Seed inverted.

9 Daliba'rda. Calyx 5-6-cleft; lobes toothed. Petals 5. Stamens numerous, deciduous. Carpels 5-10, ending in short styles, subdrupaceous. Seed pendulous.

10 Fraga'ria. Calyx 10-cleft (f. 71. *a.*) the outer segments accessory (f. 71. *c.*). Petals 5 (f. 71. *b.*). Stamens numerous. Carpels dry, seated on an elevated fleshy torus (f. 71. *d.*). Styles lateral. Seed pendulous (f. 71. *d.*).

11 Duche'snea. Calyx 10-parted, the outer segments accessory, foliaceous, and tridentate. Petals 5. Stamens numerous. Carpels numerous, seated on a fleshy, succulent, elevated torus.

12 Potenti'lla. Calyx 10-cleft (f. 72. *a.*), the outer segments accessory. Petals 5 (f. 71. *d.* f. 72. *b.*). Stamens numerous. Carpels numerous, dry (f. 72. *c.*), seated on an elevated torus. Styles lateral.

13 Tormenti'lla. Calyx 8-parted, the 4 outer segments accessory. Petals 4. Stamens 16. Akenia dry, naked, numerous, wrinkled, seated on a depressed receptacle. Styles lateral.

14 Co'marum. Calyx 10-parted, the 5 outer segments accessory. Petals 5, small. Stamens numerous. Akenia numerous, seated on an elevated spongy receptacle.

15 Horke'lia. Calyx 10-cleft, the outer segments accessory. Petals 5. Stamens 10. Akenia inserted on a conical receptacle, inclosed in the calyx.

16 Sibba'ldia. All as in *Potentilla*, but the petals are very minute, and the carpels and stamens are usually 5. Seed inverted. Polyphore dry.

17 Chamærhòdos. Calyx campanulate, 5-cleft. Petals 5, obovate. Stamens 5. Styles lateral, 10, rarely 5. Carpels 5-10 or more, seated on a villous receptacle. Plants beset with glandular hairs.

18 Agrimònia. Calyx turbinate, 5-cleft (f. 73. *a. d.*), involucrated by bristles (f. 73.). Petals 5. Stamens 15. Carpels 2, with terminal styles. Seed pendulous.

19 Aremònia. Calyx 5-cleft, surrounded by a 10-12-cleft involucrum. Petals 5. Stamens 5-10. Carpels 2, with terminal styles. Seed pendulous.

20 Braye'ra. Calyx double, both 5-cleft; lobes of the outer large and oblong, of the inner spatulate and shorter. Petals 5, small, linear. Stamens 15-20. Carpels 2, ending in exserted styles. Seed pendulous.

Tribe II.

Neura'deæ. *Calyx 5-cleft* (f. 76. *b.*), *with a short tube adhering to the ovary, valvate in æstivation. Petals* 5. *Carpels* 10. *connected into a* 10-*celled capsule* (f. 76. *c.*), *which is depressed at the apex. Seed bony, obliquely pendulous.—A decumbent suffruticose herb.*

21 Neura'da. Petals 5, inserted in the base of the calycine lobes (f. 76. *a.*). Stamens 10. Styles 10.

Tribe III.

Ròseæ. *Tube of calyx contracted at the mouth* (f. 76. *a. e.*), *with a 5-parted limb* (f. 76. *d.* f. 75. *b.*); *lobes somewhat spirally imbricated in æstivation, usually pinnatifid* (f. 75. *b.* f. 76. *d.*). *Petals* 5 (f. 75. *c.* f. 76. *c.*). *Stamens numerous. Carpels numerous, inserted inside the tube of the calyx, which at length becomes baccate and incloses them* (f. 75. *f.* f. 76. *a.*). *Seeds inverted.—Shrubs, with impari-pinnate leaves, serrated leaflets, and with the stipulas adnate to the petiole.*

22 Ròsa. Character the same as that of the tribe.

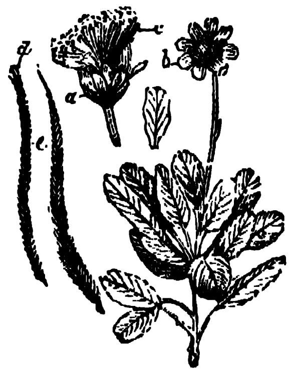
Tribe I.

DRYA'DEÆ (plants agreeing in important characters with *Dryas*). Vent. tabl. 3. p. 349.—Fragariàceæ, Rich. in Nestl. pot. p. 14. Calyx 10-cleft, rarely 8-cleft or many parted, valvate in æstivation, the outer segments accessory, and alternating with the inner ones. Petals 4-5, rarely more, alternating with the inner segments of the calyx. Stamens numerous, rarely few, inserted in the apex of the calycine tube. Carpels or akenia numerous, rarely few, crowded, inserted in the torus, distinct from each other, and free from the calyx, bearing the styles at the side near the apex. Styles with a furrow on the inside, and expanded into an oblique stigma at the apex. Akenia 1-ovulate, free from each other, dry or baccate. Seeds solitary, erect or inverted, exalbuminous. Embryo erect, with flattish cotyledons.—Herbs or subshrubs, with usually compound bistipulate leaves, the stipulas adnate to the sides of the petioles.

I. DRY'AS (so named by Linnæus from the dryades or nymphs of the oaks, in consequence of the leaves bearing some resemblance to those of the oak). Lin. gen. no. 637. Lam. ill. f. 443. Nestl. pot. 16. D. C. prod. 2. p. 549.

Lin. syst. *Icosándria, Polygýnia.* Calyx 8-9-parted (f. 69. *a.*), with a somewhat concave tube (f. 79. *a.*). Petals 8-9 (f. 69. *b.*). Stamens numerous. Carpels numerous, each terminated by a style, which at length becomes a feathery tail (f. 69. e.). Seed ascending.—Humble suffruticose herbs, with simple permanent leaves, which are clothed with white tomentum beneath. Flowers white, or yellow.

FIG. 69.



1 D. octope'tala (Lin. spec. 717.) leaves ovate or subcordate, crenately serrated. ♄. H. Native of Europe on the Alps, and of Siberia. In Scotland, as in Breadalbane, Isle of Sky, Perthshire, Rosshire, Sutherland, and Argyleshire; in Ireland, between Gort and Gallaway, and near Sligo; in England, on Amdifclowder, in Littendale, and near Settle in Yorkshire. Smith, eng. bot. 451. Oed. fl. dan. t. 31. This delicate evergreen plant, with its white flowers and germander-like leaves, is a great ornament to alpine heights.

Eight-petalled Dryas. Fl. Ju. Aug. Britain. Shrub prostrate.

2 D. Drummóndi (Richards, mss. Hook. in bot. mag. t. 2972.) leaves elliptic, rather attenuated at the base, deeply crenated, clothed with white tomentum beneath, and on the scapes; calycine segments ovate. ♄. H. Native of North America, Canada, and the Rocky Mountains as far as Slave Lake. D. octopétala, Pursh, fl. amer. sept. 1. p. 350. D. chamædrifòlia, Richards in Frankl. journ. append. p. 740. Flowers yellow. An elegant plant when in flower.

Drummond's Dryas. Fl. June, July. Clt. 1800. Sh. pros.

3 D. integrifòlia (Vahl. act. soc. hafn. 4. p. 2. p. 151.) leaves quite entire, acute, cordate at the base. ♄. H. Native of Greenland. Oed. fl. dan. 1216. Flowers white, very like those of the first species.

Entire-leaved Dryas. Fl. June, Aug. Clt. 1810. Sh. pros.

4 D. tene'lla (Pursh, fl. amer. sept. 1. p. 350.) leaves small, ovate, acute, quite entire, cordate at the base, flat, clothed with white tomentum beneath. ♄. H. Native of North America, in New Hampshire, Rocky Mountains, &c. D. integrifòlia, Hook. exot. fl. t. 220. but not of Vahl. D. integrifòlia var. *β*, tenélla, D. C. prod. 2. p. 550. Flowers white, one-half smaller than those of the last species. An elegant plant when in flower.

Slender Dryas. Fl. June, Aug. Clt. 1820. Sh. proc.

Cult. *Dryas* is a genus of elegant little evergreen, prostrate plants; they thrive best in a border of peat soil, and sometimes they are grown in pots in the same kind of soil, and placed among other alpine plants. They are usually increased by dividing the plants at the root, and sometimes by seed.

II. GE'UM (from *γευω*, *geuo*, to give a relish; roots of *G. urbànum*). Lin. gen. 864. Lam. ill. 443. Nestl. pot. p. 16.

Lin. syst. *Icosándria*, *Polygýnia*. Calyx with a concave tube, and a 10-cleft limb, the 5 outer segments accessory. Stamens numerous. Carpels dry, disposed in a head, ending each in a style, which at length becomes kneed. Seed ascending.—Herbs, with variously dissected leaves, the terminal lobe or leaflet always large. Flowers usually yellow or copper-coloured, red or white.

Sect. I. Caryophylla'strum (*Caryophýllus*, the name of the clove pink; the roots of *G. urbànum* have a taste like cloves). Ser. in mem. soc. gen. 2. p. 138. D. C. prod. 2. p. 550. Flowers ascending. Calyx reflexed. Styles deflexed, kneed. Appendages for the most part shorter than the styles.

1 G. Canade'nse (Murr. comm. gœt. 5. p. 33. t. 4. but not of Jacq.) stem erect, rough, dichotomous; radical leaves interruptedly pinnate, the terminal leaflet large, nearly orbicular, 3-5-lobed, and crenated; cauline leaves quinately and ternately pinnate, with the leaflets lobulate and toothed; stipulas ovate, 3-5-lobed; peduncles elongated; petals orbicular, retuse, length of the calyx; head of carpels obovate; ovaries pilose, very numerous; styles glabrous, but with the appendages pilose. ♃. H. Native of North America. G. stríctum, Ait. hort. kew. ed. 1. vol. 2. p. 217. Petals yellow.

Canadian Avens. Fl. May, June. Clt. 1778. Pl. 1½ foot.

2 G. stri'ctum (Pursh, fl. amer. sept. 1. p. 351.) hairy; leaves all interruptedly pinnate, the terminal leaflet the largest; leaflets ovate, toothed; stipulas cut; the 5 outer calycine segments linear and short; petals nearly orbicular, longer than the calyx; awns of carpel naked and hooked. ♃. H. Native of North America, from Canada to New York, in dry wet meadows and bogs. G. Allépicum, Jacq. icon. rar. 1. t. 93. Flowers large, yellow and striped.

Straight Avens. Fl. May, July. Clt. 1778. Pl. 2 feet.

3 G. macrophy'llum (Willd. enum. 557.) stem erect, rough, pilose, dichotomous; radical leaves interruptedly pinnate; leaflets nearly orbicular, terminal one cordate, large, and biserrated; cauline leaves bluntly 3-lobed and serrated; stipulas ovate, 3-5-toothed or nearly entire; peduncles when bearing the flowers very short, but when bearing the fruit they are much elongated; petals obcordate, longer than the calyx; heads of carpels ovate-orbicular; ovaries very pilose; styles smoothish, but with the appendages pilose at the base. ♃. H. Native of Kamtschatka. Flowers yellow.

Large-leaved Avens. Fl. June, July. Clt. 1804. Pl. 1½ ft.

4 G. heterophy'llum (Desf. hort. par. D. C. prod. 2. p. 550.) stem erect, flexuous, beset with spreading pili, dichotomous; radical leaves bluntly 3-lobed; cauline ones somewhat pinnate; the leaflets cuneiform, lobulate, and toothed; stipulas oval, profoundly toothed; peduncles short and stiff; petals obovate, about equal in length to the calyx; heads of carpels spherical, quite glabrous; styles with short appendages. ♃. H. Native country unknown. Flowers white?

Var. β, elongàtum (Ser. in D. C. prod. 2. p. 550.) peduncles elongated; appendages of styles longer and rather pilose; lobes of leaves more acute.

Variable-leaved Avens. Fl. May, July. Clt. 1816. Pl. 1½ foot.

5 G. interme'dium (Besser, cat. hort. crem. ex D. C. prod. 2. p. 550. but not of Willd.) stem erect, beset with spreading pili; radical leaves interruptedly pinnate; leaflets ovate-oblong, coarsely biserrated, terminal one large and 3-5-lobed; cauline leaves somewhat interruptedly pinnate or ternate; leaflets of the upper leaves rhomboid-lanceolate, and coarsely toothed; stipulas ovate, deeply toothed; peduncles when bearing the fruit much elongated; petals orbicular, length of the calyx; heads of carpels obovate-globose; ovaries very pilose; styles glabrous, but with the appendages pilose. ♃. H. Native of Volhynia and Altaia, in shady places. Flowers yellow.

Intermediate Avens. Fl. June, July. Clt. 1820. Pl. 1½ ft.

6 G. Virginia'num (*Lin.* spec. 716.) stem branched, pilose; radical leaves quinately pinnate, cauline ones ternate; leaflets lanceolate-cuneiform, toothed, the uppermost leaves 1-lobed, and very acute; stipulas ovate, toothed; peduncles when in fruit much elongated, filiform, and divaricate; petals obovate, shorter than the calyx; heads of carpels spherical; carpels few, pilose; styles elongated, and are, as well as the appendages, pilose. ♃. H. Native of Virginia and Carolina. This species comes very near *G. urbànum*, and differs from it principally in the small white flowers, and in the leaflets and stipulas being narrower.

Virginian Avens. Fl. July, Aug. Clt. 1739. Pl. 1 to 2 feet.

7 G. a'lbum (Gmel. syst. nat. 2. p. 861. Willd. enum. 556.) radical leaves pinnate, cauline ones ternate, uppermost cauline ones simple, and somewhat trifid; petals about equal in length to the calyx; styles glabrous, with pilose appendages. ♃. H. Native of Canada and Pennsylvania. G. Canadénse, Jacq. hort. vind. 2. t. 175. ex Willd. l. c. Flowers small, white.

White-flowered Avens. Fl. June, July. Clt. 1730. Pl. 1 to 1½ foot.

8 G. Portenschlagia'num (Tratt. ros. 3. p. 116.) stem terete, pubescent; branches straight, dichotomous; radical leaves pinnate, middle cauline ones dilately 3-lobed, but the upper cauline ones are lanceolate and coarsely toothed, pubescent; peduncles elongated, erect; petals about equal to the calyx; ovaries hispid; awns of carpels glabrous, glochidate at the apex. ♃. H. Native country unknown. According to Trattineck it is allied to *G. álbum*. Flowers smaller than those of *G. urbànum*.

Portenschlag's Avens. Fl. June, July. Clt. 1820. Pl. 1½ ft.

9 G. rubifòlium (Lejeune. rev. fl. spa. 103.) flowers erect; petals length of the calyx; radical leaves lyrately pinnate; leaflets of upper leaves cuneiform, acute, auricled at the base; awns of carpels at first geniculately twisted, but at length hooked. ♃. H. Native about Spa. Flowers yellow.

Bramble-leaved Avens. Pl. 1½ foot.

10 G. urba'num (Lin. spec. 716.) stem erect, branched, pilose; radical leaves pinnate, with 5 leaflets, cauline leaves ternate, 3-lobed or 3-parted; leaflets ovate, broad, dentately crenate; upper cauline leaves ovate, 1-lobed; stipulas large, nearly orbicular; petals obovate, length of the calyx; heads of carpels spherical; ovaries pilose, numerous; styles glabrous, with pilose appendages. ♃. H. Native of Europe, in woods and hedges; plentiful in all parts of Britain. Smith, engl. bot. 1400. Sturm, deutsch. fl. fasc. 5. Woodv. med. bot. 5. p. 33. t. 4. A. Fl. dan. 672. Flowers erect, small, yellow. The roots have a mildly astringent aromatic taste, somewhat like cloves, whence this plant has the name of *Caryophyllàta*. They have much more virtue in a dry warm situation. Gathered in the spring, and put fresh into ale, they give it a pleasant flavour, and prevent its turning sour. Infused in wine it is esteemed a good stomachic.

Var. β, *opulifòlium* (Ser. in D. C. prod. 2. p. 551.) cauline leaves usually 3-lobed at the apex, small, toothed; stipulas ovate-orbicular. Native about Bern and Geneva.

City or Common Avens or Herb Bennet. Fl. May, Aug. Britain. Pl. 1 to 2 feet.

11 G. cocci'neum (Smith, fl. græc. t. 485.) leaves lyrately pinnate; lower leaflets small, terminal one very large, roundish, cordate, all deeply crenated; cauline leaves 3-lobed, cut; stipulas deeply toothed; flowers panicled, erect; plant villous or pilose. ♃. H. Native of Bithynia, on Mount Olympus. Flowers large, scarlet.

Scarlet-flowered Avens. Pl. ½ to 1 foot.

12 G. Chiloe'nse (Balb. in litt. Loud. hort. brit. p. 214.) plant villous; stem glandular; radical leaves interruptedly pinnate; leaflets crenate-serrated, the terminal one large, roundish, cordate, lobed, and crenated; cauline leaves 3-parted, deeply cut; stipulas large, roundish, toothed; flowers panicled, erect. ♃. H. Native of Chiloe. G. coccíneum, Lindl. bot. reg. 1088. G. Quèllyon, Sweet, fl. gard. 2. ser. vol. 2. with a figure. Flowers scarlet, sometimes copper-coloured.

Chiloe Avens. Fl. May, July. Clt. 1826. Pl. 1 to 2 feet.

13 G. hederæfòlium (Gmel. fl. bad. 2. p. 460.) leaves simple, somewhat 3-lobed, clothed with pilose tomentum; stem erect; carpels pilose, with feathery awns. ♃. H. Native country unknown. Caryophyllàta foliis hederæ terrestris. Bauh. pin. 322. Perhaps a variety of *G. urbànum*.

Ivy-leaved Avens. Pl. 1 to 2 feet.

14 G. ela'tum (Wall. cat. 711.) stem erect, pubescent; 1-2-flowered; leaves interruptedly pinnate; leaflets obtuse, crenately lobed, outer ones the largest, rather hairy and ciliated; cauline leaves pinnatifid; flowers large, erect; stipulas large, deeply lobed. ♃. H. Native of the Himalaya.

Tall Avens. Pl. 2 to 3 feet.

15 G. ranunculoìdes (Ser. in mem. soc. phys. gen. 2. p. 138.) stem erect, branched; radical leaves interruptedly pinnate; leaflets bifid, dentate; cauline leaves somewhat interruptedly pinnate, or palmate; leaflets obovate-cuneated, toothed; stipulas ovate, large, lobed, or coarsely serrated; peduncles very long, filiform; petals roundish, nearly twice the length of the calyx; heads of carpels spherical; carpels numerous, pilose; styles glabrous, with the appendages ascending and glabrous, nearly the length of the styles. ♃. H. Native country unknown. G. heterophýllum, Hortul. but not of Desf. Flowers golden yellow, about the size of those of *Ranúnculus àcris*.

Crowfoot-like Avens. Fl. June, July. Clt. 1823. Pl. 1 foot.

Sect. II. Caryophylla'ta (the same as last section). Ser. in mem. soc. gen. 2. p. 139. D. C. prod. 2. p. 551.—Cariophyllàta, Tourn. inst. t. 151. Flowers erect or drooping. Calyxes erect. Styles deflexed, jointed, with the appendages about equal in length to the style.

16 G. riva'le (Lin. spec. 717.) plant pilose; stems erect, simple, 1-4-flowered; leaves interruptedly and lyrately pinnate; leaflets obovate, biserrate; cauline leaves 3-lobed; lobes acute; stipulas ovate, toothed; peduncles pilose, elongated; flowers nodding; petals obcordate, on long claws, length of calyx; heads of carpels spherical, at length stipitate; ovaries very pilose; styles elongated, bent, pilose. ♃. H. Native of Europe, Siberia, and North America, in moist pastures and woods, indicating, according to Linnæus, a barren soil, not fit for corn; plentiful in many parts of Britain. Smith, engl. bot. 106. Sturm, deutschl. fl. fasc. 8. with a figure. Oed. fl. dan. 722. Caryophyllàta nùtans, Mœnch. meth. 661. G. nùtans, Rafin. in litt. Flowers nodding, of a coppery red colour. The powder is beneficial in diarrhœas and hæmorrhages, and is much used by the Canadians in tertian agues.

Var. β, *intermèdium* (Ser. in D. C. prod. 2. p. 551.) plant less pilose; lobes of upper leaves narrower; peduncles slenderer. ♃. H. Native about Berlin, in groves. G. intermèdium, Willd. hort. berl. t. 69. Tratt. ros. 3. p. 122.

Var. γ, *proliferum* (Ser. l. c.) flowers semi-double; segments of the calyx tridentate; carpels transformed into leaves.

River or Water Avens. Fl. June, Jul. Britain. Pl. 1 foot.

17 G. hy'bridum (Jacq. pl. rar. t. 94.) pilose; stems few-flowered; radical leaves interruptedly pinnate; terminal leaflets broad, rounded, and cordate, lobed and serrated; cauline leaves 3-lobed; lobes rounded; stipulas large, lobed; flowers erect; petals obcordate; carpels pilose, with hooked, pilose awns. ♃. H. Native of Europe, in woods. G. rivàle, var. β, luxùrians, Tratt. ros. 3. p. 121. Flowers erect, reddish.

Hybrid Avens. Fl. June, July. Clt.? Pl. 1 foot.

18 G. Pyrena'icum (Ram. bull. phil. no. 42. t. 10. f. 3.) plant pilose; stems erect, simple, 1-4-flowered; leaves interruptedly pinnate; lower leaflets ovate, dentate, small, terminal one large, cordate-reniform, biserrate; stipulas ovate, bluntly toothed; flowers nodding; petals roundish, obcordate, on short claws, longer than the calyx; heads of carpels spherical, depressed; styles deflexed, stiff, length of carpels; carpels very pilose, with the appendages also pilose. ♃. H. Native of the Pyrenees. D. C. fl. fr. 4. no. 3765. G. Tournefórtii, Lapeyr. abreg. p. 292. G. inclinàtum, Schleich. cat. 1815. Flowers yellow.

Pyrenean Avens. Fl. June, July. Clt. 1804. Pl. 1½ foot.

19 G. BRACHYPE′TALUM (Ser. in mem. soc. phys. gen. 2. p. 139.) plant rather pilose; stems erect, simple, 1-3-flowered; lower leaves interruptedly pinnate, ultimate ones approximate, 1-lobed, lanceolate, all biserrated; lower stipulas large, and nearly orbicular, coarsely serrated; flowers axillary, drooping; petals obovate, loose, much shorter than the calyx; heads of carpels roundish. ♃. H. Native country unknown, but cultivated in the garden at Geneva. Flowers pale yellow, marked with rose-coloured lines.

Short-petalled Avens. Fl. June, Aug. Clt. 1818. Pl. 1½ ft.

20 G. THOMASIA′NUM (Ser. in mem. soc. phys. gen. 2. p. 140.) plant pilose; stems erect, 1-3-flowered; radical leaves somewhat interruptedly pinnate; leaflets nearly equal, obovate, somewhat doubly serrated; cauline leaves ternate; the terminal leaflets 3-lobed or lanceolate; stipulas ovate, doubly serrated; flowers ascending; calycine lobes ovate, short; petals obovate, hardly longer than the calyx; heads of carpels nearly spherical; styles appendiculate. ♃. H. Native of the eastern Pyrenees, about Mount Louis. Flowers small, yellow.

Thomas's Avens. Fl. May, Aug. Pl. 1 foot.

21 G. PARVIFLÒRUM (Commers, ex Smith in Rees's cycl. vol. 16. no. 12.) stem few-flowered, tomentose; radical leaves pinnate, crenated, longer than the stem; stipulas dissected; flowers almost sessile, nodding; calycine segments longer than the corolla; carpels villous. ♃. H. Native of the Straits of Magellan. Flowers small, white. Allied to *G. rivàle*, according to Smith.

Small-flowered Avens. Pl. ½ foot.

22 G. CALTHIFÒLIUM (Menzies, ex Smith, in Rees's cycl. vol. 16.) stem erect, few-flowered; radical leaves pinnate; leaflets acutely-toothed, pilose, terminal one large, roundish-reniform; cauline leaves round, profoundly-toothed; calyx erect; petals ovate-roundish, about equal in length to the calyx; carpels pilose; styles straight? ♃. H. Native of north-west America. Flowers yellow. Perhaps the same as *Sievèrsia radiàta*.

Caltha-leaved Avens. Pl. ½ foot.

23 G. MAGELLA′NICUM (Comm. ex Pers. ench. 2. p. 57.) scape elongated; leaves interruptedly pinnate; terminal leaflet large and lobed, lower ones small. ♃. H. Native of the Straits of Magellan. Probably a species of *Sievèrsia*.

Magellan Avens. Pl. ½ foot.

24 G. INVOLUCRA′TUM (Juss. herb. ex Pers. ench. 2. p. 57.) stem 5-flowered; leaves pinnate; terminal leaflet roundish and crenated; flower involucrated by the leaves; petals white, smaller than the calyx. ♃. H. Native of the Straits of Magellan. Perhaps the same as *G. parviflòrum*.

Involucrated-flowered Avens. Pl. 1 foot.

25 G. HI′SPIDUM (Fries, fl. hall. p. 90. ex Tratt. ros. 3. p. 140.) plant hairy; flowers erect; petals longer than the calyx; awns of carpels kneed above the middle, hispid, glabrous above; stigma clavate; radical leaves almost equally pinnate; cauline leaves pinnatifid. ♃. H. Native of Sweden. Reichb. icon. rar. cent. 5. t. 3. ex Tratt. Flowers yellow, 2 terminal on long peduncles.

Hispid Avens. Fl. June, July. Pl. 1 foot.

26 G. CAPE′NSE (Thunb. prod. fl. cap. p. 91.) stem erect; radical leaves pinnate; terminal leaflet large; cauline leaves tripartite or pinnatifid; petals roundish, obovate, longer than the calyx; awns of carpels naked, twisted and kneed in the middle. ♃. G. Native of the Cape of Good Hope. Wicks. in acad. handl. 1822.

Cape Avens. Pl. 1 foot.

27 G. JAPÓNICUM (Thunb. fl. jap. 220.) stem flexuous, hairy; leaves 3-5-lobed, hairy; stipulas ovate, cut; flowers erect; petals length of calyx; fruit hairy, ending in naked recurved awns. ♃. H. Native of Japan. Flowers yellow.

Japan Avens. Pl. 1 foot.

† *A species not well known.*

28 G. OBLÍQUUM (Steud. nom. phan. 366.) stem oblique, simple, hairy; radical leaves pinnate; outer leaflet very large, ovate, 5-parted, crenated; cauline leaves 3-lobed; stipulas oblong, toothed; carpels awnless. ♃. H. Native country unknown. Caryophyllàta oblíqua, Mœnch, suppl. 280. Waldsteìnia Mœ′nchii, Tratt. ros. 3. p. 106. Perhaps a true species of *Waldsteìnia* on account of the want of awns to the carpels.

Oblique Avens. Pl. ½ to 1 foot.

Cult. The plants will grow in any common soil, and are easily increased by dividing the plants at the root or by seeds.

III. SIEVE′RSIA (in honour of M. Sievers, a Russian botanist and traveller). Willd. berl. mag. 1811. p. 397. R. Brown, in Parry, voy. append. p. 276. Adàmia, Fisch. in litt. Gèum sect. 3. Oreògeum, Ser. in mem. soc. phys. gen. p. 139.

LIN. SYST. *Icosándria, Polygýnia.* Calyx 10-cleft (f. 70. *b.*), the outer alternate segments accessory. Petals 5 (f. 70. *c.*). Stamens numerous. Ovaries indefinite; ovula ascending. Styles terminal, continuous. Carpels or akenia awned by the whole style (f. 70. *d.*). Awns feathery (f. 70. *d.*), articulated. Embryo erect. Habit nearly of *Gèum*, but differs in the styles being jointed, the superior joint dissimilar to the lower joint, and usually deciduous. Flowers and calyxes erect, never reflexed.

1 S. ATLA′NTICA; plant pilose; stems erect, simple; leaves interruptedly pinnate; lower leaflets ovate, toothed, terminal one large, somewhat cordate, biserrated, cauline leaves simple, deeply toothed; stipulas lanceolate, a little toothed; flowers ascending; petals obcordate, longer than the calyx; heads of carpels spherical, depressed; styles deflexed, stiff, length of ovaries, which are pilose; tails villous. ♃. H. Native of the south of Europe and north of Africa, in woods. Gèum Atlánticum, Desf. fl. atl. 1. p. 401. G. sylváticum, Pourr. act. toul. ex D. C. fl. fr. 5. p. 544. G. biflòrum, Brot. fl. lus. 2. p. 533. Flowers large, yellow.

Atlantic Sieversia. Fl. June, Aug. Clt. 1810. Pl. 1 foot.

2 S. RE′PTANS (Spreng. syst. 2. p. 553.) sterile stems creeping, but the floriferous ones are erect, and undivided; radical leaves interruptedly pinnatifid, larger lobes obovate, profoundly toothed at the apex, smaller ones ovate, entire or tridentate at the apex; cauline leaves 3-lobed; flower large, solitary on the top of the stem; calycine segments elongated, usually trifid at the apex; petals obcordate, longer than the calyx; styles spreading, very pilose. ♃. H. Native on the higher Alps of France, Switzerland, and Germany. Gèum réptans, Lin. spec. 717. Jacq. austr. 5. append. t. 22. Adàmia réptans, Fisch. Mor. hist. 2. p. 431. sect. 4. t. 26. f. 5.—Barrel. icon. t. 400.—Bocc. mus. t. 128. Flowers large, yellow.

Var. β, macrophýlla (Ser. in D. C. prod. 2. p. 553.) leaves and stolons large; leaflets coarsely and doubly serrated. ♃. H. Native of Vallais, at Gallenstock.

Creeping Sieversia. Fl. May, Sept. Clt. 1597. Pl. ½ foot.

3 S. ANEMONOÌDES (Willd. berl. mag. 5. p. 398.) stems 1-flowered; stolons creeping; leaves pinnate, glabrous; leaflets cuneiform, toothed at the apex; stipulas filiform; petals longer than the calyx; styles bearded. ♃. H. Native of Siberia and Kamtschatka. Dryas pentapétala, Lin. amœn. 2. p. 353. Caryophyllàta, Kamtschática, Lam. dict. 1. p. 400. Gèum anemonoìdes, Willd. spec. 2. p. 1117.—Pall. itin. 3. p. 733. t. E. c. f. 4. Flowers large, white.

Anemone-like Sieversia. Fl. June, Aug. Clt. 1775. Pl. ½ ft.

4 S. ADNA′TA; stem 1-flowered, downy; radicle leaves long, interruptedly pinnate; leaflets crenately lobed, villous above, and glabrous beneath, ciliated; cauline leaves small, lower ones rather

pinnatifid, uppermost ones trifid. ♃. H. Native of Gosaingsthan. Gèum adnàtum, Wall. cat. no. 712. Like *S. rèptans.*

Adnate Sieversia. Pl. ½ foot.

5 S. RÓSSII (R. Br. in chl. melv. p. 18. t. C.) radical leaves interruptedly pinnate, glabrous; leaflets 3-lobed, but the accessory and lower ones are small and undivided; stem 1-flowered, usually 2-leaved; awns of carpels naked. ♃. H. Native of Melville Island. Gèum Róssii, Ser. in D. C. prod. 2. p. 553. Flowers large, yellow, distinctly veined.

Ross's Sieversia. Pl. ½ foot.

6 S. GLACIA'LIS (Spreng. syst. 2. p. 543.) whole plant densely clothed with yellowish villi; leaves interruptedly pinnate; leaflets ovate-oblong, upper and lower ones small, middle ones large and usually unidentate; flowers large, terminal, solitary. ♃. H. Native of Siberia, on the Alps at the mouth of the river Lena. Adàmia glaciàlis, Fisch. ex Steud. nom. Gèum glaciàle, Adams, act. mosk. 5. p. 96. Flowers large, yellow. Allied to *S. rèptans* according to Adam.

Icy Sieversia. Fl. May, Aug. Clt. 1819. Pl. ½ foot.

7 S. MONTA'NA (Spreng. syst. 2. p. 543.) stem erect, 1-flowered; stolons none; radical leaves interruptedly pinnatifid, terminal leaflet ovate, large, oblong, obtuse, and bluntly biserrate, lateral leaflets smaller and toothed; cauline leaves 1-lobed, and are as well as the stipulas deeply toothed; calycine segments undivided; petals obcordate, longer than the calyx; styles spreading, very pilose. ♃. H. Native of the Alps of Europe, Switzerland, Austria, Silesia, Dauphiny, &c. Gèum montànum, Lin. spec. 717. The leaflets becoming gradually smaller from the apex. Flowers large, yellow. Jacq. austr. 4. t. 373. Sturm. deutsch. fl. fasc. 14. with a figure.

Var. β, mìnus (Pers. ench. 2. p. 57.) stems and leaves smaller than those of the species. ♃. H. Native on the higher Alps of Europe. G. alpìnum, Mill. dict. no. 5.—Barr. icon. t. 399.

Mountain Sieversia. Fl. May, Sept. Clt. 1597. Pl. ½ foot.

8 S. TRIFLÒRA (R. Br. in chl. melv. p. 18.) plant pilose; stems simple, usually 3-flowered; radical leaves interruptedly pinnate, leaflets cuneated, and deeply toothed; petals oblong, length of the calyx; awns of carpels long, and villous. ♃. H. Native of Upper Louisiana. Hook. bot. mag. t. 2858. Gèum triflòrum, Pursh. fl. amer. sept. 2. p. 736. Leaves connate at the base. Stipulas divaricate, adnate to the petiole. Petals reddish?

Three-flowered Sieversia. Fl. June. Clt. 1826. Pl. ½ foot.

9 S. PE'CKII (R. Br. in chl. melv. p. 18.) plant smoothish; stem 1-5-flowered; radical leaves pinnate; lateral leaflets small, ovate, and toothed, terminal one reniform-cordate, lobed, large, doubly toothed; cauline leaves almost wanting; petals obovate, longer than the calyx. ♃. H. Native of North America, on the white hills in New Hampshire. Hook. bot. mag. t. 2863. Gèum Péckii, Pursh. fl. amer. sept. 2. p. 554.

Peck's Sieversia. Fl. June, Aug. Clt. 1826. Pl. ¾ foot.

10 S. CILIA'TA; plant pubescent; stem simple; leaves smoothish, pinnate, with ciliated margins; upper leaves palmate, with linear-cut leaflets; flowers corymbose. ♃. H. Native of North America, on the banks of the river Kooskoosky. Gèum ciliàtum, Pursh. fl. amer. sept. 1. p. 352. Flowers yellow.

Ciliated-leafletted Sieversia. Fl. Ju. July. Clt. 1818. Pl. 1 ft.

11 S. RADIA'TA; plant very hairy; stem simple; radical leaves pinnate; the terminal leaflet very large, radiantly nerved; cauline leaves stem-clàsping, and deeply jagged; petals obcordate, cuneated; awns of carpels glabrous. ♃. H. Native of the high mountains of Carolina, and on the west coast of America. Gèum radiàtum, Michx. fl. bor. amer. 1. p. 300. Flowers yellow.

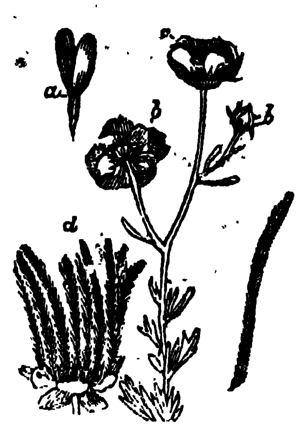
Ray-leaved Sieversia. Fl. June, July. Clt. 1815. Pl. 1 ft.

12 S. CAROLINIA'NA; stems decumbent, a little branched; radical leaves obtuse, serrated, sub-pinnate; terminal lobe large, lateral ones small; cauline leaves ovate-lanceolate, serrated, hairy, on short petioles; flowers erect; petals ovate. ♃. H. Native of Carolina. Gèum Caroliniànum, Walt. fl. carl. 150. Flowers white.

Carolina Sieversia. Pl. ½ foot.

13 S. PARADÓXA (D. Don, in Lin. trans. 14. p. 576. t. 22. f. 2.) leaves in fascicles, linear, obtuse, sessile, entire or 3 or 5-cleft; flowers sub-corymbose; styles plumose; stem shrubby. ♄. G. Native of Mexico. Gèum cercocarpoìdes, D. C. prod. 2. p. 554. A branched stiff shrub, with large yellow flowers. (f. 70.)

FIG. 70.



Paradoxical Sieversia. Shrub 1 to 3 feet.

Cult. For culture and propagation see *Gèum. S. paradóxa* should be treated in the way recommended for *Cowània.*

IV. COLU'RIA (from κολουρος, *kolouros*, deprived of a tail; the seed is without the tail so conspicuous in the three preceding genera). R. Brown, chl. melv. 1. p. 392. Led. fl. alt. 2. p. 262.

LIN. SYST. *Icosándria, Polygýnia.* Calyx campanulate, 10-cleft, the 5 outer segments accessory. Petals 5, cordate, orbicular. Filaments inserted in the throat of the calyx, permanent. Ovaries numerous. Styles straight, thickened at the base, and articulated with the ovary. Carpels tailless, scrobiculately wrinkled, inclosed in the calyx.—A small plant, with interruptedly pinnate leaves, the terminal leaflets large, the lateral ones unequal in size and shape, all canescent beneath, cauline leaves trifid or entire. Stipulas connate, entire. Stem 1-3-flowered. Flowers yellow.

1 C. GEOÌDES (R. Br. l. c.) ♃. H. Native of Siberia, on rocks in the less elevated mountains. Drỳas Geoìdes, Pall. itin. 3. append. 732. t. Y. f. 1. Gèum Laxmánni, Gærtn. fruct. 1. p. 352. t. 74. f. 1. Gèum potentilloìdes, Ait. hort. kew. ed. 1. vol. 2. p. 219. Caryophyllàta potentilloìdes, Lam. ency. 1. p. 395. Laxmánnia geoides, Fisch. mss. Laxmánnia potentilloìdes, Fisch. ex Steud. nom.

Geum-like Coluria. Fl. May, Ju. Clt. 1780. Pl. ¼ to ½ foot.

Cult. A light soil suits this plant best, and it is easily propagated by dividing at the root, or by seed.

V. COWA'NIA (in honour of James Cowan, who, as a merchant, had several times visited Mexico and Peru, from whence he has introduced a great many plants, now common in our gardens). D. Don, in Lin. trans. 14. p. 574.

LIN. SYST. *Icosándria, Polygýnia.* Calyx 5-cleft. Petals 5. Stàmens indefinite. Ovaries 5-11, densely villous, adnate to the bottom of the calyx. Ovula erect. Styles terminal, continuous. Carpels or akenia awned by the plumose permanent styles. Embryo erect.—A much branched shrub, with alternate small linear coriaceous leaves, with entire revolute edges, glandular above, and clothed with white wool beneath, dilated and tripartite at the apex; segments linear, blunt, with revolute edges. Stipulas twin, membranous, dilated, entire, silky, adnate by the base to the petiole, but free and acuminated at the apex. Flowers yellow, numerous, sessile, solitary on the tops of the branches, about the size of those of *Potentílla fruticòsa.*

1 C. MEXICA'NA (D. Don, l. c. t. 22. f. 1.) ♄. G. Native of Mexico. Gèum dryadoìdes, D. C. prod. 2. p. 554.

Mexican Cowania. Shrub 1 to 2 feet.

Cult. This shrub will do well in a mixture of sand, peat, and a little loam; and cuttings will root if planted in a pot of sand with a bell-glass placed over them, or the plant may be increased by seeds.

VI. **WALDSTEI'NIA** (in honour of Francis Von Waldstein, a German botanist, author of Descriptiones et Icones plantarum rariorum Hungariæ, 3 vols. fol. Vienna, 1802. 1812. in conjunction with Paul Kitaibél). Willd. nov. act. nat. cur. ber. 2. p. 103. Nestl. pot. 17. t. 1. D. C. prod. 2. p. 555.

Lin. syst. *Icosándria, Di-Pentagýnia.* Calyx with a turbinate tube, crowned with a crenulated ring under the stamens, bearing bracteas on the outside. Petals 5. Stamens numerous. Carpels 2-4, fixed to the bottom of the calyx, connate at the base. Styles terminal. Akenia 1-4, globose, naked, and somewhat umbilicate at the apex, rather fleshy. Seeds erect.

1 W. **geoïdes** (Willd. l. c. p. 105. t. 4. f. 1.) ♃. H. Native of Hungary, in shady woods. Leaves petiolate, palmately 5-lobed, having the lobes acutely toothed. Flowers yellow, smaller than those of Potentílla vérna. Waldst. et Kit. pl. rar. hung. 1. t. 77. Lodd. bot. cab. 492.

Geum-like Waldsteinia. Fl. June, July. Clt. 1804. Pl. ¾ ft.

Cult. See *Gèum* for culture and propagation, p. 527.

VII. **COMARO'PSIS** (*κομαρον, komaron*, the Cómarum, and *οψις, opsis*, resemblance). Rich. in Nestl. pot. p. 16. t. 1. D. C. prod. 2. p. 555.—Waldstèinia species, Tratt. ros.

Lin. syst. *Icosándria, Polygýnia.* Calyx with a turbinate tube and a 5-cleft limb, destitute of bracteas. Petals 5, unguiculate. Stamens numerous. Carpels few, ending each in the filiform elongated style. Akenia dry, not coarctate at the base. Seed erect.—Herbs, with the habit of *Waldsteinia*, but differs from it in the calyx being without bracteas. Leaves trifoliate.

* *Lobes of calyx entire.*

1 **fragarioìdes** (D. C. prod. 2. p. 555.) carpels smoothish; peduncles branched, 3-flowered; petals 3 times the length of the calyx; leaflets cuneiform, sessile, terminal one stalked. ♃. H. Native of Canada, in shady beech woods, and on the Alleghany mountains. Dalibárda fragarioìdes, Michx. fl. bor. amer. t. 300. t. 28. Sims, bot. mag. 1567. Waldsteínia fragarioìdes, Trat. ros. Dryas trifoliàta, Pall. ined. Comarópsis Doniàna, D. C. prod. 2. p. 555.—Waldsteínia Doniàna, Tratt. ros. Leaves petiolate, trifoliate. Leaflets cuneated, deeply serrated. Flowers yellow. There is a variety of this with petals shorter than the calyx.

Strawberry-like Comaropsis. Fl. May, June. Clt. 1800. Pl. ½ foot.

2 C. **Sibírica** (D. C. prod. 2. p. 555.) carpels hairy; peduncles branched, 3-flowered; petals 3 times larger than the calyx; leaflets cuneiform, sessile. ♃. H. Native of Siberia, beyond the Baikal. Dalibárda ternàta, Steph. mem. soc. mosc. 1. p. 92. t. 10. Waldsteínia Sibírica, Tratt. ros. Very like the preceding species, but the petals are said to be white.

Siberian Comaropsis. Pl. ½ foot.

* * *Lobes of calyx serrated.*

3 C. **peda'ta** (D. C. prod. 2. p. 555.) carpels glabrous; peduncles simple, glabrous, bracteate, 1-flowered; stems unarmed. ♃. H. Native of North America, on the western coast. Rùbus pedàtus, Smith, icon. ined. t. 63. Dalibárda pedàta, Steph. mem. soc. mosc. t. 92. Spreng. grundz. 510. Leaves petiolate, trifoliate; lateral segments bipartite. Flowers white.

Pedate-leaved Comaropsis. Pl. 1 foot.

4 C. **radi'cans** (D. C. prod. 2. p. 555.) carpels glabrous; peduncles simple, pilose, bractless, 1-flowered; stems prickly, rooting. ♃. G. Native of Chili, in woods. Rùbus radìcans, Cav. icon. 5. p. 7. t. 413. Spreng. grundz. p. 514. Leaves petiolate, trifoliate; terminal leaflet large; lateral ones undivided. Flowers pale red.

Rooting Comaropsis. Pl. creeping.

Cult. See *Gèum* for culture and propagation, p. 527.

VIII. **RU'BUS** (from *rub*, red in Celtic; in reference to the colour of the fruit in some species). Lin. gen. 864. Lam. ill. t. 441. Nestl. pot. 16. Weih. et Nees, rub. germ. p. 11. Wallr. sched. crit. p. 223. D. C. prod. 2. p. 556.

Lin. syst. *Icosándria, Polygýnia.* Calyx flattish at the bottom, 5-cleft. Petals 5. Stamens numerous, inserted in the calyx along with the petals. Carpels or akenia numerous, fleshy, disposed in a head upon an elevated torus. Styles lateral, near the apex of the carpels. Seeds inverted.—Shrubs, rarely herbs, with the stems sometimes unarmed, but usually prickly. Leaves stalked, pinnate or palmate, with the leaflets usually stalked, sometimes the leaves are simple lobed or undivided. Fruit of all edible.

§ 1. *Leaves pinnate or ternately pinnate.*

* *Leaflets glabrous beneath.*

1 R. **rosæfòlius** (Smith, icon. ined. 3. p. 60. t. 60.) stems rather terete, pilose; prickles spreading, a little recurved; leaves pinnate, rather pilose; leaflets ovate-lanceolate, somewhat doubly serrated, full of glandular dots; stipulas linear-setaceous; peduncles usually 1-flowered; calycine segments lanceolate, acuminated, hardly longer than the corolla; carpels glabrous, very numerous, small, wrinkled from lacunæ when dry. ♄. G. Native of the Mauritius. Flowers white. Fruit size of those of the common raspberry.

Var. β, coronàrius (Sims, bot. mag. 1783.) petals very numerous, much longer than the calyx. R. Commersònii, Poir. dict. 6. p. 240. R. Sinénsis, Hortul. Flowers large, semidouble, white.

Var. γ, trìlobus (D. C. prod. 2. p. 556.) petals numerous, much longer than the calyx; leaves 3-lobed, large, glabrous. Flowers large, semidouble, white.

Rose-leaved Bramble. Fl. April, Oct. Clt. 1811. Shrub 2 to 6 feet.

2 R. **eglante'ria** (Tratt. ros. 3. p. 9.) stems shrubby, terete, glabrous, prickly; leaves pinnate; leaflets cordate-oblong, doubly serrated, glandular, pubescent; flowers solitary, axillary. ♄. G. Native of New Holland. Like *R. rosæfòlius*, but differs in the leaflets being cordate-oblong, and in the flowers being axillary. Flowers white.

Eglantine Bramble. Fl. April, July. Clt. 1825. Shrub 3 to 6 feet.

3 R. **fraxinifòlius** (Poir. dict. 6. p. 242.) branches glabrous, rather terete; prickles few, straightish; lower leaves with 3-5 pairs of leaflets, upper ones ternate, rarely simple; leaflets ovate-lanceolate, nearly sessile, glabrous, doubly serrated; flowers panicled, numerous; branches of panicle filiform; bracteas subulate, cut; calycine segments oval, acuminated, glabrous on the outside, hardly shorter than the petals; fruit large, globose; carpels numerous. ♄. S. Native of Java. Flowers white.

Ash-leaved Bramble. Shrub 2 to 4 feet.

4 R. **pinna'tus** (Willd. spec. 2. p. 1081.) branches villous; prickles hooked, obtuse; leaves pinnate; leaflets ovate-lanceolate, glabrous on both surfaces, sharply and doubly serrated, wrinkling from veins, having the middle nerve prickly; flowers

racemose; peduncles villous and prickly; calycine segments longer than the petals. ♄. G. Native of St. Helena. Flowers pink.

Pinnate-leaved Bramble. Fl. Ju. July. Clt. 1789. Sh. 3 to 6 ft.

5 R. AUSTRA'LIS (Forst. prod. no. 224.) stem glabrous, terete; prickles of branches secund, recurved; leaves ternate and pinnate; leaflets oval, sharply toothed, rather coriaceous, glabrous on both surfaces; flowers racemose, dioecious; calycine segments blunt, spreading. ♄. G. Native of New Zealand.

Southern Bramble. Shrub 3 to 4 feet.

6 R. CHINE'NSIS (Ser. in D. C. prod. 2. p. 557.) stems terete, glabrous; prickles spreading, erect; leaves pinnate; petioles pilose; leaflets lanceolate, obsoletely serrated, glandular, glabrous; flowers terminal, solitary; calycine segments ovate, glandular, pilose, ending in long taper points, which are longer than the corolla; petals obovate, very blunt. ♄. G. Native of China. Flowers white.

China Bramble. Shrub.

* * *Leaflets clothed with white tomentum or pubescence beneath.*

7 R. RI'GIDUS (Smith in Rees's cyclop. vol. 30.) stem villous; prickles slender, numerous; leaves of sterile branches pinnate, of the fertile ones trifoliate; leaflets ovate, doubly and unequally serrated, rather villous beneath, and on the petioles; stipulas lanceolate; flowers racemose, terminal, numerous, small; calycine segments ending in a short acumen; petals very narrow; fruit small. ♄. G. Native of the Cape of Good Hope.

Stiff Bramble. Shrub.

8 R. TAGA'LLUS (Cham. et Schlecht. Linnæa. 2. p. 9.) shrubby; branches terete, tomentose; prickles hooked, scattered; leaves pinnate, with 2-3 pairs of doubly serrated leaflets, which are pubescent on both surfaces, and glandless; stipulas setaceous; flowers usually solitary, terminal on the branches; calycine segments lanceolate, acuminated, equal in length to the petals, reflexed when in fruit. ♄. G. Native of the Island of Lucon, on the burning mount called Taal. Fruit eatable, red.

Taal Bramble. Shrub.

9 R. CHRYSOCA'RPUS (Mundt. in litt. Cham. et Schlecht. in Linnæa. 2. p. 17.) branches tomentose and glandular; prickles hooked, small; leaves of fertile branches trifoliate and pinnate; leaflets ovate, densely crenate-toothed, and curled on the margins, glabrous above, but clothed with yellowish tomentum beneath and on the petioles, and glandular; stipulas lanceolate-linear; panicle terminal, short, coarctate; calycine segments lanceolate; petals obovate, equal in length to the calyx. ♄. G. Native of the Cape of Good Hope, at Hex river. Resembles *R. rigidus* of Smith.

Golden-fruited Bramble. Shrub.

10 R. MU'NDTII (Cham. et Schlecht. in Linnæa. 2. p. 18.) branches tomentose; prickles hooked, strong, numerous; leaves of fertile branches trifoliate and pinnate; leaflets ovate, unequally and doubly serrated, pilose above, but clothed with hoary tomentum beneath, and glandless; stipulas lanceolate-linear; panicle terminal, coarctate; calycine segments ovate-lanceolate, acuminated; acumen foliaceous; petals obovate, shorter than the calyx. ♄. G. Native of the Cape of Good Hope, at Hanglip.

Mundt's Bramble. Shrub.

11 R. CELE'BICUS (Blum. bijdr. 1107.) lower leaves with 3-5 pairs of leaflets, floral ones simple; leaflets ovate-elliptic, acute, doubly serrated, smooth above, prickly on the middle nerve beneath, and pubescent on the veins; rameal prickles scattered, straight; stipulas wedge-shaped, jagged; panicle racemose; calycine segments ovate, cuspidate. ♄. S. Native of Java.

Celebes Bramble. Shrub.

12 R. JAVA'NICUS (Blum. bijdr. 1107.) leaves ternate or pinnate, with 2 pairs of leaflets; leaflets ovate-lanceolate, acuminated, deeply serrated, pubescent on both surfaces; rameal prickles straight; stipulas subulate; peduncles axillary and terminal, 1-flowered; calycine segments ovate, acuminated. ♄. S. Native of Java, in the province of Cheribon. Like *R. biflòrus*, Hamilt.

Java Bramble. Shrub 4 to 6 feet.

13 R. GRA'CILIS (Roxb. ex herb. Lamb. D. C. prod. 2. p. 557.) stems finely puberulous; prickles numerous, reflexed; lower leaves pinnate, upper ones trifoliate; leaflets ovate, obtuse, obsoletely crenate, rather villous beneath, with the nerves pilose; stipulas subulate, pilose; flowers few, subracemose, and axillary; peduncles short, hairy; calycine segments linear-spatulate, elongated, woolly, denticulated at the apex. ♄. S. Native of the East Indies.

Slender Bramble. Shrub 2 to 4 feet.

14 R. BORBÓNICUS (Pers. ench. 2. p. 51.) stems hoary; leaves pinnate; leaflets ovate-oblong, clothed with white tomentum beneath, acutely serrated; petioles tomentose, prickly. ♄. S. Native of the Island of Bourbon. R. tomentosus, Bory. voy. 2. p. 375. but not of Willd. Fruit like that of *R. cæ'sius*.

Bourbon Bramble. Shrub.

15 R. MICRA'NTHUS (D. Don, prod. fl. nep. 235.) leaves pinnate, with usually 7 or 9 leaflets, lanceolate, acuminated, deeply serrated, green above, but shining and glaucous beneath; petioles and rachis furnished with a few hooked prickles; corymbs panicled; petals unguiculate, shorter than the calyx; stem erect, furnished with inflexed prickles. ♄. H. Native of Nipaul. R. pauciflòrus, Lindl. bot. reg. 854. An erect, branched shrub, armed with subulate prickles, which are inflexed at the apex. Young branches clothed with a kind of glaucous bloom at the apex. Stipulas lanceolate, acuminated, membranous. Flowers small, reddish purple.

Small-flowered Bramble. Fl. May, Aug. Clt. 1822. Shrub 4 to 6 feet.

16 R. NÌVEUS (Wall. mss. in Lin. soc. herb.) stem trailing, terete, pubescent, prickly as well as the petioles and midrib of the leaves; prickles hooked; leaves pinnately trifoliate; leaflets elliptic, doubly serrated, acuminated, middle one slightly lobed, pilose above, but clothed with white tomentum beneath; calyx tomentose; the segments ending in a long acumen each, longer than the petals. ♄. H. Native of Nipaul.

Snowy Bramble. Shrub trailing.

17 R. MYSORE'NSIS (Heyne in Roth, nov. spec. 235.) stems nearly terete; prickles straight; leaves pinnate, with 5 or 7 leaflets, which are connate above, and somewhat plicate, rugulose, pubescent, ovate, acuminated, deeply and acutely doubly serrated, clothed with white tomentum beneath, the terminal leaflet trifid; racemes corymbose; peduncles 4-flowered; bracteas linear; calyx clothed with white tomentum; the segments terminating in a cartilaginous mucrone, and hardly longer than the petals. ♄. G. Native of Mysore.

Mysore Bramble. Shrub.

18 R. DÍSTANS (D. Don, prod. fl. nep. 256.) stems terete; prickles strong, compressed, recurved; leaves pinnate, with 7-9 leaflets, clothed with white tomentum beneath; leaflets ovate, lanceolate, acuminated, sharply serrated, distant, with numerous nerves; stipulas linear; racemes corymbose; peduncles short; calyx tomentose, with ovate hardly pointed segments, which are the length of the petals. ♄. H. Native of Nipaul. R. pinnàtus, D. Don, prod. fl. nep. p. 254. Leaves resembling those of hemp.

Distant-leafletted Bramble. Fl. June, July. Clt. 1818. Shrub 4 to 6 feet.

19 R. APE'TALUS (Poir. dict. 6. p. 242.) branches nearly

terete, pubescent; prickles scattered; leaves pinnate, with usually 7 oval serrulated leaflets, which are white beneath from tomentum; racemes axillary; flowers apetalous; calycine segments nearly linear, acute; carpels few. ♄. S. Native of the Isle of France.

Apetalous Bramble. Fl. June, July. Clt. 1823. Sh. 6 feet.

20 R. MACRÓPODUS (Ser. in D. C. prod. 2. p. 557.) branches tomentose; prickles numerous on the peduncles, slender, and recurved; leaves of the fertile branches pinnately trifoliate, clothed with hoary tomentum beneath, and rather pilose above; leaflets crenated, terminal one large and deeply 3-lobed; flowers axillary, solitary; peduncles longer than the leaves; calycine segments linear-lanceolate, 5-nerved, acuminated, rather woolly, prickly, rather foliaceous at the apex, twice the length of the corolla. ♄. G. Native of New South Wales.

Long-petioled Bramble. Shrub.

21 R. STRIGÒSUS (Michx. fl. bor. amer. 1. p. 297.) stem terete, very hispid; leaves of the sterile branches quinately pinnate, of the fertile branches 3-lobed; leaflets ovate, unequally serrated, obtuse at the base, lined beneath, and clothed with white tomentum, the terminal lobe or leaflet usually subcordate; peduncles usually 3-flowered, and are as well as the calyxes hispid. ♄. H. Native of Pennsylvania and Canada, on the mountains. R. Pennsylvánicus, Poir. dict. 6. p. 246. Petals white, longer than the calyx.

Strigose Bramble. Shrub.

22 R. BIFLÒRUS (Hamilt. ex Smith in Rees' cycl. vol. 30.) stem prickly at the base; leaves of the sterile branches with 5 leaflets, of the fertile branches trifoliate; leaflets ovate or elliptic, unequally serrated, cuneated at the base, clothed with white tomentum beneath, but villous above; petioles and branches tomentose and prickly; stipulas linear; peduncles elongated, twin or tern; calycine segments broad, oval, acuminated, length of the petals. ♄. H. Native of Upper Nipaul, on the banks of rivers, and in the vicinity of Chitlong. R. pedunculòsus, D. Don, prod. fl. nep. 234. where the stem is said to be unarmed.

Two-flowered Bramble. Fl. April, June. Shrub 4 to 6 feet.

23 R. OCCIDENTA'LIS (Lin. spec. 706.) stems terete, pruinose; prickles recurved; leaves of the sterile branches pinnate, of the fertile ones trifoliate; leaflets ovate, deeply serrated, clothed with white tomentum beneath; stipulas very narrow, setaceous; peduncles umbellate, prickly; calycine segments lanceolate-linear, tomentose, pointed at the apex; petals obovate-cuneated, 2-lobed, spreading, shorter than the calyx; carpels numerous, smoothish, when dry wrinkled from lacunæ. ♄. H. Native of Canada and the West Indies.—Sloan. jam. t. 213. f. 1.—Dill. hort. elth. t. 287. f. 319. Stems covered with bloom. Fruit black, resembling that of the common raspberry.

Western Bramble or Virginian Raspberry. Fl. May, June. Clt. 1696. Shrub 4 to 6 feet.

24 R. A'SPER (D. Don, prod. fl. nep. p. 234.) leaves pinnate, with usually 7 elliptic, acuminated, sharply serrated leaflets, which are green above, and rather pilose beneath; petioles and branches beset with gland-bearing bristles and prickles; stipulas lanceolate, cuspidate; peduncles terminal, usually tern. ♄. H. Native of Nipaul. Flowers white.

Rough Bramble. Fl. May, June. Clt. 1821. Sh. 4 to 6 feet.

25 R. LASIOCA'RPUS (Smith in Rees' cycl. vol. 30.) stems smooth; prickles strong, recurved; leaves pinnate, with 7 leaflets, clothed with white tomentum beneath, the terminal leaflet usually 3-lobed; nerves pilosé; stipulas setaceous; flowers racemose, terminal; carpels tomentose, reticulated. ♄. S. Native of Mysore.

Woolly-fruited Bramble. Shrub.

26 R. IDÆ'US (Lin. spec. 706.) villous; stems terete; prickles slender, straight; leaves of the sterile branches pinnate, of the fertile ones trifoliate; leaflets ovate, deeply serrated, clothed with white tomentum beneath; stipulas setaceous; peduncles sub-corymbose; calyx clothed with white tomentum, with ovate-lanceolate segments; petals obovate, cuneated, entire, connivent, shorter than the calyx; carpels numerous, pubescent. ♄. H. Native of Europe, in woods and hedges; plentiful in some parts of Wales and Scotland. Smith, engl. bot. 2442. Woodv. med. bot. t. 138. Oed. fl. dan. 788.—Blackw. herb. 289. R. frambæsiànus, Lam. fl. fr. 3. p. 135.—Framboisier, Duham. arbr. fr. 2. t. 255. f. 260. The *raspberry* is called *framboisier* in French, *himbeerestrauch* in German, and *rovo ideo* in Italian. The stems of the *raspberry* are biennial, upright, but the root is perennial. The flowers come out in panicles from the extremity of the year's shoots; they are white, and appear in May and June. It is a native of Britain, and not uncommon in woods in low situations.

Use. The fruit is grateful to most palates as nature presents it, but sugar improves the flavour; accordingly it is much esteemed when made into sweetmeats, and for jams, tarts, and sauces. It is fragrant, subacid, and cooling, allays heat and thirst. It is much used in distilling, to make the cordial spirituous liquor, from which it has its name. Raspberry syrup is next to the strawberry in dissolving the tartar of the teeth, as like that fruit it does not undergo the acetous fermentation in the stomach; it is recommended to gouty and rheumatic patients.

The varieties of *raspberry* are as follow.

* *Red raspberries.*

1 *Red Antwerp, Burley, late-bearing Antwerp, Knevett's Antwerp, framboisier rouge à gros fruit.* A red fruit of the first quality.

2 *Barnet, Cornwall's prolific, Cornwall's seedling, Cornwall's red, large red, lord Exmouth's.* A very fine large red fruit, of the first quality, but does not bear carriage so well as the *red Antwerp.*

3 *Bromley-hill.* A red fruit of the first quality.

4 *Brentford cane.* A second-rate red fruit.

5 *Red cane.* A red fruit, of a second-rate quality.

6 *Rough cane.* A second-rate red fruit.

7 *Smooth cane.* A second-rate red fruit.

8 *Common red, old red, wild red.* A worthless red fruit.

9 *Cornish.* A red fruit, of the first-rate quality.

10 *Double bearing, red double bearing, perpetual bearing, Siberian, late cane.* A red fruit, having the merit of bearing late in the season.

11 *Williams's double bearing red.* Resembles the preceding, but seems rather more tender.

12 *Jilliards's seedling.* A second rate red fruit.

13 *Early prolific.* A second-rate red kind.

14 *Red malta.*

15 *Spring-grove.* A second-rate red sort, but an abundant bearer.

16 *Superb.* A second-rate red kind.

17 *Taylor's paragon, scarlet paragon.* A second-rate red fruit.

18 *Wilmot's early red.* A second-rate red fruit.

19 *Woodward's red globe.* A second-rate red kind.

* * *White and yellow raspberries.*

20 *Yellow Antwerp, white Antwerp, double bearing yellow.* A pale yellow fruit, of the first-rate quality.

21 *Old white.* A white fruit, of very inferior quality.

22 *Large white.*

Estimate of sorts. The *red* and *yellow Antwerp* may be said to hold the similar rank in this class of fruits as the red and the white Dutch among currants; and although some may be found nearly to equal them, yet it is doubtful whether they are yet exceeded by any.

Propagation. The varieties can be perpetuated by the young suckers, which spring from the root in spring and summer; when these have completed one year's growth they are proper to detach with roots for planting, either in the autumn or the next spring in February or March, but never later than the middle of April. These new plants will bear some fruit the same year, and furnish a succession of strong bottom shoots for full bearing the second season. New varieties are easily raised from seed, and they will come into bearing the second year.

Soil and site. All the varieties will succeed in any common mould, trenched about 2 feet deep, and sufficiently manured; but the soil in which the *raspberry* bush prospers most and bears the finest fruit, is in a light rich loam. Allot the main crop a free exposure to the sun, that the berries may ripen in perfection. Be careful to favour the double bearers with a dry soil, and a sheltered sunny situation, to give the second crop every aid in coming to maturity. When *raspberries* are cultivated on a large scale it is best to keep them in plantations by themselves. Set them in rows from 4 to 6 feet asunder, as the bushes are of the smaller or larger kinds, and by 3 or 4 feet in the row. Scattered bushes may either occupy a small row lengthwise along the back part of a border, or stand in detached stools, at 10 or 15 feet distance. Select sorts are frequently trained against walls, stakes, or espaliers, from the most sunny to the most shady aspect, for early and late fruit of improved growth and flavour. Neill says "the *raspberry* bush grows freely in any good garden soil; but it is the better for being slightly moist. Although the place be inclosed by trees, and even slightly shaded, the plant succeeds. In an inclosed and well sheltered quarter, with rather a damp soil, containing a proportion of peat moss, we have seen very great crops of large and well flavoured berries produced; for example at Melville-house, the seat of the earl of Leven, in Fifeshire." Haynes also recommends well manured bog-earth, and a situation naturally or artificially shaded.

New plantations. Raspberry bushes are in their prime about the third and fourth year, and, if well managed, continue in perfection 5 or 6 years; after which they are apt to decline in growth, and the fruit to become small, so that a successive plantation should be provided in time. Select new plants from vigorous shoots, in full perfection as to bearing.

Summer culture. Keep them free from weeds during the summer by hoeing between the rows, at the same time loosen the earth about the plants; under this management the plants, if tolerably strong, will both yield a moderate crop the first season, and supply young stems for bearing in greater plenty and perfection the following season, and so from year to year the summer culture should be repeated. As the plants get established let all straggling suckers between the rows, or from the extreme roots of single shoots, be cleared out by hoeing, or twisted off to admit the air and sun freely to the fruit. The fruit of the *raspberry* may be obtained of a very large size, other circumstances being favourable, by destroying all the suckers; but in this way, the plant being destroyed, a double plantation is wanted, one to grow only suckers, and the other fruit.

Pruning and winter dressing. It is requisite every winter or spring to cut out the dead stems, and to thin and regulate the successional young shoots. This annual pruning may be performed any time during open weather from November till the beginning of April. When kitchen garden crops are cultivated between the rows it is most convenient to do this as soon as the old bearers begin to decay. As to pruning indiscriminately in the open weather of winter, it sometimes happens that severe frosts immediately follow, and partially kill the plants; therefore it is safer to shorten the tender young shoots early in the spring, but let it not be deferred till the buds are making new shoots, as that would weaken the root. Cut out all the old dead stems close to the bottom, and having selected from the strongest young shoots on each main stool 3-4 or 5 to be preserved for a succession of bearers, cut away the superabundant shoots close to the ground. Let each of the shoots retained be pruned at the top below the weak bending part, cutting them in smaller plants to about 3 or 4 feet in length, and in the large sorts to the length of 5 or 6 feet. If any of the stems diverge irregularly, or straggle much asunder, they may be tied together at the top, and thus the strong ones will support the weaker, or the taller varieties may have the support of stakes. Prune plants against a wall or trellis in the same manner as directed above, and train the shoots to rise a little diagonally. After pruning, having cleared away the cuttings, dig the ground between and about the plants. To turn in a little rich compost will conduce to plentiful and fine returns; lay it at the extremities of the roots, and deeper as the plantation gets older. Eradicate all straggling suckers.

Taking the crop. "The fruit of the different varieties comes in from the end of June or July till October or later. As it ripens it should be timely gathered for immediate use, because when fully ripe it will not keep above 2 or 3 days before it moulds or becomes maggoty, and unfit to be used." Abercrombie.

Var. β, *microphýllus* (Wallr. sched. p. 226.) leaves all ternate; stems suffruticose, bushy, humble.

Raspberry. Fl. May, June. Britain. Shrub 4 to 6 feet.

27 R. MENZIE′SII (Hook, fl. bor. amer. p. 179.) stems procumbent, terete, prickly, glabrous; branches short, pubescently tomentose, prickly; leaves pinnately trifoliate; leaflets broad, ovate, slightly lobed, unequally serrated, on short petioles, hairy above, paler and very hairy beneath; panicle terminal, few-flowered; pedicels and calyxes prickly; calycine segments ovate, acute, mucronate, tomentose, shorter than the corolla. ♄. H. Native of North-west America. Flowers red.

Menzies's Bramble. Shrub procumbent.

28 R. MACROPE′TALUS (Doug. mss. in Hook, fl. bor. amer. p. 178. t. 59.) hairy; stem tall, shrubby; branches angular, slender, elongated; petioles, peduncles, calyxes, and ribs of leaves beneath beset with bristly prickles; leaflets 3, ovate, acute, deeply-lobed, serrated, membranous, terminal one on a long petiole, but the lateral ones are on short petioles; stipulas lanceolate; peduncles 2-flowered; calycine segments long-acuminated, about equal in length to the petals, which are oblong and white. ♄. H. Native of North-west America, on the banks of rivers and in low woods in the valley of the Columbia. Flowers white. Habit of *R. spectábilis.*

Var. β, *myriacánthus* (Doug. mss.) leaflets obtuse.

Long-petalled Bramble. Shrub.

§ 2. *Leaves with 3-5 leaflets, disposed in a palmate manner.*

* *Shrubby. Stipulas petiolar, linear.*

29 R. LACINIA′TUS (Willd. hort. berol. t. 82,) stem nearly terete; prickles dilated at the base, compressed, recurved, strong; leaves with 3-5 leaflets; leaflets dissected and sharply serrated, puberulous beneath; flowers in loose panicles; calycine segments lanceolate, tomentose, and prickly, somewhat foliaceous and reflexed at the apex; petals obovate-cuneated, 3-lobed at the apex; akenia roundish, black. ♃. H. Native country unknown. Wats. dend. brit. 69. Flowers white or rose-coloured.

Jagged-leaved Bramble. Fl. June, Sept. Clt.? Sh. straggling.

30 R. CÆ'SIUS (Lin. spec. 706.) stems prostrate, terete, usually covered with glaucous, pruinose bloom; prickles slender, a little recurved; leaves with 3-5 ovate, doubly serrated leaflets, which are downy beneath; panicle simple; calycine segments ovate, acuminated; akenia thick, few, greyish. ♄. H. Native of Europe, about way sides and on the hedges of fields; plentiful in Britain. Smith, engl. bot. 826. and Weih. ex Ern. Meyer. Fl. dan. 1213. Panicle corymbose; petals blush-coloured. Fruit sweet, black, with a dew tinge or bloom.

Var. β, arvénsis (Wallr. sched. p. 228.) leaflets tomentose beneath; branches puberulous. R. pseùdo-cæ'sius, Weih. ex Ern. Meyer in litt.

Var. γ, grandiflòrus (Ser. in D. C. prod. 2. p. 559.) pubescent; petals and calycine segments elongated. Schleich. in litt.

Var. δ, parvifòlius (Wallr. sched. p. 228.) stems ascending, purplish, at length naked; leaflets small, deeply lobed; peduncles 1-3-flowered.

Grey Bramble or Dewberry. Fl. June, July. Britain. Sh. prostrate.

31 R. DUMETÒRUM (Weih. et Nees, rub. germ. ex Lindl. syn. brit. fl. p. 95.) stem procumbent, rather angular, rather hairy, with a slight coat of bloom; bristles and glands very few; prickles unequal, recurved; leaflets generally 5, the lateral ones sessile; flowers in corymbs; fruit black. ♄. H. Native of Germany and Britain, in hedges. R. nemoròsus, Willd.

Hedge Bramble. Fl. July, Aug. Britain. Sh. procumbent.

32 R. HI'RTUS (Waldst. et Kit. pl. hung. 2. p. 150. t. 141.) stem procumbent, tapering, densely hairy, covered with purple glands and setæ; prickles long, numerous, straight, spreading; leaflets 3-5, pedate, cordate, ovate, covered with shining hairs beneath; stipulas leafy; panicle corymbose, with red setæ; bracteas long, trifid. ♄. H. Native of Hungary and Britain, in hedges and woods.

Hairy Bramble. Fl. July, Aug. Britain. Sh. procumbent.

33 R. ELLI'PTICUS (Smith in Rees' cycl. vol. 30.) leaves trifoliate; leaflets oval, serrated, tomentose beneath; petioles and branchlets tomentose, covered with numerous bristles and prickles intermixed; stipulas linear-setaceous; flowers glomerate, racemosely corymbose. ♄. H. Native of Nipaul, at Hethaura, where it is called by the natives *toki swa*. R. flàvus, Hamilt. ex D. Don, prod. fl. nep. p. 234. Flowers white. Fruit yellow.

Elliptic-leafletted Bramble. Fl. July. Clt. 1827. Sh. trailing.

34 R. SULCA'TUS (Vest, ex Tratt. ros. 3. p. 42.) runners and stems costately furrowed and ringed, acute-angled, glabrous, branches pubescent, flattish on the sides; leaflets glabrous above, and pubescent beneath, the lower and larger ones cordate-ovate, of the flagella 5, ovate and acuminated, and of the floriferous branches obovate; prickles scattered, recurved; flowers racemose; sepals clothed with hoary tomentum on both surfaces, as well as the peduncles. ♄. H. Native of Styria. Fruit black, shining, composed of many akenia.

Furrowed-stemmed Bramble. Shrub straggling.

35 R. FOLIOLÒSUS (D. Don, prod. fl. nep. p. 256.) leaves with 3-5 leaflets; leaflets cuneate-obovate, serrated, clothed with white tomentum beneath; peduncles 3-flowered, and are as well as the petioles tomentose and prickly; calyx unarmed, densely tomentose; bracteoles simple; stems procumbent; prickles recurved. ♄. H. Native of Nipaul. R. microphýllus, D. Don, prod. fl. nep. p. 234. Very nearly allied to *R. parvifòlius*, but differs in the leaves of that plant being twice the size, more rounded and more profoundly serrated, in the peduncles being 1-flowered, in the calyxes being prickly, in the bracteoles being tripartite, and in the stem being erect.

Leafy Bramble. Fl. June, July. Clt. 1818. Sh. proc.

36 R. PUBE'SCENS (Vest, ex Tratt. ros. 3. p. 34.) branches furrowed, pubescent, prickly; leaves with 3-5 leaflets; leaflets obovate, acuminated, sharply and unequally serrated, clothed with white tomentum beneath; racemes simple; lower flowers solitary among the leaves. ♄. H. Native of Styria, among bushes on mount Plabutsch above Eggenberg.

Pubescent Bramble. Shrub straggling.

37 R. FLAGELLA'RIS (Willd. enum. 549.) stems terete, procumbent; prickles scattered, hooked, short; branches terete, glabrous; leaves trifoliate; leaflets glabrous, unequally serrated, intermediate one ovate and cuneated at the base, lateral ones rhomboid, with yellowish nerves. ♄. H., Native of North America. Flowers white.

Var. β, inérmis (D. C. prod. 2. p. 559.) stems pruinose, and are as well as the peduncles unarmed; leaflets tomentose beneath.

Runner Bramble. Fl. June, July. Clt. 1789. Sh. proc.

38 R. CORYLIFÒLIUS (Smith, fl. brit. p. 542. engl. bot. t. 827.) stem shrubby, angular; prickles straightish; leaves with 3-5 leaflets; leaflets roundish, cordate, firm, doubly serrated, pilose beneath; panicle nearly simple; calycine segments ovate, acuminated, at length reflexed. ♄. H. Native of Europe, in hedges and woods; plentiful in some parts of Britain. Flowers white. Akenia purplish blue, large. R. nemoròsus, Heyne ex Spreng. et Goldb.

Var. β, cànus (Wallr. sched. p. 231.) leaflets all about the same size, roundish cordate, and clothed with hoary tomentum on both surfaces.

Var. γ, glandulòsus (Wallr. l. c.) stems, petioles, and peduncles glandular. R. glandulòsus, Spreng. ex Wallr. l. c.

Hazel-leaved Bramble. Fl. June, July. Britain. Sh. tr.

39 R. AGRE'STIS (Waldst. et Kit. pl. rar. hung. 3. p. 297. t. 268.) stems suffruticose, procumbent, rather angular; prickles straight, setaceous; leaflets 3-5, roundish, lobately toothed, unequally serrated, pilose above, and tomentose beneath; calyx clothed with hoary tomentum, and beset with glandular bristles. ♄. H. Native of Hungary and Transylvania, in neglected parts of fields. Flowers white. Perhaps only a variety of *R. corylifòlius*.

Field Bramble. Fl. June, July. Clt. 1820. Sh. trailing.

40 R. SPECTA'BILIS (Pursh, fl. amer. sept. 1. p. 348. t. 16.) stem shrubby, glabrous, unarmed; leaflets 3, ovate, acute, unequally and doubly serrated, pubescent beneath; peduncles terminal, 1-flowered, solitary; calycine segments oblong, acuminated, shorter than the corolla. ♄. H. Native of North America, on the banks of the Columbia river, and on the shore of the western coast. R. ribifòlius, Willd. herb. ex Stev. Flowers of a beautiful purple colour.

Showy Bramble. Shrub.

41 R. BOGOTE'NSIS (H. B. et Kunth, nov. gen. amer. 6. p. 220.) branches and petioles beset with glandular hairs and prickles, as well as the nerves of the leaves; leaflets 3, ovate, acute, deeply cordate at the base, serrated, pubescent above, and canescent beneath; peduncles axillary, few-flowered, panicled. ♄. G. Native of South America, near Santa Fe de Bogota, at the height of 4200 feet above the level of the sea. Fruit blackish purple, like those of *R. fruticòsus*.

Bogota Bramble. Shrub.

42 R. PLICA'TUS (Weih. et Nees. rub. germ. p. 15. t. 1.) stem erectish, angular, and prickly, glabrous; prickles rather conical, recurved, and rather compressed at the base; leaflets 5, smoothish above, and pubescent beneath; panicle nearly simple, corymbose; calycine segments ovate, acuminated, naked at the base, and at length reflexed; bracteas jagged. ♄. H. Native of Germany and Britain, in hedges and woods. Engl. bot. suppl. t. 2714. Flowers white. Akenia large, dark, shining.

Var. β, glabriùsculus (D. C. prod. 2. p. 560.). R. plicàtus γ, Weih. et Nees. l. c. R. corylifòlius, Hell. fl. wurceb. suppl. p. 16.

Plicàte-leaved Bramble. Fl. June, Sept. Brit. Sh. strag.

43 R. BI'FRONS (Vest, ex Tratt. ros. 3. p. 28.) stem obsoletely angled, flat, glabrous; flowering branches beset with villous pubescence; lower leaves with 5 obovate, coarsely toothed leaflets, upper ones with 3 roundish leaflets, all glabrous above, and clothed with white tomentum beneath; panicle cymose; sepals clothed with hoary tomentum on both surfaces. ♄. H. Native of Syria. Fruit black, usually large.

Two-fronted Bramble. Shrub trailing.

44 R. AFFI'NIS (Weih. et Nees. rub. germ. p. 22. t. 3. and 36.) stems recurved, angular, prickly, and glabrous; prickles strong, recurved; leaves with 3 or 5 leaflets; leaflets ovate, cordate, cuspidate, sharply serrated, flat at the base, but somewhat undulated towards the apex, clothed with tomentum beneath; panicle compound, with the branches cymose; calycine segments ovate, acuminated, naked on the outside, reflexed. ♄. H. Native of Germany and Britain, in hedges. Flowers white. Akenia thick, bluish black.

Var. β, *bracteòsus* (D. C. prod. 2. p. 560.) bracteas broad, undivided. R. affinis γ et ε, Weih. et Nees. l.c. t. 36.

Allied Bramble. Fl. June, Sept. *Britain.* Sh. straggling.

45 R. FLORIBU'NDUS (H. B. et Kunth, nov. gen. amer. 6. p. 219. t. 557.) branches and petioles villously tomentose, and are as well as the nerves prickly beneath; upper leaves with 3 leaflets, and the lower ones with 5 leaflets; leaflets on long petiolules, elliptic-oblong, sharply serrated, clothed with adpressed pubescence on both surfaces; panicle terminal, branched, ♄. G. Native of South America, on the Andes about Loxa in Quito, at the height of 2100 or 5400 feet above the level of the sea. Petals white or rose-coloured, exceeding the calyx. Fruit like that of *R. fruticòsus.*

Bundle-flowered Bramble. Shrub straggling.

46 R. ULMIFÒLIUS (Schott. in isis. 1818. fasc. 5. p. 821. and Link. enum. 2. p. 61.) stems decumbent, very prickly; leaves with 3 or 5 leaflets; leaflets oval, rather cordate, acutely and doubly crenated, tomentose beneath and unarmed. ♄. H. Native of Gibraltar, on the mountains. Branches red. Flowers beautiful rose-coloured.

Elm-leaved Bramble. Fl. June, Sept. Clt. 1823. Sh. tr.

47 R. LINKIA'NUS (Ser. in D. C. prod. 2. p. 560.) stems prickly; leaves with 3 or 5 leaflets; leaflets unequal, ovate, acuminated, serrated, clothed with hoary tomentum beneath; flowers panicled. ♄. H. Native country unknown. R. paniculàtus, Schlecht. ex Link. enum. 2. p. 61. and Tratt. ros. 3. p. 92. but not of Smith. Flowers double, white.

Link's Bramble. Fl. June, July. Clt. 1821. Sh. trailing.

48 R. A'LBICANS (Kit. ex Tratt. ros. 3. p. 92.) leaflets 5, ovate, cordate, lateral ones almost sessile, all clothed with white tomentum beneath; stems angular, prickly; prickles recurved; petioles and peduncles scabrous from glands. ♄. H. Native of Hungary, in bushy places. Allied to *R. fruticòsus* or *R. tomentòsus.* Flowers white.

Whitish-leaved Bramble. Shrub trailing.

49 R. NUBÍGENUS (H. B. et Kunth, nov. gen. amer. 6. p. 220.) branches and petioles villous, and are prickly as well as the nerves of the leaves; leaflets beset with adpressed pili above, but clothed with canescent pubescence beneath; panicles terminal, nearly simple; calyxes prickly; fruit clothed with silky pili. ♄. H. Native of the Andes, about Quito, at Paramo de Puntas, at the height of 5100 feet above the level of the sea.

Cloud-born Bramble. Shrub straggling.

50 R. FRUTICÒSUS (Lin. spec. 707.) stems straggling, arched, angular, and rather tomentose; prickles recurved; leaves with 3 or 5 leaflets; leaflets petiolate, ovate-oblong, acute, glabrous above, greyish tomentose beneath; panicle decompound, narrow, and straight; calycine segments reflexed and unarmed. ♄. H. Native of Europe, in hedges and woods and by way-sides and in commons; plentiful in Britain. Smith, engl. bot. 826. Weih. et Nees, rub. germ. p. 25. t. 7. Flowers pinkish or white. Fruit dark purple, with a mawkish taste. The *bramble* may be useful in thickening hedges of white-thorn or briars, being of very quick growth. The green twigs will dye wool and silk black. Silkworms will eat the leaves; they are astringent, and a decoction of them may be used in gargarisms.

Var. β, *pompònius* (D. C. prod. 2. p. 561.) flowers semi-double; leaves pale green; leaflets obovate. R. fruticòsus, var. δ, Weih. et Nees. l. c.

Var. γ, *leucocárpus.* Fruit white.

Var. δ, *inérmis:* stem unarmed.

Var. ε, *cóncolor* (Wallr. sched. p. 233.) leaves pubescent beneath, the same colour on both surfaces. Native of Germany.

Var. ζ, *glandulòsus* (Wallr. sched. p. 233.) stems, petioles, and peduncles glandular. Native of Germany.

Shrubby or Common Bramble. Fl. June, Aug. Britain. Shrub straggling.

51 R. FAGIFÒLIUS (Schlecht. et Cham. in Linnæa. vol. 5. p. 571.) floral branches unarmed, angular, pubescent; leaflets 3-5, elliptic, acuminated, obtuse at the base, glabrous and shining above, but opaque beneath and puberulous on the nerves, sharply serrated; panicle large, terminal, clothed with silky tomentum. ♄. C. Native of Mexico, among bushes at Passantla. Flowers small, white.

Beech-leaved Bramble. Shrub.

52 R. ABRU'PTUS (Lindl. syn. brit. fl. p. 92.) stems arched, strong, angular, very glaucous, with very broad, equal, hooked prickles; leaflets 3 to 5, small, distant, undulated, shining, obovate, truncate, with an inflexed, cuspidate point, simply serrated, veiny, hoary beneath; panicles long, downy, armed with strong hooked prickles; the branches spreading and corymbose. ♄. H. Native of Scotland.

Abrupt-leaved Bramble. Fl. July, Aug. Scotland. Shrub straggling.

53 R. TOMENTÒSUS (Weih. et Nees. rub. germ. p. 27. t. 8.) stems erect, angular, prickly, glabrous; leaves with 3 or 5 leaflets; leaflets on short petiolules, obovate-cuneated, clothed with hoary pubescence above and white tomentum beneath; panicle compound, narrow, spreading; calycine segments nearly unarmed, reflexed. ♄. H. Native of Europe, in dry places. R. Thuillièri, Poir. dict. suppl. 4. p. 694. Flowers white or pink.

Var. α, *acutè-serràtus* (D. C. prod. 2. p. 561.) serratures of leaves serrated, approximate, and acute. R. tomentòsus, var. α, Weih. et Nees. l. c.

Var. β, *latè-serràtus* (D. C. l. c.) serratures of leaves remote and coarse, nearly simple. R. tomentòsus, var. β, Weih. et Nees. l. c.

Tomentose Bramble. Fl. June, Sept. Clt. 1818. Shrub.

54 R. SUBERE'CTUS (Anders. in Lin. trans. 11. p. 218. t. 16. Smith, fl. engl. bot. 2572.) smoothish; stem angular, ascending; branches terete; prickles deflexed; leaves with usually 3-5 or 7 ovate, cordate, pointed leaflets, which are minutely hairy beneath; upper leaves with only 3 leaflets; flowers in loose panicles; calycine segments ovate, lanceolate, acuminated, slightly hairy, at length reflexed. ♄. H. Native of Scotland, on the banks of Lochness, Highlands of Aberdeen and Perthshire; hills of Forfarshire; in England in Wales and Yorkshire; also of North America, between Lake Superior and

Lake Winepeg, and of Newfoundland. Tratt. ros. 3. p. 90. Flowers white. Fruit pale purple.

Erectish Bramble. Fl. June, Sept. Britain. Shrub 3 to 4 feet.

55 R. SA'NCTUS (Schreb. dec. p. 15. t. 8.) stems rather angular, pubescent; prickles recurved; leaves with usually 3 leaflets, rarely undivided; leaflets ovate, obtuse, serrated, tomentose beneath; flowers subpanicled, lateral ones few; calycine segments ovate, tomentose, short, reflexed. ♄. H. Native of the Levant. Desf. cor. 80. t. 61. R. obtusifòlius, Willd. enum. suppl. 38. ex Link. enum. 2. p. 61. Flowers pink.

Holy Bramble. Fl. June, July. Clt. 1823. Sh. straggling.

56 R. VELUTÌNUS (Vest, ex Tratt. ros. 3. p. 47.) stem prickly; prickles rather large, compressed, and rather recurved; leaves trifoliate; lateral leaflets ovate, terminal one obovate, acuminated, and sharply, deeply, and doubly serrated; floral leaves glabrous above, but clothed with hoary tomentum beneath; racemes compound; petals orbicular, on long claws. ♄. H. Native of Styria.

Velvety Bramble. Shrub straggling.

57 R. HOLOSERI'CEUS (Vest, ex Tratt. ros. 3. p. 48.) stem and branches terete and simple; leaflets for the most part obovate, sharply and unequally toothed, clothed with hoary tomentum beneath; peduncles very prickly; calyxes prickly; petals roundish, on very short claws. ♄. H. Native of Styria, not far from Greece, according to Vest.

Whole-silky Bramble. Shrub.

58 R. APPENDICULA'TUS (Tratt. ros. 3. p. 31.) stems decumbent, angular, glabrous; prickles scattered, rather recurved, strong; floriferous branches pubescent; leaves trifoliate and many simple; leaflets different in shape, sharply and unequally serrated, plicate, pubescent beneath; racemes simple; calyx appendiculated. ♄. H. Native of Hungary. Said to be nearly related to *R. plicàtus.*

Appendiculate-calyxed Bramble. Shrub decumbent.

59 R. COCHINCHINE'NSIS (Tratt. ros. 3. p 97.) stems procumbent, prickly; leaves with 5 leaflets, which are clothed with yellowish tomentum beneath; racemes terminal; akenia small. ♄. G. Native of Cochin-china, in woods and in hedges. R. fruticòsus, Lour. cochin. p. 325. Flowers white or pink?

Cochin-china Bramble. Shrub procumbent.

60 R. CANE'SCENS (D. C. cat. hort. monsp. p. 139. and fl. fr. 5. p. 545.) stem shrubby, tall; petioles and peduncles tomentose and prickly; leaves with 3 or 5 leaflets; leaflets obovate-oblong, coarsely but sparingly toothed, clothed with white velvety down on both surfaces; flowers panicled; calyxes tomentose. ♄. H. Native of the alps of Piedmont. Flowers white.

Canescent Bramble. Fl. June, Sept. Clt. 1820. Sh. tall.

61 R. RÒSEUS (Poir. dict. 6. p. 237.) branches flexuous, glabrous, prickly; leaves trifoliate; leaflets ovate-lanceolate, crenulated, large, glabrous on both surfaces; stipulas oval, obtuse, large; flowers usually solitary, on long peduncles; petals smaller than the glabrous calyx; calycine segments lanceolate, acuminated. ♄. G. Native of Peru. Corolla rose-coloured.

Rose-coloured-flowered Bramble. Shrub.

62 R. GLABRA'TUS (H. B. et Kunth, nov. gen. amer. 6. p. 221. t. 558.) shrubby, glabrous; branchlets, petioles, and nerves of leaves prickly; leaves trifoliate; leaflets oblong, acute, crenately serrated; flowers solitary; calyxes pubescent and prickly. ♄. G. Native of South America, in the high plains of De Los Pastos, near Guachucal, on the banks of Rio Blanco, at the height of 3060 feet. Petals fan-veined, red. Immature fruit pubescent.

Smoothish Bramble. Shrub.

63 R. ALTHÆÆFÒLIUS (Host, ex Tratt. ros. 3. p. 37.) stems angular, glabrous, with a few prickles; branchlets, petioles, and peduncles villously pubescent; leaves with 3 or 5 leaflets; upper leaflets rhomboid or obovate, lower ones ovate-deltoid, clothed with soft pubescence beneath, but sparingly above, deeply toothed and ciliated; racemes terminal, few-flowered; calyx tomentose, mucronate; petals obovate, larger than the calyx. ♄. H. Native of Austria, near Mauerbach.

Althæa-leaved Bramble. Shrub straggling.

64 R. COLLÌNUS (D. C. cat. hort. monsp. p. 139. and fl. fr. 5. p. 545.) stems shrubby, and are as well as the petioles prickly; leaves with usually 5 leaflets, rarely with 3 only; leaflets roundish, toothed, lateral ones almost sessile, white from tomentum beneath; flowers loosely panicled; panicle branched; calycine segments ovate, acuminated. ♄. H. Native on sterile hills about Montpelier. Nocca ex Balb. fl. ticin. t. 9.

Hill Bramble. Shrub straggling.

65 R. FASTIGIA'TUS (Weih. et Nees. rub. germ. p. 16. t. 2.) stems recurved, angular, glabrous, furnished with a few prickles; leaves with 3 or 5 leaflets, rarely with 7; leaflets ovate, cordate, lower ones ending in long points, sharply serrated, flat, glabrous above, but pubescent beneath; floriferous branches horizontal, simply panicled, fastigiate; calycine segments lanceolate, acuminated, glabrous, and unarmed on the outside, when mature reflexed. ♄. H. Native of Germany, Switzerland, and Britain. R. fruticòsus, Poll. pal. 2. p. 58. Flowers white. Fruit middle-sized. Carpels almost black, shining.

Fastigiate Bramble. Fl. June, Sept. Britain. Sh. strag.

66 R. CORDIFÒLIUS (Weih. et Nees. rub. germ. p. 21. t. 5.) stems recurved, angular, furrowed, prickly and glabrous; leaves with 3-5 leaflets; leaflets cordate-orbicular, cuspidate, clothed with canescent shining tomentum beneath; panicle compound, diffuse at the base; calycine segments spreading, prickly at the base. ♄. H. Native of Germany and Britain, in hedges. Flowers small, white. Fruit dark, covered with bloom.

Heart-leaved Bramble. Fl. June, Sept. Brit. Sh. straggl.

67 R. ME'NKII (Weih. ex Spreng. syst. 2. p. 528.) leaves with 3 or 5 leaflets; leaves ovate, rather cordate, clothed with tomentum beneath and on the calyxes; calycine segments at length reflexed. ♄. H. Native of Germany. R. velutinus, Vest, ex Spreng. l. c. Flowers white.

Menk's Bramble. Fl. June, Sept. Clt. 1816. Sh. straggl.

68 R. KÖHLE'RI (Weih. et Nees. rub. germ. p. 71. t. 25. Borr. engl. bot. suppl. 2605.) stems decumbent, rather angular, and furrowed, with scattered hairs, glands, and numerous hooked and straight unequal prickles; leaves of 5 stalked, ovate, elliptic, rather cordate pointed leaflets; panicle much divided, somewhat corymbose; calyx loosely reflexed. ♄. H. Native of Germany and England, in thickets and hedges. R. glandulòsus, Smith, engl. fl. 2. p. 403. Flowers pale pink; berries black.

Var. β, *fusco-àter* (Weih. et Nees. rub. germ. p. 72. t. 26.).

Var. γ, *pállidus* (Weih. et Nees. l. c. p. 75. t. 26.). R. affinis, Smith, engl. fl. 2. p. 405.

Kohler's Bramble. Fl. June, Jul. Britain. Sh. decumbent.

69 R. ECHINA'TUS (Lindl. syn. brit. fl. p. 94.) stems arched, angular, densely covered with glands and bristles, mixed with short, numerous, nearly straight prickles; leaflets 5, roundish, cordate, coarsely and unequally serrated, taper-pointed, green and velvety beneath; panicle spreading, prickly, and glandular, leafy at the base; the branches corymbose: bracteas 3-toothed and entire; prickles of the peduncle scattered, with very few setæ. ♄. H. Native of Britain, in hedges and woods.

Echinated Bramble. Fl. July, Aug. Brit. Sh. straggling.

70 R. RU'DIS (Weih. et Nees. rub. germ. ex. Lindl. p. 94.) stems somewhat arched, angular, slightly furrowed, without hairs, but with abundance of glands and bristles; prickles equal, recurved, scattered; leaflets 5, ovate or obovate, acuminated, coarsely and unequally serrated, between hoary and pubescent;

panicle open, rather downy, bristly, with corymbosely, racemose branches; bracteas lanceolate. trifid; prickles and setæ of the peduncles not numerous. ♄. H. Native of Germany and Britain, in hedges.

Rude Bramble. Fl. July, Aug. Britain. Shrub straggling.

71 R. Schlechtenda'lii (Weih. ex Spreng. syst. 2. p. 529.) leaves with 3 or 5 leaflets; leaflets oblong, acuminated, angular, serrated, pubescent beneath; prickles as well as branches deflexed; stems nearly terete, villous; racemes axillary, leafy; calyxes unarmed, reflexed. ♄. H. Native of Germany. Flowers white.

Schlechtendal's Bramble. Fl. Ju. Jul. Clt. 1823. Sh. proc.

72 R. tiliæfòlius (Weih. ex Spreng. syst. 2. p. 529.) leaves with 5 leaflets, disposed in a pedate manner; leaflets ovate, rather cordate, acute, serrulated, smoothish on both surfaces; prickles straightish; stems terete, glabrous; calyxes tomentose, spreading. ♄. H. Native of Germany. Flowers white.

Lime-tree-leaved Bramble. Fl. June, Sept. Clt. 1819. Sh. straggling.

73 R. macrophy'llus (Weih. et Nees, rub. germ. p. 35. t. 12.) stems arched, rather angular and furrowed, hairy, with thinly scattered small uniform prickles; leaves of 3 or 5 stalked elliptical or ovate leaflets; panicle repeatedly divided, somewhat corymbose; calyx at length reflexed. ♄. H. Native of Germany and England, in Sussex, in hedges and thickets. Borr. engl. bot. suppl. t. 2635. Flowers white. Fruit black.

Large-leaved Bramble. Fl. June, July. Britain. Sh. dec.

74 R. vulga'ris (Weih. et Nees, rub. germ. ex Lindl. syn. brit. fl. 93.) stem arched, angular, prickly, rather hairy; leaflets 5, elliptical or roundish, bluntly wedge-shaped or subcordate at the base, pubescent beneath; panicle compound, spreading, few-flowered. ♄. H. Native of Germany and of Britain, in North Wales in thickets, common.

Common Bramble. Fl. July, Aug. Wales. Sh. straggling.

75 R. Schleiche'ri (Weih. ex Spreng. syst. 2. p. 529. and Tratt. ros. 3. p. 22.) leaflets 5, oblong, acuminated, unequally serrated, hardly pubescent; stems angular, very prickly, and are as well as the branches villous; prickles recurved; panicle compound, with spreading branches, very prickly; calyxes prickly, reflexed. ♄. H. Native of Germany. Flowers white.

Schleicher's Bramble. Fl. Ju. Sept. Clt. 1818. Sh. trailing.

76 R. hórridus (Weih. ex Spreng. syst. 2. p. 529.) leaflets 5, roundish, serrated, wrinkled, villous beneath; stems and branches rather angular, and very prickly, glandular; racemes axillary; calyx adpressed when in fruit. ♄. H. Native of Germany. R. fèrox, Vest, et Tratt. ros. 3. p. 40. ex Spreng. l. c. Flowers white.

Horrid Bramble. Fl. June, Aug. Clt. 1818. Sh. prostrate.

77 R. leuco'stachys (Schlech. ex Smith, eng. fl. 2. p. 403. Borr. eng. bot. suppl. 2631.) stems arched, rather angular, and furrowed, hairy, with horizontal or deflexed, straight, uniform prickles; leaves of 3 or 5 stalked, roundish or ovate, rather cordate, flattish leaflets; panicle elongated, slender, its branches but little divided; calyx reflexed. ♄. H. Native of England, in hedges; Hampshire and Essex. Flowers red. Fruit large, black.

White-spiked Bramble. Fl. June, July. Britain. Shrub decumbent.

78 R. diversifòlius (Lindl. syn. brit. fl. p. 93.) stem arched, angular, hairy, as well as the scattered straight prickles; leaflets 3, orbicular, cordate, acute, wrinkled, equally serrated, velvety, and rather hoary beneath; panicle villous, contracted, with corymbose branches, and roundish entire or 3-lobed leaves at the base. ♄. S. Native of Britain, in hedges and thickets.

Diverse-leaved Bramble. Fl. July, Aug. Britain. Shrub straggling.

79 R. di'scolor (Weih. et Nees, rub. germ. ex Lindl. syn. fl. brit. p. 93.) stem arched, angular, prickly, silky, brownish purple; flowering branches hairy; leaflets 5, roundish, acuminated, finely and doubly serrated, naked above, hoary beneath, with reticulated veins; racemes dense, decompound. ♄. H. Native of Germany and Britain, in hedges and woods.

Two-coloured-leaved Bramble. Fl. July, Aug. Britain. Sh. straggling.

80 R. rhamnifòlius (Weih. in Nees, rub. germ. p. 22. t. 6.) stems arched, obsoletely angular, furrowed, with horizontal or deflexed, straight, uniform prickles; leaflets 5, stalked, nearly ovate or roundish, rather cordate, pointed, clothed with hoary tomentum beneath; panicle compound, spreading, with the branches divaricate; calyxes loosely reflexed, prickly at the base. ♄. H. Native of Germany and Britain, in hedges. Borr. engl. bot. suppl. 2604. R. fruticòsus, Spreng. grundz. p. 504. ex Weih. et Nees, l. c. R. rubricaùlis, Weih. ex Spreng. syst. 2. p. 528. R. Thuillèri, Poir. suppl. 4. p. 694. ex Tratt. ros. 3. p. 24. Flowers white, tinged with pink. Fruit black.

Buckthorn-leaved Bramble. Fl. June, July. Britain. Sh. straggling.

81 R. setòsus (Bigelow in litt. D. C. prod. 2. p. 563.) stem erect at the base, at length reclinate, hispid; branches bristly at the apex; leaves with 3-5 leaflets, on long petioles; leaflets obovate-cuneiform, simply serrated, glabrous, and the same colour on both surfaces; stipulas spatulate-linear; flowers racemose; peduncles filiform; calycine segments lanceolate, tomentose, and bristly; petals obovate, cuneated, longer than the calyx. ♄. H. Native of North America, about Montreal.

Bristly Bramble. Shrub.

82 R. ni'tidus (Weih. et Nees, rub. germ. 17. t. 4. ex syn. D. C.) stems shrubby, spreading, angular, prickly, and glabrous; prickles short, dilated at the base, and straightish; leaflets 3-5, ovate, acute, flat, glabrous above and shining, but pubescent beneath; panicle compound; calycine segments ovate, acuminated, reflexed, prickly at the base. ♄. H. Native of Germany and Britain, in thickets. Flowers red or white. Akenia small, black.

Shining-leaved Bramble. Fl. Ju. Sept. Britain. Sh. trailing.

83 R. carpinifòlius (Weih. et Nees, rub. germ. p. 36. t. 13.) stem decumbent or arched, rather angular and furrowed, hairy, with numerous deflexed and uniform prickles; leaves of 5 stalked, ovate, pointed, plicate, doubly serrated leaflets, pale beneath; panicle compound, hairy, its branches ascending and corymbous. ♄. H. Native of Germany and Britain, in Lancashire, Cheshire, North Wales. Borr. in engl. bot. suppl. t. 2664. Flowers pink. Fruit black, of few carpels.

Hornbeam-leaved Bramble. Fl. June, July. Britain. Sh. decumbent.

84 R. elli'pticus (Smith in Rees' cycl. vol. 30.) stems angular, shrubby, prickly, and villous; leaves trifoliate or simple; leaflets elliptic, toothed, clothed with soft white tomentum beneath; flowers glomerate, numerous, racemosely corymbose; nerves of leaves thick, parallel; calycine segments shorter than the corolla; akenia yellow, numerous. ♄. H. Native of Nipaul, where it is called *Toko-swa*. R. flàvus, Hamilt. mss. ex D. Don, prod. fl. nep. p. 234. Petioles and branchlets tomentose, intermixed with numerous bristles and prickles. Stipulas linear, setaceous. Flowers white.

Elliptic-leaved Bramble. Clt. 1827. Sh. trailing.

85 R. alpe'stris (Blum. bijdr. 1108.) leaflets 3 or 5, lateral ones the smallest, sessile, ovate-lanceolate, doubly serrated above the base, prickly on the middle nerve beneath, and strigosely pubescent on the veins; branches terete, beset with glandular pili, along with scattered recurved prickles; stipulas linear-lanceolate, rather cut; peduncles axillary or terminal, few-flowered;

calycine segments ovate, acuminated, setaceously jagged. ♄. S. Native of Java, on the mountains.

Alp Bramble. Shrub.

86 R. LINEA'TUS (Herb. Reinwdt. ex Blum. bijdr. 1108.) leaflets 3-5, oblong-lanceolate, acuminated, setaceously-serrated, lined from the veins, which are silky pubescent beneath; branches terete, tomentose; prickles scattered, minute; stipulas lanceolate, acuminated; flowers cymose, axillary, and terminal; calycine segments ovate, acuminated, clothed with white tomentum. ♄. S. Native of Java, on the higher mountains.

Lined-leaved Bramble. Shrub.

87 R. Thunbe'rgii (Blum. bijdr. 1109.) leaves trifoliate, terminal one a little 3-lobed; leaflets roundish, deeply toothed above the base, pubescent above, and clothed with white tomentum beneath; branches angular, subtomentose; prickles scattered, recurved; stipulas awl-shaped; pedicels axillary and terminal, prickly, 3-flowered at the apex; calycine segments ovate, acuminated, reflexed, densely clothed with tomentum, equal in length to the petals. ♄. H. Native of Japan. Like R. tomentòsus, Willd.

Thunberg's Bramble. Shrub.

88 R. Sello'i (Cham. et Schlecht. in Linnæa. 2. p. 15.) sterile branches pentagonal, finely pubescent: fertile ones terete, and tomentose, and are prickly, as well as the petioles and nerves of the leaves; prickles hooked; leaves of 5 leaflets, those of the fertile branches trifoliate, the same colour on both surfaces, rather pilose above, and somewhat velvety beneath; leaflets roundish-oval, cordate, ending in a short acumen; stipulas very narrow, short; panicle elongated, raceme-formed, terminal; calycine segments ovate, acuminated, clothed with hoary tomentum on both surfaces, shorter than the petals, when in fruit reflexed. ♄. S. Native of Brazil, in the provinces of Monte Video and Rio Grande do Sul. Fruit edible.

Sello's Bramble. Shrub.

89 R. Urticæfòlius (Poir. dict. 6. p. 246.) branches angular, rather compressed, bristly; prickles few, straightish, small; leaves trifoliate, upper ones undivided, clothed with silky tomentum on both surfaces; leaves ovate, cordate, elongated; branches of panicle very hairy; calyx white, hardly shorter than the petals. ♄. G. Native of Peru.

Nettle-leaved Bramble. Shrub.

90 R. Imperia'lis (Cham. et Schlecht. in Linnæa. vol. 2. p. 13.) sterile branches pentagonal, glabrous, fertile ones pubescent at the apex; both prickly, as well as the petioles, peduncles, and nerves of leaves; prickles strong, hooked, but those on the racemes are minute; leaves of 3 or 5 leaflets; leaflets ovate, acuminated, petiolate, finely serrated, green and puberulous on the under surface, but only on the nerves and veins above; stipulas lanceolate, mucronate, pubescent; calycine segments lanceolate, clothed with hoary tomentum on both surfaces, longer than the petals, when in fruit reflexed. ♄. S. Native of Brazil, on the Island of St. Catharine. Fruit eatable.

Imperial Bramble. Shrub.

91 R. ARGU'TUS (Link, enum. 2. p. 60.) stems prickly and hairy; prickles straightish, small; leaflets 3-5, oblong, acuminated, sharply and doubly serrated, somewhat attenuated at the base, and pubescent beneath; flowers panicled. ♄. H. Native of North America. Petals white, attenuated at the base.

Sharp-serrated Bramble. Fl. June, July. Clt. 1823. Shrub straggling.

92 R. HETEROPHY'LLUS (Willd. enum. suppl. p. 38. Spreng. grundz. p. 507.) stem pubescent, rather angular; prickles few, recurved; leaves trifoliate, smoothish; leaflets deeply serrated; calycine segments tomentose, reflexed. ♄. H. Native of Japan.

Variable-leaved Bramble. Shrub straggling.

93 R. CUNEIFÒLIUS (Pursh, fl. amer. sept. 1. p. 347.) branches, petioles, and peduncles tomentose; prickles scattered, recurved; leaflets 3-5, permanent; leaflets ovate-cuneated, plicate, unequally toothed above, with entire, revolute margins, clothed with tomentum beneath; flowers terminal, panicled; pedicels divaricate, nakedish. ♄. H. Native of Carolina and New York. R. parvifòlius, Walt. fl. car. 149. Tratt. ros. 3. p. 49. Flowers white.

Wedge-leafletted Bramble. Fl. June, July. Clt. 1811. Sh. tr.

94 R. SANGUINOLE'NTUS (Link, enum. 2. p. 61.) stems beset with numerous prickles and strigæ; leaflets 5, lanceolate, acuminated, serrulated, glabrous; peduncles axillary, few-flowered. ♄. S. Native of the Isle of France. Branches, base of prickles, strigæ, nerves, and spots of leaves red. Flowers white.

Bloody-veined Bramble. Clt. 1824. Sh. 3 to 4 feet.

95 R. VILLÒSUS (Ait. hort. kew. ed. 1. vol. 2. p. 210.) prickly; stem glabrous, angular; young branches, leaves, and racemes clothed with glandular pubescence; prickles scattered, small, recurved; leaflets 3-5; racemes elongated, loose, simple, many-flowered; pedicels long, slender, bracteate at the base; segments of calyx mucronate, tomentose. ♄. H. Native of North America, in the United States; also in Canada, near Montreal, and about Lake Huron. Flowers white.

Var. α, glandulòsus (Ser. in D. C. prod. 2. p. 563.) stem, peduncles, and petioles villous and glandular. R. glandulòsus, Bell. app. fl. pedem. p. 24. R. hybridus, Vill. delph. 3. p. 559.

Var. β, eglandulòsus (Ser. in D. C. l. c.) stem, peduncles, and petioles more or less glandless; leaflets ovate-lanceolate, clothed with hoary tomentum beneath. R. glandulòsus β, Bertol. in litt.

Var. γ, intermèdius (Ser. l. c.) stem, peduncles, and petioles villous and glandular; leaflets ovate-roundish, clothed with hoary tomentum beneath. R. glandulòsus β intermèdius, D. C. fl. fr. 5. p. 544.

Var. δ, monophýllus (Wallr. sched. p. 230.) leaves all simple, exactly cordate, rather tomentose beneath; peduncles corymbose.

Villous Bramble. Fl. June, Aug. Clt. 1777. Shrub.

96 R. Sprenge'lii (Weih. ex Link, enum. 2. p. 62. and Spreng. syst. 2. p. 528.) leaflets 3-5, ovate-oblong, acuminated, unequally toothed, pilose beneath; prickles scattered, slender, reflexed; stems prostrate, terete, villous; panicle corymbose; sepals spreading, unarmed, hairy. ♄. H. Native of Europe. R. vulpìnus, Desf. cat. hort. pars. p. 205. R. villòsus var. β, Vulpìnus, Ser. in D. C. prod. 2. p. 564. Flowers pink.

Sprengel's Bramble. Fl Ju. Sept. Clt. 1823. Sh. straggling.

97 R. Jamaice'nsis (Lin. mant. 75.) stem puberulous, very hispid; prickles recurved, scattered; leaflets 3, puberulous above, and villously tomentose beneath, ovate, long-acuminated, and sharply serrated; flowers numerous, panicled; calycine segments ovate, somewhat mucronate, clothed with white tomentum. ♄. S. Native of Jamaica. Sloan. jam. 2. p. 213. f. 1. Tratt. ros. 3. p. 51. Flowers white, small. Fruit small.

Jamaica Bramble. Sh. 4 to 6 feet.

98 R. HI'SPIDUS (Lin. spec. 706.) stems sarmentose, procumbent, terete, very hispid; prickles recurved, and are scattered as well as the bristles; leaflets 3-5, unequally toothed, cuneated at the base, smoothish; pedicels solitary, elongated; petals obovate; carpels black. ♄. H. Native of Canada.

Hispid Bramble. Fl. Aug. Clt. 1759. Sh. proc.

99 R. TRIVIA'LIS (Michx. fl. bor. amer. 1. p. 296.) stems procumbent, sarmentose, prickly; branches nearly unarmed; leaves trifoliate; leaflets oval, acute, unequally serrated, glabrous; stipulas linear, acuminated; flowers axillary, pedunculate, solitary, and terminal, racemose; calycine segments ovate, acute, clothed with white tomentum, one-half shorter than the calyx. ♄. H. Native of North America, Canada, near Quebec, and of New-

foundland. R. procúmbens, Muhl.? R. flagellàris, Willd.? Flowers white.

Trivial Bramble. Fl. July. Pl. proc.

100 R. ENSLE'NII (Tratt. ros. 3. p. 63.) stem slender, sarmentose, procumbent, terete, prickly, glabrous; leaves trifoliate; leaflets deeply and unequally toothed or serrated, acute, narrow at the base, smoothish, and ciliated; flowers solitary, on long peduncles; petals narrow, elliptic, unguiculate. ♄. H. Native of North America.

Enslen's Bramble. Sh. prostrate.

101 R. LANUGINÒSUS (Stev. obs. ined. in herb. Willd. D. C. prod. 2. p. 564.) floriferous stems a foot high; petioles and peduncles tomentose; prickles few, straight; leaves trifoliate; leaflets ovate, cordate, acuminated, sharply and mucronately toothed, villous on both surfaces; panicles terminal, many-flowered; calycine segments erect, villous on the outside, and clothed with white tomentum inside, ending in a short awn each; bracteas subulate. ♄. H. Native of Caucasus and Siberia.

Woolly Bramble. Fl. July, Aug. Clt. 1820. Sh. pros.

102 R. PARVIFÒLIUS (Lin. spec. 707. but not of Walt.) stems terete, tomentose; prickles recurved, scattered; leaves trifoliate; leaflets clothed with white tomentum beneath; flowers racemose; calycine segments tomentose, ovate, short; fruit globose. ♄. S. Native of the East Indies. Ker. bot. reg. t. 496. Thunb. fl. jap. 215. R. Mollúcus, Rumph. amb. 5. p. 88. t. 47. f. 1. Flowers red. Fruit red.

Small-leaved Bramble. Fl. Aug. Sept. Clt. 1818. Sh. 2 to 3 feet.

103 R. CANADE'NSIS (Lin. spec. 707. exclusive of the synonyme of Mill. fig.) stem purple, unarmed; leaflets 3-5-10, lanceolate, sharply serrated, naked on both surfaces; stipulas linear. ♄. H. Native from Canada to Virginia, among rocks in woods. Cycláctis montàna, Rafin. in Sill. journ. 1. p. 377. Flowers white.

Canadian Bramble. Fl. June, July. Clt. 1811. Sh. pros.

104 R. NU'TANS (Wall. in litt. ex herb. Lin. soc.) stem, petioles, and calyxes beset with brown bristles; leaves trifoliate, beset with bristles on the nerves beneath; leaflets cuneated, slightly lobed, rather pilose, sharply serrated; stipulas broad, membranous; sepals ovate, elliptic, cuspidate; peduncles 1-flowered, axillary, and terminal; flowers drooping; petals obovate, longer than the stamens, but about equal in length to the calyx. ♃. H. Native of Kamaon. Flowers apparently purple, large. Perhaps a species of *Dalibárda.*

Nodding-flowered Bramble. Sh. pros.

105 R. DIGITA'TUS (Spreng. pl. mon. cogn. pug. 1. p. 34. no. 62.) prickles recurved; leaves palmately pinnate, pilose; leaflets ovate, jagged; calyx tomentose. ♄. H. Native country unknown. Allied to *R. affinis.*

Digitate-leaved Bramble. Sh. trailing.

106 R. MONTA'NUS (Libert in Lejeune, fl. spa. 2. p. 317.) stem terete; prickles recurved; leaflets 3-5, acuminated, tomentose beneath; flowers panicled; peduncles 2-3-flowered; calycine segments tomentose. ♄. H. Native of Belgium, about Spa. Flowers white.

Mountain Bramble. Sh. trailing.

107 R. ARDUENNE'NSIS (Libert, l. c. 2. p. 317.) stem tetragonal; prickles recurved; leaflets 3-5, ovate-lanceolate, doubly serrated, tomentose beneath; panicle elongated; peduncles and calyxes elongated. ♄. H. Native of Belgium, about Spa. Flowers white.

Arduenn Bramble. Sh. trailing.

* * *Herbaceous. Stipulas ovate, rarely linear.*

108 R. SAXA'TILIS (Lin. spec. 708.) stem herbaceous, bluntly angular, bristly; leaves trifoliate, of the same colour on both surfaces, smoothish; leaflets ovate-rhomboid, deeply toothed, lateral ones sessile; stipulas oblong, broadish; flowers on short peduncles, either solitary or sub-corymbose; calycine segments ovate-lanceolate, rather tomentose, deflexed, equal in length to the corolla; carpels globose, few, red, pellucid, large. ♃. H. Native of Asia and Europe; plentiful in the north of England, Scotland, Wales, and Ireland, in shady places among stones. Smith, engl. bot. 2233. Plant sending out many long running barren stems, the flower-bearing stems about ½ foot high. Petals narrow, white. In some parts of Scotland they call the fruit *roebuck berries.* The Russians ferment them with honey, and extract a potent spirit from them.

Var. β, *Americànus* (Pers. ench. 2. p. 52.) leaflets lanceolate, acutish; peduncles elongated. ♃. H. Native of North America.

Var. γ, *spinulòsus* (Wallr. sched. p. 225. Jacq. hort. vind. 245.) R. Alpìnus hùmilis, Chabr. stirp. 109. f. 6.

Stone Bramble. Fl. June. Britain. Pl. creeping.

109 R. A'RCTICUS (Lin. spec. 708.) stems herbaceous, smooth, unarmed; leaves trifoliate, almost glabrous; leaflets obovate, obtuse, crenately serrated; stipulas ovate, very blunt; flowers solitary, terminal; calycine segments lanceolate-linear, downy, shorter than the corolla; petals emarginate. ♃. H. Native of Siberia and Canada; in Britain in the Isle of Mull. Smith, engl. bot. 1585. Oed. fl. dan. 488.—Lin. fl. lapp. t. 5. f. 2. Curt. bot. mag. 132. Root creeping. Flowers deep rose-coloured. Fruit large, purple or red, sweet-scented. Linnæus has accurately figured this species of *Bramble* in his Fl. Lapponica, out of gratitude, as he expresses himself, for the benefit he reaped from it in his Lapland journey; it having so frequently recruited his spirits when almost sinking with hunger and fatigue, by the vinous nectar of its berries. He informs us that the principal people in Norland make a syrup, a jelly, and a wine from these berries, which they partly consume themselves, and partly send to their friends at Stockholm, as a dainty of the rarest and most delicious kind; and he adds, of all the wild Swedish berries this holds the first rank.

Var. β, *subquinquélobus* (Ser. mss. in D. C. prod. 2. p. 265.) leaflets 3, lateral ones bipartite. Native of the Ural mountains.

Arctic Bramble or Dwarf Crimson Bramble. Fl. June, July. Britain. Pl. ½ foot.

110 R. ACAU'LIS (Mich. fl. bor. amer. 1. p. 298.) stem very short, unarmed, 1-flowered, herbaceous; radical leaves trifoliate; leaflets ovate-trapeziform, coarsely serrated; stipulas oblong, acute; peduncles puberulous; calycine segments lanceolate-linear, acutish, much shorter than the petals, which are oblong; filaments dilated; styles rather club-shaped, approximate. ♃. H. Native of North America, in swamps. R. pistillàtus, Smith, exot. bot. 2. p. 53. t. 86. Flowers rose-coloured. Root creeping.

Stemless Bramble. Fl. Ju. July. Clt. 1802. Pl. ½ foot.

111 R. MUCRONA'TUS (Ser. mss. in D. C. prod. 2. p. 565.) stem herbaceous, pilose, unarmed; leaves trifoliate, the same colour on both surfaces, pilose; leaflets rhomboid, acutely serrated; stipulas ovate-lanceolate, acuminated; flowers terminal, twin; calycine segments lanceolate, acute, puberulous, shorter than the corolla. ♃. H. Native of Newfoundland, Le Clerc. Flowers red.

Mucronate Bramble. Pl. ¼ to ½ foot.

112 R. TRIFLÒRUS (Richards in Frankl. 1st journ. ed. 2. append. p. 19. Hook, fl. bor. amer. 181. t. 62.) unarmed, erect, herbaceous; stolons suffruticose; leaflets 3, rarely 5, acutely serrated; stipulas obovate; panicle usually 3-flowered, glandular. ♃. H. Native of North America, throughout Canada from Lake Huron to the Saskatchawan, and on the shores of Hudson's Bay near York Factory. R. saxátilis β Canadénsis,

Michx. fl. bor. amer. 1. p. 298. R. ægopodioìdes, Ser. in D. C. prod. 2. p. 565. R. Canadénsis, Torrey, fl. unit. st. 1. p. 488. ? R. saxátilis, Bigelow in litt. Petals white. Fruit red.

Three-flowered Bramble. Fl. June, July. Clt. 1825. Pl. tr.

113 R. PEDA'TUS (Smith, icon. ined. t. 63. Hook, fl. bor. amer. p. 181. t. 61.) stems filiform, creeping, usually simple; leaflets 5, obovate, deeply serrated, smoothish; peduncles axillary, solitary, 1-flowered; segments of the calyx lanceolate, cut, about equal in length to the corolla; carpels few, large. ♃. H. Native of the north-west coast of America. Dalibárda pedàta, Steph. mem. soc. mosc. p. 92. Comarópsis pedàta, D. C. prod. 2. p. 555. Petals white. Fruit pulpy, red.

Pedate-leaved Bramble. Pl. proc.

114 R. OBOVA'TUS (Tratt. ros. 3. p. 94. Hook. fl. bor. amer. p. 180. t. 60.) stems weak, long, procumbent, beset with numerous bristly prickles; leaflets 3-5, evergreen, on short petioles, or almost sessile, obovate, coarsely and unequally serrated; flowers terminal, panicled, small; segments of the calyx ovate, acute, not half so long as the petals. ♃. H. Native of North America, from New York to Carolina, and about Montreal, in stagnant bogs. R. obovàlis, Michx. fl. bor. amer. 1. p. 298. R. sempervírens, Bigelow, fl. bost. ed. 2. p. 201. Petals obovate, white. Fruit small, black, and bitter, according to Bigelow.

Obovate-leafletted Bramble. Pl. proc.

115 R. NIVA'LIS (Dougl. mss. Hook. fl. bor. amer. p. 189.) plant small, frutescent; leaves cordate, 3-lobed, acutely toothed, glabrous; nerves and petioles beset with recurved prickles, stipulas ovate, acute; peduncles short, 2-flowered; calycine segments lanceolate, pilose. ♃. H. Native of North America, on the high snowy ridges of the Rocky Mountains.

Snow Bramble. Pl. ½ foot.

§ 3. *Leaves simple, lobed.*

* *Herbaceous plants.*

116 R. PARVIFLÒRUS (Nutt. gen. amer. 1. p. 308.) stem suffruticose, unarmed; leaves palmately lobed; peduncles usually 3-flowered; calycine segments ovate, acuminated, villous; petals ovate, oblong, shorter than the calyx. ♃. H. Native of the Island of Michillimakimak, in Lake Huron. Flowers small, white.

Small-flowered Bramble. Pl.

117 R. TRI'FIDUS (Thunb. fl. jap. 217.) stem herbaceous, flexuous, erect, glabrous, unarmed; leaves cordate, 3-lobed, glabrous; lobes cut, unequally serrated; flowers almost solitary; peduncles and petioles villous; calyx white from tomentum. ♃. H. Native of Japan. Fruit red, with a grateful taste.

Trifid-leaved Bramble. Pl. 1 foot ?

118 R. STELLA'TUS (Smith, icon. ined. fasc. 3. t. 64.) stem simple, 1-flowered, villous, unarmed; leaves nearly reniform, flat, serrated, 3-lobed; stipulas ovate, obtuse; calycine segments linear, elongated, deflexed; petals spatulate, distant, longer than the calyx. ♃. H. Native of North America and the Island of Unalaschka. R. chamæmòrus, Fisch. in litt. Flowers purple. Root creeping.

Starry Bramble. Fl. June, July. Clt. 1824. Pl. ½ foot.

119 R. CHAMÆMÒRUS (Lin. spec. 708.) stem simple, 1-flowered, puberulous, unarmed; leaves somewhat reniform, wrinkled, plicate, roundly lobed and toothed; stipulas oval, obtuse; flowers dioecious; calycine segments ovate, longer than the corolla; petals elliptical, rather incumbent; carpels nearly globose, large. ♃. H. Native of Europe, Siberia near Salair, and of North America; plentiful on the highest mountains of Scotland, north of England and Wales, in peat soil. Smith, engl. bot. 716. Oed. fl. dan. t. 1. Lin. fl. lapp. 208. t. 5. Root creeping. Flowers white. Fruit large, of a dull orange-colour, acid, mucilaginous, and pleasant to the taste. From their exalted situation they are called *cloud berries*, also *knot berries* or *knout berries* or *roe-buck berries*. The plant flowers in June soon after the snow is dissolved, and the berries are scarcely well ripened in August before the plant is again overwhelmed with its winter covering. The snow preserves the fruit, and is used by the Laplanders to keep it through the winter; for they, as well as the Scottish highlanders, esteem it one of their most grateful and useful fruits, especially on account of its long duration. Its taste is moderately acid and mucilaginous, with something of the flavour of tamarinds. They are held to be an excellent antiscorbutic. The Norwegians pack them up in wooden vessels, and send them to Stockholm, where they are served up in desserts, or made into tarts. The Laplanders bruise and eat them with the milk of the rein-deer. Neill observes, that they are the most grateful kind of fruit gathered by the Scotch Highlanders. On the sides and near the bases of the mountains, it may be collected for several months in succession. It is not cultivated without difficulty, and it seldom yields fruit in a garden. By crossing the flowers with those of the bramble or raspberry, and raising from the seeds so impregnated, in all probability this plant might become a valuable accession to the kitchen garden.

Dwarf-mulberry, Cloud-berry, or Mountain Bramble. Fl. June. Britain. Pl. ⅓ to ¾ foot.

120 R. FLÓRIDUS (Tratt. ros. 3. p. 73.) stems straight, rather angular, glabrous; prickles recurved; lateral branchlets clothed with glandular pubescence, and bearing the flowers; leaves on the branches trifoliate, the upper one simple, unequal; leaflets coarsely toothed, glabrous above, hoary beneath, and pubescent on the nerves; calyxes tomentose, reflexed. ♄. H. Native of North America. Flowers large, white.

Flowery Bramble. Pl. 1 foot.

121 R. CORIA'CEUS (Poir. dict. 6. p. 237.) stem herbaceous, compressed; prickles scattered; leaves coriaceous, glabrous, ovate-oblong, serrated; stipulas ovate, toothed; peduncles usually solitary, terminal, hispid; calycine segments lanceolate, acuminated, large, glabrous; petals roundish, crenated at the apex, shorter than the calyx. ♃. S. Native of Peru. Flowers yellow ?

Coriaceous-leaved Bramble. Pl. ½ foot.

* * *Shrubs.*

122 R. INCI'SUS (Thunb. fl. jap. 217.) stem frutescent, erect prickly; prickles spreading; leaves cordate, serrated, glabrous; petioles prickly; peduncles axillary, capillary, glabrous, solitary; calyx glabrous on the outside, but clothed with white tomentum on the inside. ♄. H. Native of Japan.

Cut-leaved Bramble. Shrub.

123 R. ODORA'TUS (Lin. spec. 707.) stem erect, beset with glandular pili; leaves 5-lobed, unequally serrated, more or less glandular beneath; corymbs compound; calyx beset with glandular bristles, having the segments cuspidate, rather shorter than the petals; stipulas free, deciduous. ♄. H. Native of North America, in woods. Curt. bot. mag. t. 150. Mill. fig. t. 223. Flowers large, rose-coloured. Fruit red, not palatable.

Sweet-scented Bramble or Canadian Raspberry. Fl. Ju. Aug. Clt. 1700. Sh. 4 to 6 feet.

124 R. DELICIÒSUS (Torrey, in ann. lyc. 2. p. 196.) stem branched, unarmed; branches and petioles pubescent; leaves roundish-cordate, slightly 3-5-lobed, downy, wrinkled; bracteas lanceolate, unidentate; flowers terminal, subcorymbose; calycine segments ovate-oblong, acuminate, foliaceous at the apex. shorter than the petals. ♄. H. Native of North America. among the Rocky Mountains. Flowers purple.

Delicious Bramble. Sh. 4 to 6 feet.

125 R. Natka'nus (Moc. pl. nutk. with a figure. D. C. prod. 2. p. 566.) stem erect, flexuous, stoloniferous, beset with glandular pili at the apex, and nakedish at the base; leaves 5-lobed, unequally toothed; corymbs simple; calyx unarmed, with equal cuspidate segments; stipulas connate, permanent. ♄. H. Native on the north-west coast of America, in Queen Charlotte's Sound, in lat. 51°, Nootka Sound, at Cape Oxford, in lat 43°, from New California to Nutka Sound, and from the coast throughout in woody hills to the head-springs of the Columbia, in lat. 52°, and in mountain woods on the east side of the Rocky Mountains. Lindl. bot. reg. 1368. Flowers white. Fruit red, insipid.

Natka Bramble. Fl. June, July. Clt. 1826. Sh. 3 to 6 ft.

126 microphy'llus (Lin. fil. suppl. 263.) stem shrubby; branches terete, flexuous, glabrous; prickles scattered, recurved; leaves cordate, trifid, unequally toothed, glabrous, but with the veins pubescent beneath; middle lobe elongated, lateral ones emarginate at the apex on the outside, peduncles solitary; calyxes villous. ♄. H. Native of Japan. R. palmàtus, Thunb. fl. jap. 217.? Flowers white. Fruit yellow, esculent, and sapid. Branches purple.

Small-leaved Bramble. Shrub 3 to 4 feet.

127 R. trílobus (Moc. et Sesse, fl. mex. icon. ined. D. C. prod. 2. p. 566.) stem erect, branched, glabrous; branches, petioles, and peduncles hispid; leaves 3-lobed, unequally serrated, villous; lobes acute, serrated, lateral ones diverging, middle one the longest; stipulas and bracteas lanceolate, villous; flowers solitary at the tops of the branches; calycine segments ovate, concave, spreading, rather foliaceous, and spatulate at the apex, longer than the petals; carpels numerous, subglobose. ♄. G. Native of Mexico. Flowers large, white. Fruit purple.

Three-lobed-leaved Bramble. Shrub 3 to 4 feet.

128 R. vitifòlius (Cham. et Schlecht. in Linnæa. 2. p. 10.) shrubby; branches prickly, pruinose, puberulous; peduncles, calyxes, petioles, and nerves of leaves prickly; prickles weak, straightish, somewhat reversed; leaves 3-lobed, unequally serrated, smoothish; lobes acute, lateral ones diverging, middle one the longest; stipulas setaceous, hairy; flowers terminal, corymbose; calycine segments lanceolate, each ending in a long acumen, longer than the petals, which are obovate. ♄. H. Native of California. Resembles *R. trílobus.*

Vine-leaved Bramble. Shrub 3 to 4 feet.

129 R. refle'xus (Ker. bot. reg. 461.) branches terete, clothed with rufous tomentum; prickles small, scattered; leaves oblong, cordate, 3-5-lobed, densely clothed with tomentum beneath; middle lobe elongated; veins numerous, reticulated; stipulas and bracteas lunate and fringed; racemes few-flowered, nearly sessile, reflexed; calycine segments ovate, bluntish, equal in length to the corolla. ♄. G. Native of China. R. Mollucànus, Ait. epit. 373. but not of Lin. Flowers white.

Reflexed Bramble. Fl. July, Aug. Clt. 1817. Sh. straggl.

130 R. ursìnus (Cham. et Schlecht. in Linnæa. 2. p. 11.) branches terete, tomentose; petioles, nerves of leaves, peduncles and calyxes silky; prickles numerous, slender, subulate, straight; leaves of the fertile branches simple and ternate, doubly serrated, pilose above, but clothed with hoary tomentum beneath; leaflets ovate, middle one cordate and slightly lobed; stipulas membranous, linear; flowers panicled; calycine segments ovate, acuminated; acumen usually foliaceous; petals obovate. ♄. H. Native of California, at St. Francisco. Allied to *R. vitifòlius.*

Bear's Bramble. Shrub trailing.

131 R. Hamiltonia'nus (Ser. in D. C. prod. 2. p. 566.) leaves cordate, 5-lobed, serrated, beset with pustulæ above, but densely villous beneath; petioles and branchlets densely tomentose, intermixed with prickles; stipulas denticulated; flowers in axillary, sessile clusters, and terminal; calyx villous, longer than the petals. ♄. H. Native of Upper Nipaul, at Suembu, where it is called by the natives *Fogi Ayshala*, and *Cumbuta.* R. rugòsus, Hamilt. ex D. Don, prod. fl. nep. p. 234. Wall. pl. rar. asiat. 3. t. 234. Flowers white. Berries red. It differs from *R. Mollucànus*, in the leaves being flat and nakedish above, less deeply lobed, and in being tomentose beneath.

Hamilton's Bramble. Fl. July. Shrub straggling.

132 R. Mollucànus (Lin. spec. 707.) branches hairy; prickles recurved; leaves cordate, 3-lobed, unequally clothed with silky tomentum beneath: flowers racemose and axillary, pedunculate; stipulas jagged; calycine segments ovate, acute, deeply toothed, tomentose. ♄. S. Native of Amboyna and the Moluccas. Rumph. amb. 5. t. 47. f. 2. Petals white. A decumbent plant.

Var. β, *ochràceus* (Blum. bijdr. p. 1109.) leaves ochraceous beneath.

Molucca Bramble. Fl. July, Aug. Clt. 1810. Sh. dec.

133 R. rugòsus (Smith, in Rees' cyclop. vol. 30.) stem unarmed; branches prickly; calyxes and under surfaces of leaves clothed with brown tomentum; leaves wrinkled, somewhat 5-lobed; lobes rounded; stipulas villous, denticulated; bracteas oval; flowers racemose, axillary; calycine segments oval, mucronate, a little denticulated. ♄. S. Native of the East Indies. Corolla white, shorter than the calyx. Carpels red. Link. enum. 2. p. 62. Allied to *R. alceæfòlius.*

Wrinkled-leaved Bramble. Shrub straggling.

134 R. tiliàceus (Smith, in Rees' cycl. vol. 30.) stem and branches tomentose; prickles scattered; leaves roundish-ovate, slightly lobed, crenated, hoary beneath and smoothish above; racemes axillary: bracteas dissected, serrated, small; calycine segments lanceolate, villous, rather deflexed; petals spatulate. ♄. H. Native of Upper Nipaul. Flowers white. Leaves like those of *Tília álba.*

Lime-tree-leaved Bramble. Shrub.

135 R. cordifòlius (D. Don, prod. fl. nep. p. 233.) leaves cordate, acuminated, serrated, flat, woolly beneath and on the branches, and furnished with a few prickles; stipulas cut; flowers disposed in brachiate panicles; calycine segments ovate-lanceolate, acute, tomentose. ♄. H. Native of Nipaul. R. Mollucànus, Wall. in litt. Leaves nearly entire, never lobed, rusty beneath. Perhaps the same as *R. tiliàceus.*

Cordate-leaved Bramble. Shrub.

136 R. alceæfòlius (Poir. dict. 6. p. 247.) branches villous, somewhat tetragonal, prickly; prickles scattered, recurved; leaves roundish, cordate, palmately lobed, scabrous above, but tomentose beneath and prickly on the middle nerve, acutely toothed; bracteas dissected; cymes of flowers axillary and terminal, nearly sessile; calyx inflated, woolly, with the segments length of tube. ♄. S. Native of Java. Flowers white.

Mallow-leaved Bramble. Shrub.

137 R. Siebóldi (Blum. bijdr. 1110.) leaves roundish, cordate, acute, angular, unequally and sharply toothed, with the veins prickly on both sides, pale, and pubescent beneath; branches terete, tomentose; prickles dense, straight; stipulas setaceously jagged. ♄. G. Native of Java.

Siebold's Bramble. Shrub.

138 R. pubine'rvis (Blum. bijdr. 1110.) leaves cordate, acuminated, 3-5-cleft, doubly serrated, pubescent on the veins on both surfaces; branches terete, smooth; prickles scattered, straight; stipulas semilanceolate; peduncles usually solitary, 1-flowered; calycine segments ovate, acuminated, villous. ♄. G. Native of Japan. Like *R. microphýllus*, Lin.

Downy-nerved Bramble. Shrub.

139 R. glomera'tus (Blum. bijdr. 1111.) leaves cordate, acute, obsoletely 3-5-lobed, sharply denticulated, hairy on both

surfaces, prickly on the middle nerve beneath; branches terete, tomentose; prickles scattered, recurved; stipulas jagged; racemes terminal, drooping, prickly; flowers glomerate; calycine segments ovate, acute, clothed with silky pubescence, nearly entire. ♄. G. Native of Java, on Mount Gede. Like *R. elongàtus*, Smith.

Glomerate-flowered Bramble. Shrub.

140 R. Sunda'icus (Blum. bijdr. 1111.) leaves cordate, acute, obsoletely angular, unequally toothed, smooth above, but covered with cobwebbed tomentum beneath, as well as on the branchlets, and with prickles on the middle nerve; prickles of branches scattered and recurved; racemes terminal; flowers sub-umbellate; calycine segments ovate, acuminated, rather serrated, tomentose. ♄. S. Native of the islands in the Malay Archipelago.

Var. β, díscolor (Blum. l. c.) leaves smaller, denticulated, clothed with grey tomentum beneath; segments of the calyx entire. ♄. S. Native of Java. Perhaps a proper species.

Sunda Bramble. Shrub.

141 R. elonga'tus (Smith, icon. ined. fasc. 3. t. 62.) branches clothed with cobwebbed tomentum; prickles scattered and recurved; leaves cordate, acuminated, acutely crenated, tomentose beneath; stipulas jagged; panicle drooping, prickly; peduncles tomentose; bracteas deciduous; calycine segments obtuse, hardly the length of the tube and shorter than the petals, which are obovate. ♄. S. Native of Java. Corolla white. Fruit red.

Elongated Bramble. Shrub.

142 R. panicula'tus (Smith, in Rees' cycl. vol. 30. but not of Schlecht.) branches terete, villous; prickles scattered, recurved; leaves cordate, acuminated, slightly lobed, and serrated, tomentose beneath; panicle villous, rather loose; calycine segments oval, acute, villous, but not silky; petals small. ♄. H. Native of Nipaul. Fruit black. Panicles terminal.

Panicled Bramble. Shrub.

143 R. pyrifòlius (Smith, icon. ined. fasc. 3. p. 61.) branches flexuous, hairy; prickles scattered; leaves oblong, acuminated, serrated, glabrous on both surfaces; panicle many-flowered, rather thyrsoid, with corymbose branches; bracteas cut, pubescent, deciduous; calycine segments lanceolate, acute, outer ones jagged; petals very minute, toothed at the apex. ♄. S. Native of Java.

Pear-leaved Bramble. Shrub.

144 R. corchorifòlius (Lin. fil. suppl. 263.) stem and branches tomentose; prickles recurved; leaves ovate, cordate, acute, slightly lobed, clothed with hoary tomentum, the middle nerve furnished with prickles above; peduncles axillary, solitary, 1-flowered, tomentose. ♄. G. Native of Japan. R. villòsus, Thunb. fl. jap. 218. but not of Ait. Petals hardly longer than the corolla.

Corchorus-leaved Bramble. Shrub.

145 R. Lambertia'nus (Ser. in D. C. prod. 2. p. 567.) branches nearly terete, rather pilose; prickles recurved; leaves cordate, acuminated, slightly lobed, serrulated; stipulas fringed; flowers panicled; peduncles pubescent; calycine segments puberulous, lanceolate, acuminated, with tomentose margins; petals obovate, cuneated, narrow, length of calyx. ♄. G. Native of China.

Lambert's Bramble. Shrub.

146 R. acumina'tus (Smith, in Rees' cycl. vol. 30.) leaves ovate, cordate, acuminated, smooth, unequally serrated, rounded at the base; stipulas minute, gland-formed; flowers sub-racemose; pedicels 2-6-together, naked as well as the calyxes; branches terete, glabrous, furnished with a few distant prickles as well as on the petioles. ♄. H. Native of Nipaul. R. betulìnus, D. Don, prod. fl. nep. p. 233. Leaves like those of the birch or hornbeam. Terminal flowers panicles.

Acuminated-leaved Bramble. Shrub 4 to 6 feet.

147 R. I'ndicus (Leschen. in litt. D. C. prod. 2. p. 568.) branches terete, tomentose; prickles scattered, short, compressed, reflexed; leaves elliptic, acuminated, regularly serrated, glabrous; middle nerve prickly; stipulas wanting or setaceously fringed; flowers small, numerous, panicled; bracteas setaceously fringed; calycine segments lanceolate, acute, puberulous, reflexed; petals very narrow, length of calyx; carpels 3-4, ovate-triquetrous. ♄. S. Native of the East Indies. R. hexágynus, Roxb. Panicle large, downy.

Indian Bramble. Shrub 4 to 6 feet.

Cult. The shrubby kinds of *bramble* are easily propagated by suckers from the root or by cuttings. The herbaceous species thrive best in peat soil, and are also increased by suckers.

IX. DALIBA'RDA (in honour of Denis Dalibard, a French botanist). Lin. spec. ed. 1. p. 431. Michx. fl. bor. amer. 1. p. 299. Richard in Nestl. pot. p. 16. t. 1. D. C. prod. 2. p. 568.

Lin. syst. *Icosándria, Polygýnia.* Calyx with a short, concave tube, and with a 5-6-cleft or toothed limb; lobes toothed. Petals 5, deciduous. Stamens numerous. Ovaries 3-12, ending in short terminal styles. Akenia involucrated by the calyx, seated on a dry villous receptacle, dry or fleshy. Seed pendulous. Herbs or shrubs with petiolate simple leaves, with scape-formed 1-flowered peduncles or panicles of flowers.

* *Herbaceous. Peduncles scape-formed, 1-flowered.*

1 D. re'pens (Lin. spec. ed. 1. p. 401.) stems creeping; leaves cordate, obtuse, crenated, pubescent; stipulas linear-setaceous; calyx pilose, reflexed. ♃. H. Native of Canada, about Quebec and Montreal, and about Lake Huron; New England, and Pennsylvania. Rùbus Dalibárda, Lin. spec. 708. Smith, icon. ined. t. 20. D. cordàta, Steph. act. soc. mosc. 1. p. 92. D. violæoìdes, Michx. fl. bor. amer. 1. p. 299. t. 27. Flowers white.

Creeping Dalibarda. Fl. May, June. Clt. 1768. Pl. cr.

2 D. calycìna (D. C. prod. 2. p. 568.) stems creeping, and are as well as the petioles villous and bristly; leaves orbicular, cordate, crenated, villous; stipulas ovate, serrated; calyx villous and bristly, with the segments foliaceous and deeply toothed, longer than the petals. ♃. H. Native of Nipaul, in Gosaingsthan. Rùbus calycìnus, Wall. in litt. ex D. Don, prod. fl. nep. 235. Petals obovate, yellow. Habit of the preceding species, but differs in the stems being more elongated, bristly, and villous.

Large-calyxed Dalibarda. Pl. creeping.

3 D. geoìdes (Pers. ench. 2. p. 53.) leaves usually trifid or ternate, the terminal lobe large and ovate, and irregularly serrated, the lateral ones small, usually wanting, or joined with the terminal one. ♃. H. Native of the Straits of Magellan. Rùbus geoìdes, Smith, icon. ined. t. 19. Flowers yellow.

Geum-like Dalibarda. Pl. creeping.

* * *Shrubs. Flowers disposed in panicles.*

4 D. pyrifòlia (Blum. bijdr. 1112.) leaves simple, oblong, acuminated, serrated, pubescent on the veins; prickles scattered, recurved; branches of panicles sub-corymbose; flowers 3-4-gynous. ♄. S. Native of Java. Rùbus pyrifòlius, Smith, icon. ined. fasc. 3. t. 61. Calycine segments jagged. Petals small, yellow? toothed at the apex.

Pear-leaved Dalibarda. Shrub creeping?

5 D. latifòlia (Blum. bijdr. 1112.) leaves simple, roundish-ovate, deeply serrated, pubescent beneath; prickles small, recurved; branches of panicle corymbose; flowers polygynous. ♄. S. Native of Java, in the province of Tjanjor. Flowers yellow?

Broad-leaved Dalibarda. Shrub creeping?

Cult. The herbaceous kinds of this genus do best in a border of peat soil, or to be grown in pots in a mixture of peat and sand, and placed among other alpine plants; they are easily increased by detaching the runners. The shrubby species, being natives of tropical islands, require to be grown in the stove or hot-house, and cuttings of them will root readily in heat, under a hand-glass.

X. FRAGA'RIA (from *fragrans*, fragrant; the perfumed fruit of the strawberry is well known). Tourn. inst. 152. Nestl. pot. 17. Duchesn. mon. frais. 1 vol. 8vo. Ser. in D. C. prod. 2. p. 569.

LIN. SYST. *Icosándria, Monogýnia.* Calyx with a concave tube; the limb 10-parted, the outer 5 segments accessory. Petals 5. Stamens numerous. Carpels numerous, at length falling from the fleshy and succulent polyphore. Styles lateral. Seeds appended.—Herbs, throwing out runners. Leaves trifoliate; leaflets coarsely toothed. Polyphore roundish, succulent, red, rarely white. In this genus what is called the fruit is a fleshy receptacle or polyphore, with carpels or seeds appended to it.

* *Carpels very numerous on the outside of the fleshy receptacle. Stamens numerous. Flowers hermaphrodite.*

1 F. VE'SCA (Lin. syst. 705.) stoloniferous; leaflets plicate, thin, pilose beneath; fruit pendulous; sepals at length reflexed; hairs on the peduncles adpressed. ♃. H. Native of Europe, in woods and on hills; north-west coast of America; plentiful in Britain. Smith, engl. bot. 1524.

Var. α, *sylvéstris* (Lin. spec. ed. 1. p. 495.) Duch. in Lam. dict. 2. p. 531. no. 2.) stoloniferous; receptacles egg-shaped; calyx short. ♃. H. Native of Europe, in woods; plentiful in Britain. F. vésca sylvéstris, Lin. spec. 709. F. vulgàris, Ehrh. beitr. 7. p. 21.—Blackw. herb. 77. There are varieties of this plant with red and white fruit.

Var. β, *semperflòrens* (Duchesn. l. c. 2. p. 531. no. 1.) stoloniferous; receptacle conical-oblong, shining. Native of the alps of Jura. Nois. jard. fr. t. 11. f. 2. There are varieties of this strawberry with red and white receptacles, viz.

1 *Red alpine strawberry, fr. des alpes à fruit rouge, fr. des alpes de tous les mois à fruit rouge, fr. des alpes de quatre saisons à fruit rouge, alpine rouge, scarlet alpine, prolific alpine.* Fruit conical, large for a wood strawberry, and of a first-rate quality, ripening from June to November.

2 *White alpine strawberry, fr. des alpes à fruit blanc, fr. des alpes de tous les mois à fruit blanc, fr. des alpes de deux saisons à fruit blanc, fr. des alpes de quatre saisons à fruit blanc, alpine blanc.* Fruit conical, large for an alpine strawberry. A first-rate kind, ripening from June to November.

3 *American alpine strawberry.* Fruit conical, large. A first-rate kind, like the *red alpine strawberry.*

4 *Danish alpine strawberry.*

Var. γ, *mìnor* (Duchesn. l. c. 2. p. 431. no. 3.) stoloniferous; stem and leaves short; receptacle spherical, shining, red or white. To this variety belong the following sorts of wood strawberry.

1 *Red wood strawberry, frasier d'Angleterre, fr. à chassis, fr. commun rouge, fr. commun à fruit rouge, fr. des bois à fruit rouge.* Fruit roundish, large for a wood strawberry. A first-rate kind, ripening from the end of June, through July.

2 *White wood strawberry, fr. commun blanc, fr. commun à fruit blanc, fr. des bois à fruit blanc.* Fruit roundish, size of the last, of a first-rate quality, ripening end of June and through July.

Var. δ, *horténsis* (Duchesn. l. c. 2. p. 532. no. 4.) stoloniferous; stem and peduncles longer; leaves pallid; receptacle elongated, rather compressed. There are varieties of this with red, white, and black fruit. To this belong the following sorts of strawberry.

1 *Frasier de Montreuil à fruit blanc.* Fruit ovate, large, of a first-rate quality, ripening about the beginning of July.

2 *Frasier de Montreuil à fruit rouge, fr. de Montreuil à Marteau, fressant, dent de cheval, de ville de bois.* Differing from the last only in the colour of the fruit. They are both only fugitive varieties of the *wood* or *alpine strawberries.*

Var. ε, *eflagéllis* (Duchesn. in Lam. dict. 2. p. 532. no. 5.) stolons very short or wanting altogether; receptacle elongated, roundish-ovate; leaves longer than the stem. To this variety belong the following sorts of strawberry.

1 *Red alpine bush-strawberry, frasier buisson, fr. buisson à fruit rouge, fr. commun sans filets, fr. sans coulans ordinaire, fr. sans filets ordinaire, fr. buisson des alpes rouge, fr. des alpes sans coulans à fruit rouge, fr. des alpes sans filets à fruit rouge, fr. de gaillon à fruit rouge.* Fruit roundish, ovate, middle-sized. A second-rate sort, ripening in the beginning of July.

2 *White bush alpine strawberry, frasier buisson des alpes blanc, fr. buisson à fruit blanc.* Only differing from the foregoing in the colour of the fruit.

Var. ζ, *múltiplex* (Duchesn. l. c. 2. p. 532. no. 7.) stoloniferous, pale; receptacle small. Blackw. herb. t. 77. f. 3. *Double-blossomed strawberry, frasier à fleurs doubles, fr. à fleurs semidoubles.* This variety is worthless as to its fruit.

Var. η, *botryfórmis* (Duchesn. l. c. 2. p. 532. no. 7.) stoloniferous; stamens transformed into flowers. Commonly called in France *Frasier couronné.*

Var. θ, *muricàta* (Duchesn. l. c. 2. p. 533. no. 8.) receptacle small; styles elongated, echinated; petals wanting; sepals foliaceous. Commonly called in France *Frasier arbrisseau à fleurs vertes.*

Fertile, Wild, Wood, or Alpine Strawberry. Fl. April, May. Pl. ½ to 1 foot.

2 F. CALYCÌNA (Lois. fl. gall. 1. p. 299.) leaves ternate, pilose; leaflets sessile, cuneated, roundish, coarsely toothed; flowers corymbose; peduncles longer than the scapes; calyx about equal in length to the corolla. ♃. H. Native of France, in woods. F. grandiflòra, Thuil. fl. par. ed. 2. p. 264. F. vésca grandiflòra, D. C. fl. fr. 4. p. 468. Flowers white. Fruit red.

Large-calyxed Strawberry. Fl. Apr. May. Clt. ? Pl. ½ to ¾ ft.

3 F. COLLÌNA (Ehrh. beitr. 7. p. 26.) stoloniferous; leaflets plicate, thin, silky above and pilose beneath; fruit erect? sepals after flowering erect; hairs on peduncles erect. ♃. H. Native of Switzerland and Germany. Flowers white. Fruit green. Perhaps only a variety of *F. vésca.* To this species belong the strawberries called

1 *Green strawberry, green pine, pine apple, green alpine, green wood, powdered alpine, frasier vert d'Angleterre, frasier vert.* Fruit roundish or depressed, globular, large, solid; flesh greenish, very juicy, with a peculiar and somewhat pine apple flavour. A second-rate sort, ripening middle of July.

2 *Williams's green pine.* Fruit roundish, middle-sized. A second-rate sort, ripening end of June.

Hill Strawberry. Fl. April, May. Clt. 1798. Pl. 1 foot.

4 F. PLATANOÌDES (Ser. in D. C. prod. 2. p. 570.) leaves palmately 5-lobed, pilose; lobes lanceolate, acute, obsoletely toothed; sepals lanceolate, acute, pilose. ♃. H. Native of North America? Petals red.

Platanus-like Strawberry. Fl. April, June. Clt. ? Pl. ¾ ft.

* * *Carpels few, immersed in little pits in the receptacle* (f. 71. *d.*). *Stamens few* (f. 71. *c.*). *Flowers usually dioecious from abortion.*

5 F. MAJAU'FEA (Duchesn. in Lam. dict. 2. p. 533.) stoloniferous; leaflets plicate, thin, pilose beneath; flowers herma-

phrodite; stamens long; receptacle middle-sized; carpels numerous; calyxes erectly adpressed after flowering. ♃. H. Native of France. To this species belong the following *strawberries.*

1 *Frasier de Bargemont, fr. en étoile, Majaufe.* Fruit roundish, ovate, reddish, small. A second-rate sort, ripening beginning and middle of July.

2 *Frasier vineux de champagne, fr. de champagne, fr. vineux, Majaufe de champagne.* Fruit conical, small, green. A second-rate sort, ripening in the beginning of July.

Majaufe Strawberry. Fl. Apr. Jun. Clt.? Pl. $\frac{3}{4}$ foot.

6 F. Bresli'ngea (Duchesn. in Lam. dict. 2. p. 533.) leaflets plicate, rather coriaceous, green; pili long and firm; petals narrow, whitish, yellow; sepals erectly adpressed after flowering; receptacle adherent; carpels rather turgid.

Var. α, *abortiva* (Duchesn. l. c. p. 534. no. 11.) almost sterile; leaves thin, less pilose; branches elongated; receptacle depressed, greenish, red; carpels hardly adhering. Commonly called *Frasier coucou* and *fr. aveugle.*

Var. β, *nìgra* (Duchesn. l. c. p. 535. no. 12.) very sweet-scented, usually sterile; branches short; leaves usually 5-lobed; stolons numerous. Commonly called *Breslinge d'Allemagne.*

Var. γ, *péndula* (Duchesn. l. c. no. 13.) receptacle pear-shaped, adpressed, red, without any carpels at the base. Native of France. Commonly called *Frasier marteau* and *Breslinge de Bourgogne.*

Var. δ, *híspida* (Duchesn. l. c. p. 14.) plant humble, robust; stolons numerous; branches rather prostrate; receptacles elongated, purple. This variety of *strawberry* is known in France under the names of *Breslinge de Longchamp* and *Frasier de Longchamp.*

Var. ε, *viridis* (Duchesn. l. c. p. 536. no. 15.) leaves late, greyish; petioles usually appendiculate; peduncles long; receptacle roundly turbinate, greyish green, hardly coloured. Nois. et jard. fr. t. 13. f. 2. There is a kind of this with yellowish and shorter petals. To this variety belong the following *strawberries.*

1 *Breslinge d'Angleterre, frasier de Pennsylvanie.* Fruit small, green, roundish, ovate. A worthless sort, ripening in the beginning of July.

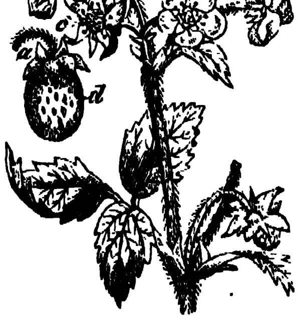
2 *Caucasian strawberry.* Fruit roundish, middle-sized. A second-rate sort, ripening in the middle of July.

Var. ζ, *praténsis* (Duchesn. l. c. p. 536. no. 16.) plant humble; branches short; stolons short; leaves small; receptacle round, adhering to the calyx; pulp rather brittle, very tumid. F. vésca praténsis, Lin. spec. 709.? Flowers usually rising before the leaves. This *strawberry* is called in France *Frasier de Brugnon* and *Breslinge de Suede.*

Breslinge Strawberry. Fl. Apr. May. Clt.? Pl. $\frac{1}{2}$ to $\frac{3}{4}$ foot.

7 F. ela'tior (Ehrh. beitr. 7. p. 23.) leaflets plicate, rather coriaceous, green; flowers usually dioecious from abortion; sepals at length reflexed on the peduncle; petals snow white, roundish; entire; receptacle firm, adhering but little to the calyx. ♃. H. Native of North America; in the south of England, in groves, but rare. Smith, engl. bot. 2197. Caperonniers, Duchesn. in Lam. dict. 2. p. 534. The *hautbois* are the most variable of all *strawberries,* but they retain a general character from which they naturally do not depart; the fruit sometimes changes from globular to ovate, and from ovate to globular, while fertile plantations will produce runners that may perhaps be sterile, and seedlings many of which will prove so. The latter ought to be extirpated. In all the sorts of *hautbois* there exist prolific and sterile plants, which last have long stamens, and are commonly called males; these ought in all cases to be destroyed. The varieties of *hautbois strawberries* are as follow:

FIG. 71.



1 *Black hautbois, new hautbois.* Fruit ovate, large. A first-rate sort, ripening end of June and beginning of July.

2 *Brown hautbois.* Fruit large. A second-rate sort, ripening the same time as the last.

3 *Caperon framboise, frasier framboise, frasier d'apricot.* Fragària elàtior β, dioìca, Duchesn. in Lam. dict. 2. p. 536. no. 18. F. mágna, Thuill. fl. par. p. 254. Flowers always dioecious from abortion. There is a variety of this with curled leaves.

4 *Common hautbois, hautbois, original hautbois, old hautbois, dioecious hautbois, hautbois* or *musky, frasier de Bruxelles.* Fragària elàtior α, moschàta, Duchesn. in Lam. dict. 2. p. 536. no. 17. Fragària moschàta, West, bot. 2. p. 327.—Nois. jard. fr. p. 40. t. 13. f. 1. Fruit roundish or ovate, middle-sized. A second-rate sort, ripening end of June and beginning of July.

5 *Globe, caperon ordinaire, Antwerp* or *musk, Danish.* Fruit roundish, middle-sized. A second-rate sort, ripening in the end of June and beginning of July.

6 *Large flat, white, Bath, Salter's, Formosa, Lowder's, Weymouth.* Fruit roundish, large. A first-rate sort, retains its character better than any of the other sorts of *hautbois.* It ripens in the end of June or beginning of July.

7 *Long-fruited muscatelle.* Fruit oblong, small. A second-rate sort, ripening about the beginning of July.

8 *Prolific* or *conical, double-bearing, hermaphrodite, Hudson's Bay, musk, Regent's, dwarf, sucombe, Sir Joseph Banks's, spring grove, caperon royal, caperon hermaphrodite, caperonnier royal.* Fruit large, conical. One of the best of the *hautbois,* ripening end of July or beginning of August. Flowers the largest of the class. Receptacle broad. Stamens long, permanent round the base of the fruit, even to the period of its maturity.

9 *Round-fruited muscatelle.* Fruit roundish-ovate, small. A first-rate sort, ripening beginning of July.

10 *Russian.* Fruit ovate, small. A worthless sort, ripening beginning of July.

11 *Swedish.* Fruit roundish, small. Habit dwarf. Unworthy of cultivation.

Taller or Hautbois Strawberry. Fl. Apr. May. Brit. Pl. 1 ft.

8 F. Virginia'na (Mill. dict. ed. 8. Ehrh. beitz. 7. p. 25.) flowers late, dioecious from abortion, rather campanulate; petals ovate; leaflets coriaceous, not plicate; petioles short; peduncles and pedicels length of leaves; receptacle very tumid, pendulous; styles very long. ♃. H. Native of Virginia. Duchesn. in Lam. dict. 2. p. 539. no. 24. Nois. jard. fr. p. 46. t. 12. f. 2. Flowers white. Fruit deep red when ripe. To this species belong the following kinds of *strawberry;* they are commonly called *scarlet strawberries.*

1 *American scarlet, black American, new American scarlet, new roseberry, Thomson's roseberry.* Fruit conical, middle-sized. Requires plenty of room. Leaves tall. Fruit rich and sweet, coming in late.

2 *Autumn scarlet.* Fruit ovate, middle-sized. A second-rate sort, ripening beginning of July.

3 *Bishop's seedling.* Fruit round, middle-sized, ripening end of June or beginning of July. A great bearer and almost of first quality.

4 *Black cone.* Fruit conical, middle-sized. A worthless sort, ripening end of June.

5 *Black Hudson's Bay, black pine, Hoisie's seedling.* Fruit conical, middle-sized. A second-rate sort, ripening beginning of July.

6 *Black roseberry, black round-fruited roseberry.* Fruit roundish, large. A first-rate sort, of a fine dark shining colour, and a good bearer; ripens about the end of June or beginning of July.

7 *Carmine scarlet, carmine roseberry.* Fruit roundish-ovate, middle-sized. A second-rate sort and a bad bearer; ripens beginning of July.

8 *Charlotte, Princess Charlotte, Wilmott's early scarlet.* Fruit round, middle-sized. A first-rate sort but an indifferent bearer, ripening middle and end of June.

9 *Cinnamon scarlet.* Fruit roundish, middle-sized. A second-rate sort, but a good bearer, ripening end of June.

10 *Clustered scarlet, clustered wood pine.* Fruit small, roundish. A sort of no value. Ripens about the end of June.

11 *Cockscomb scarlet.* Fruit large, compressed. A second-rate sort, ripening end of July.

12 *Copper-leaved roseberry.* Fruit conical, middle-sized. A second-rate sort, ripening end of June.

13 *Coul late scarlet, Sir George Mackenzie's late scarlet.* Fruit ovate, large. An excellent late sort, and a good bearer. Ripens beginning and middle of July.

14 *Diack's seedling, new Aberdeen.* Fruit roundish, large. A second-rate sort but a great bearer. Ripens end of June and beginning of July.

15 *Dudson House scarlet.* Fruit roundish, large. A second-rate sort but an abundant bearer. Ripens end of June.

16 *Duke of Kent's scarlet, globe scarlet, prolific scarlet, early prolific scarlet, Nova Scotia scarlet, cluster scarlet, Austrian scarlet, Oatlands scarlet, Duke of York's scarlet.* Fruit small, roundish. An early sort, but too small for general cultivation. It ripens about the middle of June.

17 *Early globe.* Fruit roundish, middle-sized. A second-rate sort, rather acid. Ripens end of June.

18 *Garnstone scarlet.* Fruit large, roundish. A first-rate sort, ripening in the end of June and beginning of July.

19 *Globular Hudson's Bay.* Fruit roundish, small. A worthless sort, ripening in the end of June.

20 *Golden lemon scarlet.* Fruit roundish, middle-sized. A second-rate sort, ripening in the end of June.

21 *Grange Hudson's Bay.* Fruit small, oblong. A worthless sort, ripening in the end of July.

22 *Grimstone scarlet.* Fruit small, conical. A second-rate sort, and a very bad bearer.

23 *Grove-end scarlet.* Fruit large, depressed, spherical. A first-rate sort, very handsome, and a most abundant bearer.

24 *Hudson's Bay, York river scarlet, American scarlet, late scarlet, Hudson's pine* (of Scotland), *Atkinson's scarlet, Hopewood's scarlet, velvet scarlet.* Fruit ovate, large. A second-rate sort, ripening in the end of June. Requires to remain till it assumes a dark colour, otherwise it is acid.

25 *Knight's large scarlet, Knight's scarlet, American scarlet, great American scarlet, hairy-leaved scarlet, large scarlet*, female parent of the *Downton.* Fruit roundish, large. A second-rate sort, and a moderate bearer. Ripens in the end of June.

26 *Lewisham scarlet, scarlet cluster.* Fruit roundish-ovate, small. A worthless sort, ripening about the end of June.

27 *Lynedock seedling.* Fruit ovate, middle-sized. A second-rate acid sort. Ripens in the beginning of July.

28 *Melon.* Fruit roundish, middle-sized. A first-rate sort, and a good bearer. Ripens in the end of June.

29 *Methven scarlet, Methven castle, Southampton scarlet.* Fruit large, roundish. A coarse sort, ripening in the end of June.

30 *Morrisania scarlet, Hudson's.* Fruit small, round. A worthless sort, ripening in the middle and end of June.

31 *Nairn's scarlet.* Fruit ovate, middle-sized. A second-rate sort, ripening in the end of June.

32 *Narrow-leaved scarlet, Knight's.* Fruit conical, middle-sized. A second-rate sort, ripening in the end of June.

33 *Oblong scarlet, long scarlet, long-fruited scarlet, Padley's early scarlet, Padley's large scarlet.* Fruit oblong, middle-sized. A second-rate sort, ripening in the middle and end of June.

34 *Old scarlet, scarlet, early scarlet, original scarlet, Virginian, scarlet Virginian, old Bath scarlet* of some, *orange* or *Irish* of the Dutch, *ecarlate, ecarlette de Virginie, de Virginie.* Fruit roundish, middle-sized. A first-rate sort, valuable for its earliness, but more especially for its excellence in preserving.

35 *Orange Hudson's Bay, Hamilton, Bishop's pine, orange pine.* Fruit conical, middle-sized. A rather acid second-rate sort, ripening in the end of June.

36 *Pine roseberry.* Fruit conical, middle-sized. A second-rate sort, inferior to the *roseberry.* Ripens in the end of June.

37 *Pitmaston black scarlet, early Pitmaston black.* Fruit oblong, small. A sort of no merit, ripening in the beginning of July.

38 *Red finger.* Fruit conical, large. A second-rate sort, ripening in the end of June.

39 *Roseberry, rose, Scotch scarlet, Aberdeen, Aberdeen seedling, prolific pine, Brickley scarlet.* Fruit conical, large. A first-rate sort, well known as a very abundant bearer, and continuing late in succession. Ripens in the end of June and beginning of July.

40 *Round-fruited scarlet, late round-fruited scarlet, Knight's* (no. 18. hort. trans.). Fruit round, middle-sized. A second-rate sort, but a good bearer. Ripens in the end of June and beginning of July.

41 *Scone scarlet.* Fruit round, middle-sized. A second-rate very acid sort, ripening in the end of June.

42 *Sir Joseph Banks's scarlet.* Fruit roundish, small. A worthless sort, ripening in the middle and end of June.

43 *Slough scarlet, Brown's scarlet.* Fruit roundish, small. A second-rate sort, resembling the *duke of Kent.* Ripens in the middle and end of June.

44 *Solid scarlet, solid fleshed.* Fruit roundish, middle-sized. A second-rate sort, ripening in the beginning of July. It is a hybrid between the *Hautbois* and *scarlet.*

45 *Southborough, Marshall's seedling.* Fruit roundish, large. A coarse sort, but a good bearer. Ripens in the beginning of July.

46 *Vernon's scarlet, White's scarlet.* Fruit round, middle-sized. A second-rate sort, ripening in the end of June.

47 *Wilmot's late scarlet, Wilmot's scarlet, Wilmot's new scarlet, Wilmot's seedling, Wilmot's imperial, large Virginian, late Virginian.* . Fruit bluntly conical, large. A second-rate sort, ripening in the end of June.

Black strawberries.

1 *Downton, Knight's seedling, Knight's strawberry.* Fruit ovate, large, ripening beginning and middle of July. The best of the *black strawberry.*

2 *Elton seedling.* Fruit large, ovate. A first-rate sort, ripening middle of July. A great bearer, valuable as a very late sort.

3 *Gibb's black seedling.* Fruit conical, small. A second-rate sort, and a bad bearer, ripening beginning of July.

4 *Knight's scarlet fleshed.* Fruit conical, middle-sized, more red inside than out. A first-rate sort, ripening end of June.

5 *Pitmaston black, late Pitmaston black.* Fruit ovate, mid-

dle-sized, ripening in July. Although an excellent sort, it is so tender as almost entirely to die off in the winter, consequently it is unfit for general culture.

6 *Old black, black Canterbury, black pine, Turkey pine, black beacon, mulberry.* Fruit conical, middle-sized. A first-rate sort, ripening beginning of July.

7 *Sweet cone, Knight's sweet cone.* Fruit ovate, large, ripening end of June. Of excellent flavour, but not so prolific as the *Downton.*

Virginian Strawberry. Fl. April, May. Clt. 1620. Pl. 1 ft.

9 T. GRANDIFLÒRA (Ehrh. beitz. 7.) late; flowers always dioecious from abortion; leaflets glaucous, coriaceous, broadly crenated, glabrous above, and pilose beneath; peduncles thick; sepals reflexed; hairs on petioles and peduncles spreading. ♃. H. Native of Surinam. F. mágna, Thuil. fl. par. p. 254? F. calycìna, Mill. fig. 288. F. Chilénsis β ananássa, Duchesne in Lam. dict. 2. p. 538. Flowers white. Fruit red. Called in English *pine strawberries*, and in French *frasier ananas.* The following are the varieties.

1 *Bath scarlet, Bath, new Bath scarlet, Liverpool, golden drop, Devonshire, North's seedling, Milne's seedling, imperial scarlet, Austin's, Carolina pine, Surinam* of some, *scarlet fleshed Caroline, Chili.* Fruit ovate, middle-sized. A second-rate sort, ripening beginning of July. F. Caroliniénsis, Duchesne in Lam. dict. 2. p. 539.

2 *De Bath.* Fragària Chilénsis γ calyculàta, Duchesne in Lam. dict. 2. p. 538. Noisette, jard. fr. t. 11. f. 1. and t. 14. f. 4.

3 *Black prince, Wilmot's black imperial.* Fruit roundish, middle-sized. A second-rate shy bearing kind, ripening end of June.

4 *Bostock, Rostock, Rostock seedling, Rostock pine, Rostock scarlet, Wellington, cone, Byram, Caledonian, Vernon's, Montague's, prolific Bath, new Bath, Whitley's pine, Beattie's seedling, English globe, red Chili, Devonshire, Devonshire Chili, red Bath, new scarlet.* Fruit large, roundish. A good bearer, but the fruit is rather coarse and hollow. Ripens end of June.

5 *Bullock's blood.* Fruit roundish, large. A worthless sort, ripening beginning of July.

6 *Chinese, North's seedling, red Chili, North's large scarlet, Bourbon* (of the Americans), *chapelizod, Carolina* of some, *large Chili, pine apple, Frasier ananas.* Fruit large, roundish. This and the *Surinam* were formerly much cultivated on account of their bearing, but are now giving way to the superiority of *Keen's seedling.* It ripens end of June and beginning of July.

7 *Dutch.* Fruit roundish, large. A worthless sort, ripening beginning of July.

8 *Dwarf white Carolina.* Fruit roundish, ovate, large. A worthless sort, ripening end of June and beginning of July. The synonyms attached to the *round white Carolina* are also applicable to this, with the exception of the last.

9 *Glazed pine, Knott's pine, scarlet pine-apple, Chinese* of some, *Carolina* of some, *red Chili* of some. Fruit conical, large. A second-rate sort.

10 *Keen's imperial, imperial, black imperial, large imperial black, imperial pine, black Isleworth, Keen's black, Keen's large fruited, Isleworth pine, large black, Keen's black pine, nectarine.* Fruit roundish, large. A second-rate tender and shy bearing kind, ripening end of June.

11 *Keen's seedling, Keen's new seedling, Keen's new pine, Keen's black pine, Murphy's child.* Fruit large, roundish. A first-rate sort, ripening middle and end of June. It is very productive, and one of the best for forcing.

12 *Knevett's new pine.* Fruit, large, roundish. A second-rate sort, ripening end of June. It is a shy bearer, and will not grow in many soils.

13 *Large black seedling.* Fruit roundish, large. A second-rate sort, ripening beginning of July.

14 *Mulberry, Mahone, King, Cherokee, Surinam* of Scotland. Fruit ovate, middle-sized. A worthless sort, ripening beginning of July.

15 *Old pine* or *Carolina pine, Carolina, scarlet pine, old scarlet pine, old Carolina, common Carolina, Carolina pine, large Carolina, blood pine, Pyne hill, grandiflora, black pine, Borsdorf, Surinam* or *scarlet fleshed, superior, Shew's scarlet.* Fruit ovate, large. A first-rate sort, ripening end of June and beginning of July. As a solid, juicy, and peculiarly rich fruit, this kind is exceeded by none. *Keen's seedling* is earlier, more productive, and profitable for the market, but its cultivation on these accounts ought not to supersede that of the *old pine strawberry*, the superior quality of which entitles it to be strongly recommended.

16 *Red cone.* Fruit ovate, middle-sized. A second-rate sort, ripening end of June.

17 *Round white Carolina, Carolina, white Carolina, white pine, large blush pine, white Bath, red and white Bath, large white, Chili, white Chili, large white Chili, large pale Chili, large flesh-coloured Chili, cone, globe, conical white Carolina.* Fruit roundish or irregularly ovate, large. A worthless sort, ripening end of June and beginning of July.

18 *Surinam, red pine, red pine apple, Sutton's large, Oldaker's new pine, red Chili, Chinese, Devonshire scarlet, North's seedling, ananas* or *apricot* of the Dutch, *De Carolina.* Fruit roundish, ovate, large. A worthless sort, ripening beginning of July. The cultivation of this sort is on the decrease, and is likely to be soon lost altogether.

19 *Taylor's new emperor.*

20 *Variegated pine, striped-leaved scarlet.* Leaves variegated with white. A tender and worthless sort with regard to its fruit.

21 *Westbere.* Fruit ovate, middle-sized. A second-rate sort, ripening end of June and beginning of July.

Great-flowered Strawberry. Fl. April, May. Clt. 1759. Pl. 1 foot.

10 F. CHILÉNSIS (Ehrh. beitz. 7. p. 26.) late; flowers always dioecious from abortion; leaflets obovate, obtuse, coarsely serrated, coriaceous, wrinkled, clothed with silky villi beneath; calyx and peduncles silky; peduncles thick; fruit pendulous; sepals erect. ♃. H. Native of South America, in Chili and Peru; and west coast of North America. Duchesn. in Lam. dict. 2. p. 537.—Dill. hort. elth. t. 20. f. 140. Nois. jard. fr. 51. t. 12. f. 1. Hairs on peduncles and petioles spreading. Fruit rose-coloured; flesh white. Called *Chili strawberry.* The varieties are as follow.

1 *Black Chili.* Fruit large, of an irregular shape. A coarse kind, ripening beginning and middle of August.

2 *Large blush Chili.* Fruit large, ovate, of indifferent quality, ripening beginning and middle of July. It is hardly distinguishable from the true *Chili.*

3 *Pine Chili.* Fruit large, ovate. A worthless sort, ripening beginning and end of July.

4 *Scarlet Chili.* Fruit large, ovate. As a *Chili strawberry* one of the best. Ripens beginning of July.

5 *True Chili, Patagonian, Greenwell's, Greenwell's French, Greenwell's new giant, du Chili, Frutiller.* Fruit large, ovate, ripening beginning and middle of July. It may be said of the *Chilis* generally, that they are tender bad bearers, and of indifferent quality.

6 *Wilmot's superb.* Fruit large, roundish, hollow, and woolly. As a *Chili strawberry* one of the best. Ripens beginning of July.

7 *Yellow Chili.* Fruit large, of an irregular shape. One of the best of the *Chilis.* Ripens beginning of July.

8 *Quoimio de Canterberi, Canterbury.* Fruit ovate, with red flesh and juice. Fragària Chilénsis var. δ tíncta, Duchesne in Lam. dict. 2. p. 539.

Chili Strawberry. Fl. April, May. Clt. 1727. Pl. 1 foot.

11 F. BONARIE'NSIS (Juss. herb. ex Pers. ench. 2. p. 53.) leaflets broadly ovate, oblique at the base, villous beneath; stem villous. ♃. H. Native of Monte Video and Buenos Ayres. Calyx villous. Petals white, large. Perhaps referrible to *F. grandiflòra.*

Buenos Ayrean Strawberry. Fl. April, June. Pl. 1 foot.

12 F. CANADE'NSIS (Mich. fl. bor. amer. 1. p. 299.) large; leaflets ample, oval, manifestly petiolate; pedicels long, recurved, pendulous; receptacle globose, scrobiculate, villous. ♃. H. Native of North America, in woods and hilly places from Hudson's Bay to the United States. Flowers white.

Canadian Strawberry. Fl. April, May. Pl. 1 foot.

13 F. SUNDA'ICA (Blum. bijdr. 1106.) calycine segments spreading, entire; down on petioles and peduncles spreading; leaves ternate and quinate; leaflets simply and bluntly serrulated, pubescent on the nerves beneath. ♃. H. Native of Java, on Mount Gede. Flowers not described.

Sunda Strawberry. Pl. ¾ foot.

* * * *Leaves simple.*

14 F. MONOPHY'LLA (Willd. spec. 1093. Uster. neue ann. fasc. 8. p. 40. t. 1. Curt. bot. mag. t. 63.) stoloniferous, weak; leaves simple, crenately toothed; fruit pendulous; receptacles elongated, red; sepals at length reflexed; hairs on peduncles adpressed. ♃. H. Native of Europe. F. vésca var. ζ monophýlla, Duchesn. in Lam. dict. 2. p. 532. no. 6. F. abnórmis, Tratt. ros. 3. p. 166. Flowers white, hermaphrodite. Fruit round, small, worthless. Called *one-leaved Alpine strawberry, Frasier de Versailles, Frasier à feuilles simples.*

One-leaved Strawberry. Fl. May. Clt. 1773. Pl. ½ foot.

The greater part of the varieties of strawberries are furnished with stolons or runners. By some botanists the species have been considered only varieties, but generally are distinguished as species. T. A. Knight (Hort. trans. 3. p. 207.) considers the *F. Chilénsis* or *Chili*, the *F. grandiflòra* or *pine*, and the *F. Virginiàna* or *scarlet*, (the first supposed to be a native of Surinam, the second of Chili, and the third of Virginia,) to be varieties only of one species, as all may be made to breed together indiscriminately. The fruit has received its name from the ancient practice of laying straw between the rows, which keeps the ground moist and the fruit clean. They are natives of temperate or cold climates, as of Europe and America, and on the higher mountains of Asia. The fruit, though termed a berry, is in correct botanical language, a fleshy receptacle or polyphore studded with the carpella, commonly called seeds.

Use.—The fruit is fragrant, whence the generic name *Fragària*, delicious, and universally esteemed. It consists almost entirely of matter soluble in the stomach, nor neither there nor when laid in heaps and left to rot, does it undergo the acetous fermentation. Hence it is very nourishing, and may be safely eaten in quantity. In addition to its grateful flavour, the subacid juice has a cooling quality, particularly acceptable in summer. Eaten either alone or with sugar and cream, there are few constitutions with which strawberries, even when taken in large quantities, are found to disagree. Further, they have properties which render them in most conditions of the animal frame positively salutary; and physicians concur in placing them in their small catalogue of pleasant remedies. They dissolve the tartarous incrustations of the teeth. They promote perspiration. Persons afflicted with the gout have found relief from using them very largely; so have patients afflicted with the stone; and Hoffmann states he has known consumptive people cured by them. The bark of the root is astringent.

Of species and varieties.—The classification of strawberries by Mr. James Barnet, published by the Horticultural Society, has been adopted with some little variation in the foregoing enumeration of varieties. In regard to the size it will be necessary to state that the comparisons are made between the individual varieties of which each species is composed, and do not extend to those of other species. The general estimation of many of the sorts is not so high as had been formerly stated, owing to their having been found tender or indifferent bearers, compared with others which experience has proved to be superior.

Modes of propagation.—The plants multiply spontaneously every summer, as well by suckers from the parent stem as by numerous runners, all of which, rooting and forming a plant at every joint, require only to be removed to a bed where there is room for them to flourish. Each of these separately bears a few fruit the following season, and will bear in full perfection the second summer. A plantation of the *Alpine* yields fruit the same year that it is made. The *woods* and the *Alpines* come regularly from seed, and bring a finer fruit than from offsets, except the intention be to try for new varieties. Knight, in making experiments with a view of ascertaining whether most of the sorts would not breed together indiscriminately, raised about 400 varieties, "some very bad, but the greater part tolerably good, and a few very excellent." The fruit of above a dozen of the sorts were sent to the Horticultural Society in August, 1818, and found of various degrees of excellence. The seeds, if sown immediately after being gathered, will produce plants which will come into bearing the following year.

Soil and site.—Neill says, "Strawberries are generally placed in a quarter of the garden by themselves, and it should be one which is freely exposed to sun and air. They are sometimes, however, planted in single rows, as edgings to borders, and in this way they often produce great crops. In either case care must be taken to replant them every fourth or fifth year at the farthest. The *alpine* and *wood* varieties may be placed in situations rather cool and shady; perhaps as an edging in the shrubbery. In such places they produce their fruit perfectly well, and late in the season, which is desirable."

General culture.—The following excellent instructions for cultivating strawberries are given by Mr. Keen of Isleworth, one of the best growers of that fruit. He says, "I will commence with a general detail of my practice; this may be considered as applicable to all the varieties of the *strawberry*, and afterwards, in noticing each kind that I cultivate, I will specify such peculiarities of treatment as are exclusively applicable to each.

"In preparing the soil for strawberries, if it be new, and as is frequently the case, very stiff, it should be trenched, but if the bottom spit of the soil, as sometimes happens, be of inferior quality, I then recommend only a simple digging, placing dung at the bottom underneath the mould so dug; on the contrary, should the land have been kept in a high state of cultivation or be good to the full depth, it will be adviseable for the bottom spit to be brought up to the top, placing the dung between the spits. The best way to obtain new plants is by planting out runners in a nursery for the express purpose in the previous season; for it is a very bad plan to supply a new plantation from old plants. With respect to the time of planting, I have always found the month of March better than any other. Sometimes when my crops have failed I have had runners planted in the autumn for the following year, but these have always disappointed my expectations. I plant them in beds containing 3 or 4 rows, and the plants in each row, at a certain distance from each other, leaving an alley between each bed, the distance of the rows and of the plants in the rows, as well as the width of the alleys, depending on the kind of *strawberry* planted. The width of the alleys, as it will afterwards be stated, may appear considerable, but I am satisfied that allowing this space for the workmen to stand on when they water the plants or gather the fruit is beneficial, because I have observed in other persons' grounds, where less space is allotted for this purpose, that great damage is done to the plants and fruit by the trampling of the people.

" After the beds are planted I always keep them as clear of weeds as possible, and on no account allow any crop to be planted between the rows. Upon the growing of the runners, I have them cut when necessary; this is usually three times in each season. In the autumn I always have the rows dug between; for I find it refreshes the plants materially, and I recommend to those persons to whom it may be convenient to scatter in the spring very lightly some loose straw or long dung between the rows. It serves to keep the ground moist, enriches the strawberry, and forms a clean bed for the trusses of fruit to lie upon; and thus by a little extra trouble and cost a more abundant crop may be obtained. A short time before the fruit ripens I always cut off the runners to strengthen the root, and after the fruit is gathered I have what fresh runners have been made taken off with a reaping hook, together with the outside leaves around the main plant, after which I rake the beds, then hoe them, and rake them again. In the autumn, unless the plants appear very strong, I have some dung thrown in between the rows, but if they are very luxuriant the dung is not required, for in some rich soils it would cause the plants to turn nearly all to leaf. I also have to remark, that the dung used for manure should not be too far spent; fresh dung from the stable door is preferable to that dung, which many persons are so fond of. The duration of the beds must be determined by the produce of the plants, which varies much according to the different sorts; it always varies with the same sort in different soils, so that the precise time of the renewal of the beds must be regulated by the observation of the gardener in each particular case.

" I commence my observations on the different sorts with the *pine strawberry*. The best soil for it is a light loam, though no other kind of *strawberry* will bear a strong loam better than this. It is likewise to be noticed, that this is of all others the most difficult *strawberry* from which to procure a good crop. Particular care must be taken that they are planted in open ground; for in all gardens they grow very strong, but seldom bear fruit, in consequence of being so much shaded by standard trees; and I have observed the shade of the walnut tree to be much more injurious to these than to others, for under it they seldom bear at all, but run entirely to leaf. In planting the beds of *pine strawberries* I keep the rows two feet apart, and put the plants 18 inches from each other in the row, leaving alleys of three feet wide between each bed; these large distances I find necessary, for the trusses of fruit in my garden ground are frequently a foot long. The duration of this *strawberry* with me is three years; the first year it bears the best; the second year the crop is very good, and the third year it is less.

" The *imperial strawberry*, which was raised by myself from seed, may be treated in a similar way with respect to planting, distance, &c. as the *pine*; but I have to remark, that it requires rather a lighter and richer soil, and is not so liable to run to leaf when planted under trees.

" The *scarlet strawberry* must also be treated like the *pine*. With respect to distance for planting the beds of *scarlets*, I put each row 21 inches apart, and each plant 18 inches distant in the row, and make the alleys 2 feet 6 inches wide. The duration of this *strawberry* with me seldom exceeds three years.

" The *hautbois* I have always found to thrive best in a light soil, and it must be well supplied with dung, for excess of manure does not drive it into leaf like the *pine strawberry*. In planting the beds each row must be 2 feet apart, and from plant to plant in the rows must be 18 inches, leaving the alleys between the beds 3 feet wide. There are many different sorts of *hautbois*; one has the male and female organs in the same blossom, and bears very freely; but that which I most approve is the one which contains the male organs in one blossom, and the female in another; this bears fruit of the finest colour, and of far superior flavour. In selecting these plants care must be taken that there are not too many of the male plants among them, for as these bear no fruit they are apt to make more runners than the females. I consider one male to ten females the proper proportion for an abundant crop. I learned the necessity of mixing the male plants with the others by experience in 1809; I had before that period selected female plants only for my beds, and was entirely disappointed in my hopes of a crop. In that year, suspecting my error, I obtained some male blossoms, which I placed in a bottle on the bed of female *hautbois*. In a few days I perceived the fruit near the bottle to swell; on this observation I procured more male blossoms, and in like manner placed them in bottles in different parts of the beds, removing the bottles to fresh places every morning, and by this means obtained a moderate crop where I had gathered no fruit the preceding year. The duration of the *hautbois* with me seldom exceeds three years.

" The *wood strawberry* is best raised from seed, which I obtain from fruit just gathered, sowing it immediately in a bed of rich earth. When the plants are of a proper size, I transplant them into other beds, where I let them continue till the March following. They are then planted in rather a moist soil in beds as the others, each row being 2 feet apart, and the plants in each row 18 inches distant, the alley between each bed being 3 feet wide; in this way I produce abundant crops of very fine fruit. I have propagated this *strawberry* from runners, but never with such good success as from seeds, particularly if the runners were taken from old roots. The duration of this *strawberry* with me seldom exceeds 2 years.

" The *alpine strawberry* must always be raised from seed, which should be sown in a bed of rich earth in spring. When the plants are of a proper size, which will be in July and August, I plant them in rows at the back of hedges, or walls, in a rich or in a very moist soil; the rows should be 2 feet apart, and the distance from plant to plant in the rows 12 inches. My alpines, thus managed, bear most abundantly, so much so that in gathering them there is not room for the women to set their feet without destroying many. The alpines differ from all other strawberries in quickness of bearing; for no other sort sown in the spring of the year will produce fruit under 2 years, whereas this yields a crop at the end of one year. Its duration with me seldom exceeds 2 years."—*Hort. trans.* 4. *p.* 2.

Mr. Atkinson (Hort. trans. 5. p. 189.) describes a method of making strawberry beds, which he saw in a garden at Chatham, and which he thought excellent. The beds were upon flat ground, each about 3 feet wide, and between them were trenches 9 inches wide, and 4 inch walls of brick on each side of the trenches to keep up the earth, these trenches were about the depth of 2 or 3 layers of bricks and were for the purpose of holding water, which was supplied from a pump, whenever the ground was dry while the plants were in fruit. By this means a much greater crop of fruit was obtained, and the plants continued bearing much longer than in beds where there were no trenches for water. According to this plan considerable extent of strawberry ground is watered with very little labour, and it has the advantage of letting the water to the roots of the plants, so as to keep the ground moist without hardening the surface, as is the case when the tops of the beds are watered with watering pots.

Mr. Knight (Hort. trans. 6. p. 103.) considers half the distance allowed by Mr. Keen to be sufficient space for strawberry plants. His beds also are wholly expended at the end of 16 or 17 months after being formed, and the ground is then applied to other purposes. He has consequently the trouble of renewing his beds every year; but he finds his trouble much less than properly managing old beds, and he is quite certain that he obtains a much larger quantity of fruit, and of a very superior quality, than he ever did obtain by retaining the same beds in bearing during 3 successive years, from the same extent of ground. By employing heat to *strawberry* plants raised from seed in spring, he has obtained abundant crops from yearly plants of every species.

Taking the crop.—The fruit ripens from June to August and September, but the main crop is usually over in July. Gather when the weather is dry, and the same day that the fruit is to be sent to table, otherwise it will soon lose its flavour. Pinch off the calyx and a quarter of an inch of the pedicel, along with the fruit.

Forcing the strawberry in hothouses, pits, and hot beds.—This fruit is forced in every description of forcing house, and also in the pinery, though the heat of the latter often prevents the setting of the blossoms. Where they are forced in large quantities, it is a good method to apply a pit to their sole cultivation. M‘Phail says, “ They will occasionally do well in a hot-house for growing the pine, but a heat sufficient to force peaches and nectarines is more natural and likely to secure the obtaining of good crops of fine fruit. A good way of forcing the *strawberry,*” he adds, “ is to bring them forward in a gentle heat, in melon frames, till the fruit be nearly about half swelled, and then to give them a stronger heat to ripen them” (Gard. rememb. 29.). Nicol thinks “ the climate of the cherry-house most suitable to the nature of the *strawberry ;* they will do well in a hot-bed, but the best method is to force them in flued pits, such as those for raising pines.”

Soil.—*Strawberries,* to be forced in pots, require a strong and very rich loamy earth. *Nicol.*

Choice of sorts.—Abercrombie and Nicol recommend the *alpine* and *scarlet Virginia,* to which Nicol adds the *wood strawberry.* William Morgan (Hort. trans. 2. p. 376.) begins with the *alpines,* next he takes the *Bath scarlets* and *common scarlets,* and after these the *pines.* But it is allowed by all that Keen's *seedling* and the *old pine* are the best for forcing.

Potting and preparing the plants.—Abercrombie says, “ the plants selected should be 2 years old, having attained a full bearing state. It conduces to the perfection of the fruit to put as many plants as are intended to be forced, into pots, that they may be previously nursed for a longer or shorter time, according to the age of the stool.—1st New runners of the present summer may be potted in July and August, and nursed in pots for 2 seasons, having the blossoms pinched off in the second. This course of preparation is attended with most trouble, but the crop repays it. Three offsets may be planted in one large pot. 2d Runners made last year may be potted in April, and then plunged in the earth, to be nursed throughout the growing season, with a view to forcing, having such blossoms as appear pinched off, while the roots are carefully watered.—3d Stools of 2 years old standing, which have borne one crop, may be put into pots in August, September, or October. They may also be put into pots during any mild interval from the beginning of November till the end of the year; but they will not be so strong and well rooted. The method of potting established bearers is this: the pots should be twenty-fours or thirty-twos; provide at the same time some fresh and good rich loam. Put some of the earth, well broken with the spade and free from grubs or hurtful worms, into each pot, to the depth of 3 or 4 inches. Then take up the plants, with a ball of earth to the root of each; pare the ball with a knife till it is pretty round, and having cleared the stem of the plant from any withered or rotten leaves, place it in a pot, which fill up to the surface of the ball with the prepared earth. Water the plants as they are potted, and remove them to a warm situation. On the approach of winter, all the potted plants, whether established bearers or runners, should be placed under a frame or other sufficient shelter, till the hot-bed or forcing house is ready to receive them.”—Abercrombie. M‘Phail says “ *strawberry* plants, intended for forcing, should be planted in pots eight or ten months before they are set into the forcing house, or strong plants may be taken up with balls of earth about their roots, and be potted and set into the forcing house immediately.” Nicol says, “ some force old roots or stools, and others the runners only. Those who force the old roots generally lift and pot them about October or November, lifting a bulk from the bed, nearly sufficient to fill a 9 or 10 inch pot of plants 3 or more years old. Others plant runners of the former year in April, 3 or 4 in a large pot, or 2 in a middle-sized one, and plunge them in the earth all summer, giving them occasional waterings, and taking proper care of them. These succeed better than old roots, treated as above. But when I was in the practice of forcing *strawberries,* I used to prepare my plants in the following manner:—In July or August I planted runners of that season, 3 in a 9 or 10 inch pot, watered them and placed them in the shade for a few days; then plunged them to the brim in a freely exposed situation. In October their leaves were dressed off and the plants trimmed, and before winter they were covered with a little dry litter, in order to preserve the pots from the effects of the frost. The following spring any flowers that made their appearance were pinched off, and throughout the summer the plants were occasionally refreshed with water, and kept clear from weeds. In autumn the leaves were again dressed off as before; and when taken up for forcing, the pots were dressed and fresh earthed at top, previous to being placed in the forcing house. This method of preparing the plants is no doubt more troublesome than either of the above mentioned, but the plants, by being completely established and of a proper age, produce better crops. I have tried all the three ways repeatedly, and prefer the last.”

Morgan raises his *alpines* from seed, sowing in January, in frames or boxes, to be placed in a gentle heat; he hardens them after they are come up by removal to a colder situation; pot in May, in pots 6 inches in diameter and 6 inches deep. In October they are in flower, when he puts them under shelter, and in the latter end of November he places them in the forcing house or pinery, where they bear fruit through the winter. The *scarlets* he pots 3 plants in a pot, of the same size as those used for the *alpines ;* in May or early in June, taking the runners of the previous year, he picks off the blossoms as they appear, and keeps them in a shady place till January, when he places them in the forcing house on shelves, 18 inches from the glass, each pot in a pan. The *pine strawberry* he pots in the same manner, and takes them into the forcing house in February or March. T. A. Knight (Hort. trans. 5. p. 433.) prepares his *strawberry* plants for early forcing as follows:—he manures a small piece of ground very highly but very superficially, just covering the manure with mould. The ground being prepared, the strongest and best rooted runners of the preceding year are selected and planted in the beginning of March, in rows 1 foot apart and 8 inches between the plants in one half of the rows, and 4 inches in the other half, the thickly and thinly planted rows occurring alternately. In July all the plants of the thickly planted rows are removed to ground that has produced an early crop of peas or potatoes; and these, having the roots well preserved, always afford an abundant crop of fruit in the following summer. The other plants remain unnoticed till the end of November, when the mould between the rows is removed with the spade, and the most widely extended lateral roots detached from it. The spade is also made to pass under each plant, and between it and the plant adjoining, so that each plant becomes capable of being removed at a subsequent period, without having any of the roots ruptured. As each plant becomes detached from the surrounding soil, the ground is closed around it, and it remains till it is wanted, but it should be placed in its pot as early as the middle of February, if it be not sooner removed. In potting *strawberry* plants, Mr. Knight always employs soil of the richest quality and very finely reduced, and a good deal of water, holding manure in solution, is employed to occasion the newly introduced soil to occupy all space previously vacant in the pots. The plants are then in a state to be subjected immediately to artificial heat.

Time of beginning to force.—If the fruit be wanted very early, the plants are put into hot-beds or pits in October, but the crops from *strawberries* so forced Nicol thinks hardly worth the trouble. Abercrombie says " begin to force *strawberries* about nine weeks before you want to gather fruit. Plants excited before the first of January seldom repay the trouble, and in proportion as the time of beginning to force approaches the vernal equinox the returns are more abundant. Have reserve sets of potted plants for removal into a house or frame every three weeks till the middle of March:" he adds, " *strawberries*, taken into the house in March, fruit in higher perfection than those forced earlier." M'Phail and Nicol begin in January. The latter observes, " those who force *strawberries* to a considerable extent, perhaps 1000 pots, bring them in in different successions, perhaps 100 or 200 at a time; that is in places where there are several forcing houses. M'Phail says " when the weather begins to get cold in September, *strawberries* of the alpine kind in pots may be set in a forcing house or brick frame, and if they be in good health, they will produce fruit for a considerable time. They require only a gentle heat of from 50° to 60°; give them water occasionally, but as there is constantly blossom and fruit on them, they need not be watered all over broad-cast. Give them great plenty of air; they only require protection from heavy rains and cold weather." Morgan, as has been already noticed, begins to force *alpines* in November, the *scarlets* in January, and the *pines* in February and March. Thus ensuring, as he says, a successional supply of fruit from October till June.

Temperature.—Abercrombie says, begin at 40° and raise the heat as in the cherry-house. When a pit is employed, Nicol directs the pots to be plunged in a mild bark-bed, and the temperature, by the aid of the flues, to be kept at 50°, and 55° or 66° in sunshine. Such treatment will make the plants thrive and the fruit set freely. Morgan prefers beginning with the heat of a frame on dung, or a pit, and then moves to the peach-house, and after the fruit is set removes his plants to ripen in the vinery or stove. *Scarlets* he finds bear more heat than the other sorts.

Air and water.—Air is to be freely admitted in good weather, and water plentifully supplied at all times, until the fruit begins to ripen off. Then it is to be withheld, lest the flavour become insipid. Morgan prefers supplying water from pans, in order not to rot the hearts of the plants. He gives as little water as possible when the plants are nearly ripe, this being essential to have good-flavoured fruit.

Treatment of the plants after the fruit is gathered.—The *strawberry*, it is generally considered, will not force the year after like fruit trees, but must be rested by plunging in the open ground for one or two years, pinching off all blossoms as they appear. Williams states that " the *scarlet strawberry*, after affording a crop of fruit in a hot-house early in the spring, if carefully removed out of the pots or boxes, and placed in the open ground, will yield another crop of fruit in September. This second crop is very abundant, the warm rains in July and August proving highly favourable to the growth of the fruit; and as there is no other *strawberry* to be had at this season of the year except the *alpine*, the addition of the *scarlet* makes a pleasing variety in the dessert." (Hort. trans. 2. p. 93.) Morgan observes, without limiting his observations to any one sort, that " after the fruit has been gathered from the plants, the pots should be plunged in a shady border, giving them a good watering, and at the same time cutting off all the leaves; when thus treated, they will in the year following, produce as good crops in forcing as fresh potted plants. If not wanted for this purpose, they may be turned out into the natural ground, and will then bear a crop in the autumn of the same year, as described by Williams above."

XI. DUCHE'SNEA (in honour of Ant. Nicholas Duchesne, author of Manuel de Botanique, contenant les propriétés des plantes utiles, 1 vol. 12mo. Paris, 1798, and Histoire Naturelle des Frasiers, 1 vol. 8vo. Paris, 1766.). Smith, in Lin. trans. 10. p. 373. D. Don, prod. fl. nep. p. 236.

Lin. syst. *Icosándria, Polygýnia.* Calyx 10-parted, the outer 5 segments accessory, large, foliaceous, tridentate at the apex and spreading. Petals 5. Stamens numerous. Carpels numerous, adhering to an elevated fleshy receptacle. Styles lateral. Seed pendulous. A herb, with habit of the strawberry, furnished with stolons which extend widely. Leaves trifoliate; leaflets cuneate-ovate, deep green, shining, coarsely crenated towards the apex, and hairy beneath. Peduncles axillary, solitary, 1-flowered. Flowers golden yellow. Fruit like that of the strawberry, red, and insipid.

1 D. FRAGARIOÌDES (Smith, l. c.). ♃. H. Native of the mountains of Nipaul. D. fragifórmis, D. Don, prod. fl. nep. p. 233. Fragària I'ndica, Andr. bot. rep. 479. Ker. bot. reg. 61.

Strawberry-like Duchesnea or Indian Strawberry. Fl. May, Oct. Clt. 1805. Pl. creeping.

Cult. This plant will grow in any common soil, and is easily increased by the stolons or runners. It prefers a dry warm situation.

XII. POTENTI'LLA (from *potens*, powerful; supposed medical quality of some species). Lin. spec. gen. no. 865. Nestl. pot. diss. 4to. Lehm. pot. diss. 4to. D. C. prod. 2. p. 571.

Lin. syst. *Icosándria, Polygýnia.* Calyx 10-parted, the 5 outer segments accessory (f. 72. *a.*). Petals 5 (f. 72. *b.*). Stamens numerous. Carpels numerous, with lateral styles, seated on a dry, permanent, elevated receptacle. Seeds pendulous.—Herbs or sub-shrubs, with compound leaves, and with the stipulas adnate to the petioles. Flowers white, yellow, rarely red.

§ 1. *Leaves ternate.*

* *Flowers yellow.*

1 P. NI'VEA (Lin. spec. 715.) stems ascending, few-flowered; leaves ternate; leaflets obovate-cuneiform, with flat, deeply serrated margins, rather hairy above, but clothed with white tomentum beneath; petals broad, obcordate, a little longer than the calyx. ♃. H. Native of Switzerland, Lapland, and Siberia;

in America, Labrador, the mountains and alpine prairies from Carlton House to the Rocky Mountains, and to the shores of the Arctic sea. Vahl. fl. dan. 1035. Hook, in bot. mag. 2982. Lodd. bot. cab. 460. Flowers yellow.

Var. β, *macrophýlla* (Ser. mss. in D. C. prod. 2. p. 571.) petioles elongated; leaflets larger; flowers larger. P. nìvea β, pallídior, Swartz, ex Lehm. pot. 184. P. leucophýlla, Pall. itin. 3. p. 194. ex Bieb. fl. taur. suppl. 359.—Gmel. sib. 3. t. 37. f. 1.

Var. γ, *cóncolor;* leaves the same colour and rather villous on both surfaces.

Var. δ, *prostràta* (Retz. prod. ed. 1. p. 97. ex Lehm. pot. 184.) flowers glomerate.

White-leaved Cinquefoil. Fl. Ju. Aug. Clt. 1816. Pl. asc.

2 P. ANGUSTIFÒLIA (Schlecht. berl. mag. ann. 7. p. 296. and Lehm. pot. p. 186. t. 19. but not of D. C.) stems ascending, few-flowered; leaves ternate; leaflets oblong-lanceolate, smoothish above and densely clothed with white tomentum beneath, with pectinately-serrated, revolute edges; serratures piliferous at the apex; calyx white; the segments about equal in length to the petals. ♃. H. Native of Eastern Siberia. P. leucophýlla, Fisch. in litt. Flowers yellow.

Narrow-leaved Cinquefoil. Fl. May, June. Clt. 1820. Pl. ascending.

3 P. MACRA'NTHA (Led. in act. nov. soc. petr. 5. p. 541. no. 30. fl. alt. 2. p. 260.) stems oblique, few-flowered; leaves ternate; leaflets ovate-oblong, deeply serrated, beset with spreading pili above and on the flat margins, but clothed with white villi beneath; petals obcordate, twice the length of the calyx; stipulas green. ♃. H. Native of Siberia, beyond the Baikal and in subalpine places at the river Tscharysch, and of Kamtschatka. P. nìvea γ, Camtschátika, Schlecht. et Cham. in Linnæa. 2. p. 21. Flowers yellow.

Var. β, *uniflòra* (Led. l. c.) stem erect, 1-flowered; leaflets obovate, rather retuse. ♃. H. Native of Dahuria.

Large-flowered Cinquefoil. Fl. April, May. Clt. 1820. Pl. ½ foot.

4 P. MI'NIMA (Hall. fil. in Schleich. cent. exsic. 1. no. 59.) stems diffuse, filiform, 1-flowered; leaves ternate, smoothish above but pilose beneath; leaflets obovate, short, crenated, and rather retuse; calycine segments obtuse, shorter than the corolla. ♃. H. Native of the alps of Switzerland, and Salisburg. Ser. mus. helv. 1. p. 51. t. 8. Lodd. bot. cab. 480. P. Brauniàna, Nestl. in litt. but not in mon. pot. t. 10. f. 4. Hoppe in Sturm, deutschl. fl. with a figure. P. vérna γ, nàna, D. C. fl. fr. 5. p. 542.—P. vérna α, alpéstris, Wallr. sched. p. 228. P. frígida β, D. C. fl. fr. 4. p. 462. Flowers yellow. Perhaps only a small variety of *P. aùrea*, Lin.

Var. β, *Brauniàna* (Ser. mss.) leaflets cuneated, toothed; flowers larger; calycine segments acute. P. Brauniàna, Nestl. pot. 70. t. 10. f. 4. but not of Hoppe, exclusive of nearly all the synonymes.

Smallest Cinquefoil. Fl. May, June. Clt. 1818. Pl. ¼ foot.

5 P. E'LEGANS (Cham. et Schlecht. Linnæa. vol. 2. p. 22.) stem erect, 1-flowered; leaves petiolate, smoothish, ternate; leaflets deeply lobed; lobes linear, obtuse, entire, and trifid; stipulas membranous, acute; petals obcordate, longer than the calyx. ♃. H. Native of Kamtschatka. Flowers yellow.

Elegant Cinquefoil. Pl. ½ foot.

6 P. GE'LIDA (Meyer, verz. pfl. 146.) plant rather pilose; radical leaves ternate; leaflets obovate-roundish, toothed; stipulas obovate, obtuse, almost quite entire; stems filiform, decumbent, usually 3-flowered; petals obcordate, twice the length of the calyx, outer segments of the calyx elliptic, obtuse, inner ones longer, lanceolate, acute. ♃. H. Native of Caucasus. P. granditlòra, Bieb. fl. taur. 1. p. 409. Allied to *P. Brauniàna* and *P. glaciàlis.* Flowers yellow.

Var. α, *glàbrior* (Meyer, l. c.) leaflets smoothish, bluntly toothed; stipulas very blunt.

Var. β, *pilòsior* (Meyer, l. c.) leaflets more or less pilose, acutely toothed; stipulas bluntish or acutish. ♃. H. Native on the alps of Kasbek, at the height of 2300 feet.

Cold Cinquefoil. Pl. decumbent.

7 P. HELVE'TICA (Schleich. cat. 1897. p. 20.) plant very pilose; root thick; stems tufted, rather diffuse, few-flowered; leaves ternate; leaflets ovate, pectinately toothed; the teeth rather imbricated; calycine segments bluntish, shorter than the corolla. ♃. H. Native of Vallais and Switzerland, on the mountains. P. frígida α, D. C. fl. fr. 4. p. 3748. P. Norvégica, Sut. fl. helv. 1. p. 310. but not of Lin.

Swiss Cinquefoil. Fl. April, June. Clt. 1819. Pl. ¼ foot.

8 P. FRI'GIDA (Vill. dauph. 3. p. 563. ex Nestl. pot. 70. t. 10. f. 3. exclusive of the synonymes) plant very pilose; root thick; stems tufted, rather diffuse; leaves ternate; leaflets ovate, crenated; calycine segments lanceolate, longer, or equal in length to the petals, which are obcordate. ♃. H. Native of the alps of Dauphiny. Flowers yellow.

Frigid Cinquefoil. Fl. April, June. Clt. 1819. Pl. ¼ foot.

9 P. GRANDIFLÒRA (Lin. spec. 715.) stem ascending, few-flowered; leaves ternate; leaflets obovate, cuneated at the base, deeply serrated, pilose; stipulas large; petals obcordate, twice the length of the calyx; receptacle pilose. ♃. H. Native of the alps of Europe and Siberia. Lehm. pot. 164. Curt. bot. mag. 75. Hall. hist. no. 1114. t. 20. f. 1.—Gmel. sib. 3. p. 183. no. 83. t. 36. f. 1. Flowers large, yellow.

Var. β, *Pyrenàica* (Ser. in D. C. prod. 2. p. 573.) leaflets 3 and 5. ♃. H. Native of the Pyrenees. P. Pyrenàica, Ram. in D. C. fl. fr. 4. p. 459. and 5. p. 452.

Var. γ, *minor* (Venetz, in litt.) stem and leaves smaller. ♃. H. Native of Vallais.

Great-flowered Cinquefoil. Fl. Ju. Jul. Clt. 1640. Pl. asc.

10 P. FRAGIFÓRMIS (Willd. in mag. der. gesell. nat. freunde, p. 294. Lehm. pot. p. 165. t. 15.) stem erect, few-flowered; leaves ternate; leaflets roundish-obovate, bluntly toothed, beset with spreading pili on both surfaces, and having the margins villous; petals obcordate, a little longer than the calyx. ♃. H. Native of the Aleutian Islands. Flowers yellow.

Strawberry-like Cinquefoil. Fl. Ju. Jul. Clt. 1800. Pl. 1 ft.

11 P. RETU'SA (Oed. fl. dan. 799.) hairy; stems erect, few-flowered; leaves ternate; leaflets cuneiform, tridentate at the apex, pilose; stipulas entire; petals obovate, longer than the calyx. ♃. H. Native of Denmark. Flowers yellow.

Retuse-leaved Cinquefoil. Pl. ¼ foot.

12 P. VILLÒSA (Pallas, ex Pursh, fl. amer. sept. 1. p. 353.) stem ascending, few-flowered; leaves ternate; leaflets roundish-cuneiform, serrated, clothed with silky villi above, and with hoary tomentum beneath; petals obcordate, twice the length of the calyx. ♃. H. Native of North America, on the west coast, Dundas Island, Unalaschka and about Behring's Straits, Kotzebue's Sound, &c. Lehm. pot. p. 166. t. 16. P. lùcida, Willd. in berl. mag. ann. 7. p. 296. Corolla large, golden yellow.

Villous Cinquefoil. Fl. June, July. Clt. 1820. Pl. ½ foot.

13 P. NORVE'GICA (Lin. spec. 715.) stem erect, dichotomous at the apex; leaves ternate, petiolate; leaflets oblong, acutely serrated, beset with spreading pili; pedicels axillary; petals obovate, shorter than the calyx. ♂. H. Native of Lapland, Norway, Siberia; North America, throughout Canada, Hudson's Bay, Labrador, shores of the Columbia, at Fort Vancouver, and towards the mouth of the river. Lehm. pot. 153. Oed. fl. dan. t. 171. P. millegràna and P. gróssa, Dougl. in herb. hort. soc. P. dichótoma, Mœnch. Flowers small, pale yellow.

Norwegian Cinquefoil. Fl. Ju. Jul. Clt. 1764. Pl. ½ to 1 ft.

14 P. NA'NA (Schlecht. in berol. mag. ann. 7. p. 296. and

Lehm. pot. 181.) stem erect, usually 1-flowered; leaves ternate; leaflets roundish-obovate, bluntly toothed, pilose on both surfaces, canescent beneath; petals obcordate, 3-times the length of the calyx. ♃. H. Native of the Aleutian islands, and of North America on the most elevated of the Rocky Mountains, Labrador, Kotzebue's Sound, &c. Outer calycine segments roundish and very obtuse. Corolla large, pale yellow.

Dwarf Cinquefoil. Pl. 2 inches.

15 P. HIRSU'TA (Michx. fl. bor. amer. 1. p. 303.) plant beset with loose hairs; stem erect, few-flowered; leaves ternate, petiolate; leaflets obovate, profoundly serrated; teeth blunt; petals shorter than the calyx. ♃. H. Native of North Canada, from Quebec to St. Lawrence; plains of the Saskatchawan, &c. Nestl. pot. p. 67. t. 9. f. 1. P. Morisòni, D. C. cat. hort. monsp. p. 135. P. Montpeliénsis, Lin. spec. 704. Fragària parviflòra, Lam. fl. fr. 3. p. 112. Corolla yellow.

Hairy Cinquefoil. Fl. July, Aug. Clt. 1680. Pl. ½ to ¾ ft.

16 P. ELA'TIOR (Schlecht. in berl. mag. ann. 7. p. 295. Lehm. pot. p. 157. t. 14.) stem erect, tall; leaves ternate, petiolate; leaflets oval, acutely serrated, veiny, almost glabrous on both surfaces; petals obovate, entire, a little longer than the calyx. ♃. H. Native of Siberia. Flowers yellow.

Taller Cinquefoil. Fl. June, July. Clt. 1824. Pl. 1½ foot.

17 P. VAHLIA'NA (Lehm. pot. p. 172.) stem erect, usually 1-flowered; leaves ternate; lateral leaflets cuneiform and trifid at the apex, middle one rhomboid, all very hairy, clothed with shining, yellowish, or white down beneath; petals reniform, twice the length of the calyx. ♃. H. Native of Greenland and North America, on the dry and elevated ridges of the Rocky Mountains; shores and islands of the Arctic Sea. P. hirsùta, Vahl. in litt. Horn. fl. dan. t. 1390. but not of Michx. P. Jamesoniàna, Grev. in mem. soc. wern. 3. p. 417. t. 20. Flowers yellow.

Vahl's Cinquefoil. Pl. 2 to 3 inches.

18 P. SUBACAU'LIS (Lin. spec. 715.) stems prostrate, few-flowered; radical leaves as well as those of the runners ternate, but the cauline ones are simple; leaflets obovate-cuneated, serrated to the middle, densely clothed with hoary tomentum; petals round, obcordate, about twice the length of the calyx. ♃. H. Native of Germany, Switzerland, Vallais, Piedmont, and of Siberia. Jacq. icon. rar. vol. 3. t. 491. P. cinèrea, Poir. P. glaucéscens, Willd. P. vèrna, Kunth, fl. berol. p. 142. P. ovàta, Poir. P. incàna, Mœnch. P. arenària, Borck. P. opàca, Vill.—All. fl. pedem. t. 24. f. 2. Gmel. sib. 3. t. 36. f. 2. Flowers yellow.

Var. β, *latiloba* (Ser. in D. C. prod. 2. p. 573.) leaflets broader and shorter. Native of Siberia, about Barnaoul.

Almost stemless Cinquefoil. Fl. Apr. May. Clt. 1820. Pl. pr.

19 P. VELUTI'NA (Lehm. pot. 170.) stem ascending, few-flowered; leaves ternate; leaflets cuneiform, truncate, bluntly toothed at the apex, canescent on both surfaces from fascicles or tufts of velvety hairs; petals roundish, quite entire, a little longer than the calyx. ♃. H. Native of Provence, on the mountains. P. subacaùlis, D. C. fl. fr. 4. p. 465. P. grandiflòra, Scop. fl. carn. 1. no. 626. t. 22. but not of Lin. P. incàna, Lam. fl. fr. 3. p. 112. Flowers yellow.

Velvety Cinquefoil. Fl. Apr. May. Clt. 1820. Pl. 2 to 3 inc.

20 P. EMARGINA'TA (Pursh, fl. amer. sept. 1. p. 353.) stems assurgent, few-flowered; leaves ternate; leaflets deeply toothed, hairy on both surfaces; pedicels terminal, elongated; petals oblong-cuneate, emarginate, twice the length of the calyx. ♃. H. Native of Labrador. Flowers large, yellow.

Emarginate-petalled Cinquefoil. Pl. 2 inches.

21 P. DENTICULÒSA (Ser. mss. in D. C. prod. 2. p. 573.) hairy; stems creeping, filiform; leaves ternate, petiolate; leaflets broadly obovate, of the same colour on both surfaces, doubly toothed, petiolate; stipulas denticulated; flowers axillary, solitary; petals obovate, about equal in length to the calyx. ♃. H. Native of Nipaul. Flowers yellow.

Toothletted-stipuled Cinquefoil. Pl. creeping.

22 P. WALLICHIA'NA (Ser. in D. C. prod. 2. p. 574.) hairy; stem creeping, filiform; leaves ternate; leaflets obovate, sessile, toothed; flowers axillary, solitary; petals obovate, longer than the calyx. ♃. H. Native of Nipaul. Flowers yellow.

Wallich's Cinquefoil. Pl. creeping.

23 P. MONA'NTHES (Lindl. in Wall. cat. no. 1025. Lehm. pug. 3. p. 33.) stem erect, 1-2-flowered; leaves ternate, rather pilose on both surfaces, and somewhat ciliated; leaflets cuneiform, truncate, crenately toothed; teeth roundish, obtuse; stipulas short, entire; outer calycine segments the largest, roundish, and obtuse; petals nearly orbicular, quite entire, length of calyx. ♃. H. Native of Sirmore. Flowers small, yellow.

One-flowered Cinquefoil. Pl. ¼ to ½ foot.

24 P. CUNEA'TA (Wall. cat. no. 1015. Lehm. pug. 3. p. 34.) stem ascending, but erect and leafless at the apex; leaves ternate, on very long petioles, pilose; leaflets obovate, rounded at the base, truncate at the apex, deeply tridentate, acute; flowers terminal, crowded, sub-cymose. ♃. H. Native of Gosainsthan. Flowers yellow.

Wedge-leaved Cinquefoil. Pl. ½ foot.

25 P. ERIOCA'RPA (Wall. cat. no. 1012. Lehm. pug. 3. p. 35.) plant glabrous; stem ascending, simple, few-flowered, almost leafless; leaves on long petioles, ternate; leaflets petiolate, obovate-rhomboid, deeply 5-toothed at the apex; outer calycine segments larger, ovate, nerved; petals obcordate, twice the length of the calyx. ♃. H. Native of the mountains of Kamaon and Gosainsthan. Flowers large, yellow.

Hairy-fruited Cinquefoil. Pl. ½ foot.

26 P. ARGYROPHY'LLA (Wall. cat. no. 1020. Lehm. pug. 3. p. 36.) stem erect, nearly simple; leaves ternate, almost sessile, distant; leaflets oblong, serrate-toothed, densely clothed with white tomentum beneath; teeth apiculated; stipulas ovate-lanceolate, deeply serrated; petals broad, obcordate, longer than the calyx. ♃. H. Native of Gosainsthan. Flowers large, yellow.

Silver-leaved Cinquefoil. Pl. 1½ foot.

* * *Flowers white or red.*

27 P. CATHA'CLINES (Lehm. pug. 3. p. 37.) stems prostrate, usually 1-flowered; leaves ternate, distant; leaflets roundish, deeply serrated, densely clothed with silky pili above, but with white tomentum beneath; stipulas ovate, almost entire; petals obcordate, longer than the calyx. ♃. H. Native of Gosainsthan. Flowers blood-coloured.

Reclining Cinquefoil. Pl. prostrate.

28 P. ATROSANGUI'NEA (Lodd. bot. cab. 786.) plant clothed with silky villi; stems decumbent; leaves ternate, petiolate; leaflets obovate, deeply serrated, clothed with white tomentum beneath; stipulas ovate-lanceolate, entire, or bifid; petals obcordate, longer than the calyx. ♃. H. Native of Nipaul and Gosainsthan. Sims, bot. mag. 2689. Peduncles few, 1-flowered at the tops of the branches. Corolla dark blood-coloured.

Dark-bloody-flowered Cinquefoil. Fl. May, Sept. Clt. 1822. Pl. decumbent.

29 P. MICRA'NTHA (Ram. in D. C. fl. fr. 4. p. 3760.) stems prostrate, hairy, 1-flowered; leaves ternate; leaflets ovate, obtuse, serrated, unequal at the base, silky; outer calycine segments a little toothed; petals obcordate-cuneated or nearly entire, shorter than the calyx. ♃. H. Native of the Pyrenees; of Italy, on Mount Generoso; in Calabria, on Mount Polleno. Lehm. pot. 158. Ser. mus. helv. 1. p. 60. t. 5. P.

fragària β, micrántha, Nestl. pot. 158. P. brevíscapa, Vest. in flora, 1821. p. 158. Fràga stérilis β, parviflòra, Lapeyr. fl. pyr. 287. P. parviflòra Clairville. Flowers small, white.

Small-flowered Cinquefoil. Fl. May, June. Clt. 1820. Pl. tr.

30 P. FRAGA'RIA (Poir. dict. 5. p. 599.) stems decumbent, 2-flowered; leaves ternate; leaflets roundish-obovate, acutely serrated, hairy, canescent beneath; petals obcordate, about equal in length to the calyx. ♃. H. Native of Europe, in woods; in Britain in dry pastures. Lehm. pot. 160. Ser. mus. helv. 1. p. 59. t. 4. f. 2. Fragària stérilis, Lin. spec. 709. Smith, engl. bot. 1785. Curt. fl. lond. t. 30. P. fragariástrum, Ehrh. beitz. Fragària præcox, Kit. P. prostràta, Walt. P. fragarioìdes, Vill. Fràga stérilis, Lapeyr. fl. pyr. p. 287. Habit of the strawberry. Flowers white, spreading.

Strawberry Cinquefoil. Fl. May, June. Britain. Pl. prost.

31 P. HY'BRIDA (Wallr. sched. p. 247.) stems procumbent; leaves ternate; leaflets obovate-oblong, closely serrated beneath the apex, smoothish above, glaucescent beneath, and silky; calycine segments ovate, acuminated, about equal in length to the petals, which are obcordate. ♃. H. Native of Germany.

Hybrid Cinquefoil. Pl. pros.

32 P. SPECIÒSA (Willd. spec. 2. p. 1110.) stems erect, subcorymbose at the apex; leaves ternate; leaflets elliptic, serrated at the apex, pubescent above, and clothed with white tomentum beneath; petals spatulate, entire, a little longer than the calyx. ♃. H. Native of Crete, on the mountains. Nestl. pot. p. 74. t. 11. Smith, fl. græc. t. 484. Corolla white.

Showy Cinquefoil. Fl. June, July. Pl. ¾ foot.

33 P. SPLE'NDENS (Poir. suppl. 4. p. 541.) stems decumbent, rooting; leaves usually ternate; leaflets oval-oblong, retuse at the apex, closely serrated in front, silky, hoary beneath; petals obcordate, twice the length of the calyx. ♃. H. Native of France and the Pyrenees. P. Vaillántii, Nestl. pot. p. 75. P. emarginàta, Desf. P. nítida, Thunb. P. montàna, Schrad. Brot. Fràga Vaillántii, Lapeyr. fl. pyr. p. 287.—Vaill. par. t. 10. f. 1. Flowers white.

Splendent Cinquefoil. Fl. May, June. Pl. creeping.

34 P. NÍTIDA (Lin. spec. 714.) stems ascending, usually 1-flowered; leaves ternate; leaflets obovate-cuneiform, toothed at the apex, clothed on both surfaces with silvery silky down; petals oboval, emarginate, longer than the calyx. ♃. H. Native of the mountains of Dauphiny and Savoy. Lehm. pot. 187. Ser. mus. helv. 1. p. 62. t. 5. f. *a*, *b*, *c*, *d*. Jacq. fl. austr. app. t. 25. Sturm, deutsch. fl. fasc. 12. with a figure. P. Terglovénsis, Vittm. summ. 3. p. 270.—Bocc. mus. t. 9. f. 4. Flowers white or peach blossom coloured. Plant tufted.

Shining Cinquefoil. Fl. May, June. Clt. 1815. Pl. 2 to 3 inches.

35 P. APENNÌNA (Tenor. cat. hort. neap. 1815. p. 50. fl. neap. 1. p. 30. t. 46.) plant shining; stems tufted, 1-4-flowered; leaves ternate; leaflets oval, obtuse, somewhat 2-3-toothed at the apex, teeth connivent; stipulas broad; petals obovate, longer than the calyx. ♃. H. Native of the Apennines.—Bocc. mus. t. 8. f. 4. Flowers white.

Apennine Cinquefoil. Fl. May, June. Clt. 1821. Pl. 1 to 3 inches.

36 P. BOCCÒNI (Nestl. pot. 73. t. 10. f. 2.) stems ascending, few-flowered; leaves ternate; leaflets elliptic, clothed with silky hoary down on both surfaces, retuse and closely tridentate at the apex. ♃. H. Native of the Apennines.—Bocc. mus. t. 8. Flowers white or red.

Bocconi's Cinquefoil. Fl. May, June. Clt. 1823. Pl. ¼ ft.

37 P. TRIDENTA'TA (Sol. in Ait. hort. kew. ed. 1. vol. 2. p. 216. t. 9.) root creeping; stem ascending; leaves ternate; leaflets oblong-cuneiform, tridentate at the apex, smoothish above, but pubescent and glaucescent beneath. ♃. H. Native of Greenland, Labrador, Canada, and Newfoundland. In Scotland on Werron hill near Brechin. Smith, engl. bot. 2389. Flowers corymbose, white, tinged with red.

Tridentate-leaved Cinquefoil. Fl. June, July. Scot. Pl. ¼ ft.

38 P. BIFLÒRA (Lehm. pot. p. 192. t. 20.) stem erect, 2-flowered at the apex; leaves ternate, finely pilose; lateral leaflets deeply tripartite, terminal one bipartite, with the segments linear, entire, and ciliated on the margins. ♃. H. Native of Eastern Siberia and North America, in barren grounds from lat. 64° to the shores of the Arctic sea and Kotzebue's Sound. Richards in Frankl. first journ. ed. 2. app. p. 21. Flowers white or red.

Two-flowered Cinquefoil. Pl. ¼ foot.

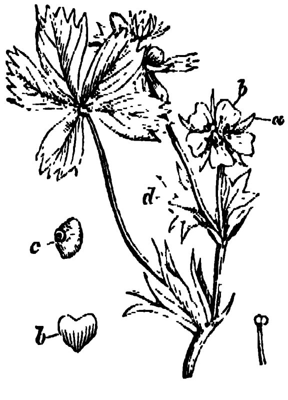
§ 2. *Leaves digitate, with usually 5-7-9 leaflets.*

* *Flowers yellow.*

39 P. UMBRÒSA (Stev. in Bess. cat. hort. crem. ann. 1816. p. 110. Bieb. fl. taur. suppl. 357.) stems erectish, naked from the base to the bifurcations; radical leaves with 5-6 obovate-oblong, bluntly serrated leaflets, cauline leaves ternate; stipulas falcate; petals obcordate, rather longer than the calyx. ♃. H. Native of the south of Tauria, in shady places. Allied to *P. réptans*, but abundantly distinct. Petals of a golden yellow inside, but brownish yellow on the outside.

Shaded Cinquefoil. Fl. June, July. Clt. 1818. Pl. 1 foot.

FIG. 72.



40 P. RE'PTANS (Lin. spec. 714.) stem creeping; leaflets 5, obovate-cuneiform, sharply serrated, pilose; pedicels axillary, solitary, longer than the leaves; bracteas (f. 72. *d.*) 3-lobed; petals obcordate, longer than the calyx. ♃. H. Native of Europe; plentiful in Britain in hedges and by road sides, particularly near London. Smith, engl. bot. 862. Fl. dan. 1164. Curt. lond. 1. t. 37. Flowers yellow.

Creeping Cinquefoil. Fl. June, Sept. Britain. Pl. creeping.

41 P. FLAGELLA'RIS (Lehm. pot. p. 141. t. 12.) stems filiform, prostrate; leaflets 5, lanceolate, serrated, nearly glabrous; pedicels axillary, solitary, filiform, elongated; petals obovate, quite entire, a little longer than the calyx. ♃. H. Native of Eastern Siberia. Corolla yellow.

Rod Cinquefoil. Fl. June, July. Clt. 1820. Pl. trailing.

42 P. SI'MPLEX (Nestl. mon. p. 40. t. 9. f. 2. Lehm. pot. p. 142.) stems trailing: leaflets 5, oblong-oval, serrated, rather pilose beneath; pedicels axillary, solitary, length of leaves; petals roundish, hardly emarginate, a little longer than the calyx. ♃. H. Native of fields and dry woods in Canada about Quebec, Pennsylvania, and Carolina. P. sarmentòsa, Poir. suppl. 4. p. 543. P. Caroliniàna, Pers. ench. 2. p. 55. Flowers yellow.

Simple-stemmed Cinquefoil. Pl. trailing.

43 P. NEUMAYERIA'NA (Tratt. ros. 4. p. 75.) stems decumbent; radical leaves quinate, cauline ones ternate; leaflets roundish-cuneated, deeply toothed at the apex, pubescent on both surfaces; flowers solitary, supra-axillary, on long pedicels; petals 3 times the length of the calyx. ♃. H. Native of Austria.

Neumayer's Cinquefoil. Pl. decumbent.

44 P. CANADE'NSIS (Lin. spec. 713.) stem ascending, weak; radical leaves quinate; leaflets sessile, obovate-cuneiform, acutely serrated above, clothed with silky white down; petals orbicular, almost entire, length of calyx. ♃. H. Native of Canada and

Carolina. Nestl. pot. p. 58. t. 10. f. 1. P. pùmila, Lam. P. sarmentòsa, Muhl. Flowers yellow. Pedicels axillary, solitary, 1-flowered, filiform, elongated. Flowers yellow.

Canadian Cinquefoil. Fl. June, July. Clt. 1800. Pl. ½ ft.

45 P. DISSE'CTA (Pursh, fl. amer. sept. 1. p. 355.) plant erect, branched, smoothish; leaflets 5, pinnatifid, with the segments entire and acute; flowers terminal, subcorymbose. ♃. H. Native near Hudson's Bay. Flowers yellow.

Dissected Cinquefoil. Pl. 1 foot.

46 P. VE'RNA (Lin. spec. 712.) stems declinate; lower leaves quinate; leaflets obovate-cuneiform, deeply serrated at the apex, pilose on the nerves, with the teeth blunt; flowers subpanicled; petals obcordate, longer than the calyx. ♃. H. Native of Europe and the north of Asia, in dry places. In Britain in elevated pastures and barren hilly ground, near Kippax, Yorkshire; about Bury, Suffolk; Cambridgeshire; on St. Vincent's Rocks, Bristol; and in the King's Park, Edinburgh. Smith, eng. bot. t. 37. Sturm, deutsch. fl. fasc. 17. with a figure. P. débilis, Schleich. cat. 1815. Flowers yellow. There are several slight varieties of this plant.

Spring Cinquefoil. Fl. April, May. Britain. Pl. declinate.

47 P. PA'TULA (Waldst. et Kit. pl. hung. 2. p. 218. t. 199.) stems tufted, rather declinate, beset with adpressed pili; radical leaves with 7-9 leaflets; leaflets cuneiform, deeply toothed at the apex, naked above, but pilose beneath; petals retuse, longer than the calyx. ♃. H. Native of the Carpathian mountains. Nestl. pot. 56. Flowers yellow.

Spreading Cinquefoil. Fl. May, July. Clt. 1818. Pl. tufted.

48 P. OPA'CA (Lin. spec. 713.) stems decumbent, filiform; leaflets 5-7 on the lower leaves, lanceolate-cuneiform, deeply serrated, pilose on both surfaces; petals obcordate, about equal in length to the calyx or a little longer; stipulas entire, bifid or trifid. ♃. H. Native throughout Europe, Siberia, and of Labrador. In Scotland on the hills of Clova, Angusshire, as also in Perthshire. Jacq. icon. rar. t. 91. Smith, engl. bot. 2449. P. dùbia, Sut. fl. helv. 1. p. 308. P. Galiciàna, Pohl. et Bess. Flowers yellow, disposed in a leafy corymb; pedicels filiform; stems purplish.

Opaque Cinquefoil. Fl. May, June. Britain. Pl. ascending ⅓ foot.

49 P. AU'REA (Lin. spec. 712.) stems ascending; radical leaves quinate; leaflets oblong-cuneiform, middle one stalked, serrate-toothed at the apex, rather silky, with silky ciliated margins; petals obcordate, nearly twice the length of the calyx. ♃. H. Native of the Alps of Europe. P. Hallèri, Ser. mus. helv. 1. p. 75. P. maculàta, Gilb.—Hall. enum. t. 6. f. 4. hist. no. 1122. t. 21. f. 6. Flowers yellow.

Golden-flowered Cinquefoil. Fl. May, June. Scotland. Pl. declinate ½ foot.

50 P. ALPE'STRIS (Hall. fil. in Ser. mus. helv. 1. p. 53. Smith, engl. fl. 2. p. 419.) stems ascending; radical leaves of 5, rarely 7, wedge-shaped, rather hairy leaflets, deeply cut in their upper half; upper stipulas ovate; pedicels axillary and terminal, long; petals heart-shaped; calycine segments acute. ♃. H. Native of Switzerland, Denmark, and Lapland. In England in the county of Durham, and on rough stony ground at Hafod, Cardiganshire. In Scotland on Ben Lawers, and other mountains of Breadalbane. R. Salisburgénsis, Hænke in Jacq. coll. vol. 2. p. 68. icon. rar. t. 490. P. aúrea, Smith, fl. brit. 549. engl. bot. 561. Fl. dan. 114. Ser. mus. helv. 1. p. 72. t. 8. P. vérna β, Wahl. fl. lapp. 146. P. vérna γ, Nestl. pot. 52. Corolla of an orange or tawny yellow-colour.

Alp Cinquefoil. Fl. July. Britain. Pl. ½ to 1 foot.

51 P. CRÒCEA (Hall. fil. in Schleich. cat. 1807. p. 20.) stems ascending; lower leaves quinate; leaflets oblong-cuneated, bluntly rounded at the apex, rather hairy, deeply serrated at the top; the teeth obtuse; petals obcordate, twice the length of the calyx. ♃. H. Native of the Alps of Switzerland and Salisburg. P. filifórmis, D. C. fl. fr. 6. p. 542. P. Pyrenàica, Poir. suppl. 4. p. 539. P. heterophýlla, Nestl. pot. 56. P. vérna, Wahl. P. adscéndens, Lapeyr. P. rotundifòlia, Vill. P. Sabaúda, D. C. fl. fr. 4 and 5. no. 3738. P. rùbens, Horn. hort. hafn. 2. p. 447. Corolla large, copper-coloured.

Copper-coloured-flowered Cinquefoil. Fl. May, July. Clt. 1816. Pl. ascending ½ foot.

52 P. GERANIOÌDES (Willd. spec. 1101.) stem decumbent; lower leaves with 5-7 leaflets; leaflets cuneiform, somewhat palmately pinnatifid, pilose, with the segments linear; petals obcordate, a little longer than the calyx. ♃. H. Native of Armenia and Syria. Nest. pot. 47. t. 5. f. 1. Corolla yellow.

Geranium-like Cinquefoil. Fl. May, July. Clt. 1820. Pl. decumbent.

53 P. LINDACKE'RI (Tauch. ex Spreng. syst. 2. p. 538.) leaves quinate, silky beneath; leaflets cuneiform, deeply toothed, the teeth oblong and roundish; stems filiform, procumbent; petals exceeding the calyx. ♃. H. Native of Bohemia.

Lindacker's Cinquefoil. Pl. proc.

54 P. RANUNCULOÌDES (Humb. et Bonpl. in Nestl. pot. 56. t. 3. f. 1. H. B. et Kunth, nov. gen. amer. 6. p. 216.) stems erect, few-flowered; radical leaves with 5-7 obovate, roundish, bluntly toothed, nearly glabrous leaflets; petals obcordate, a little longer than the calyx. ♃. F. Native of Mexico, at the bottoms of the mountains called Cerro de las Cruces. P. macrorhìza, Schlecht. consp. pot. in berol. mag. 7. p. 292. Lehm. pot. 114. Flowers yellow.

Ranunculus-like Cinquefoil. Pl. ½ foot.

55 P. HYEMA'LIS (Schlecht. et Cham. in Linnæa. 5. p. 572.) root thick; radical leaves quinate; leaflets ovate, obtuse, crenate-toothed, green and pilose above, but clothed with white tomentum beneath; stems ascending, corymbose at the apex, 7-15-flowered, very hairy, as well as the calyxes; calycine segments lanceolate, acute; receptacle villous. ♃. G. Native of Mexico, at Cruz Blanca. Flowers yellow, about the size of those of *P. álba*.

Winter Cinquefoil. Fl. Nov. Pl. ½ foot.

56 P. THOMA'SII (Tenore, prod. 2. suppl. 1. p. 61. fl. neap. 1. p. 285. t. 44.) stem erectish, corymbiferous; radical leaves with 5, rarely with 7 leaflets; leaflets obovate, coarsely toothed, clothed on both surfaces with silky villi, greenish above, but hoary beneath; petals obcordate. ♃. H. Native of Italy. Flowers yellow.

Thomas's Cinquefoil. Pl. 1 foot.

57 P. ARGE'NTEA (Lin. spec. 712.) stems ascending; leaves quinate; leaflets cuneiform, deeply cut at the top, clothed with white tomentum beneath, the margins revolute; petals retuse, longer than the calyx. ♃. H. Native of Europe; plentiful in Britain, and of Canada. Smith, engl. bot. t. 89. Fl. dan. t. 865. Flowers yellow.

Var. β, dentàta (Wallr. sched. 237.) leaflets almost entire, only with 2 or 3 teeth at the apex, tomentose beneath. ♃. H. Native of Germany and America. P. cinèrea, Rafin. in litt.

Var. γ, dissécta (Wallr. sched. 237.) leaflets more or less deeply divided into linear segments, tomentose beneath. ♃. H. Native of Germany and France.

Var. δ, minùta (Ser. mss. in D. C. prod. 2. p. 577.) stems few-flowered, and are, as well as the leaves, very small, tomentose beneath. ♃. H. Native about Geneva.

Silvery Cinquefoil. Fl. June, Aug. Britain. Pl. 1 foot.

58 P. GUNTHE'RI (Pohl. tent. 2. p. 185. Lehm. pot. 97. t. 10.) stems weak, diffuse; lower leaves quinate, upper ones ternate; leaflets cuneated, acutely serrated at the top, canescent beneath, with flat margins; petals retuse, a little longer than the

calyx. ♃. H. Native of Silesia and Bohemia, in arid places. P. Weimanniàna, Gunther. Flowers yellow.

Gunther's Cinquefoil. Fl. Ju. July. Clt. 1818. Pl. ½ to 1 foot.

59 P. CALA'BRA (Tenor. suppl. 2. p. 67. fl. neap. 1. p. 287. t. 45.) stems prostrate; leaves quinate, tomentose on both surfaces, very white beneath; leaflets cuneiform, multifid; petals longer than the calyx. ♃. H. Native of Calabria, on the mountains. Flowers yellow.

Var. β, impolìta (Wahl. fl. carp. p. 507.) stems ascending, firm; leaflets pectinately toothed, tomentose on both surfaces.

Calabrian Cinquefoil. Fl. June, July. Clt. 1820. Pl. pros.

60 P. DECLINA'TA (Horn. hort. hafn. p. 56.) stems prostrate; lower leaves quinate; leaflets lanceolate, deeply cut; cauline leaves ternate; petals shorter than the calyx. ♃. H. Native country unknown. Flowers small, yellow.

Declinate Cinquefoil. Fl. June, July. Clt. 1817. Pl. pros.

61 P. PETRÆ'A (Schlecht. berol. mag. ann. 7. p. 292. Lehm. pot. 119. t. 11.) stems ascending; leaves quinate; leaflets cuneiform-rhomboid, deeply serrated at the apex, clothed with hoary silky down on both surfaces; corollas small; petals roundish-obcordate, exceeding the calyx. ♃. H. Native of France, about Dijon, in rocky stony places.

Rock Cinquefoil. Fl. May, July. Clt. 1819. Pl. ½ to 1 ft.

62 P. COLLÌNA (Wibel. prim. fl. werth. 2. p. 267. ex Lehm. pot. 99.) stems ascending; lower leaves quinate, upper ones ternate; leaflets cuneiform, bluntly toothed at the apex, clothed with canescent tomentum beneath, with flat margins; petals rather retuse, longer than the calyx. ♃. H. Native of Wertheim, in fields. Flowers yellow.

Hill Cinquefoil. Fl. June, July. Clt. 1816. Pl. 1 foot.

63 P. INTERME'DIA (Lin. mant. 76.) stems erect, dichotomous; lower leaves with 7 leaflets, cauline ones quinate or ternate; leaflets obovate-oblong, nearly glabrous; panicle leafy; petals obcordate, a little longer than the calyx. ♃. H. Native of Switzerland, Dauphiny, and the Pyrenees, Nestl. pot. 49. t. 8. Ser. mus. helv. 1. p. 76. P. Nestleriàna, Tratt. ros. 4. p. 91. P. alchemilloìdes, Schlecht. P. vàrians, Mœnch. Flowers yellow.

Var. β, macropétala (Ser. in D. C. prod. 2. p. 577.) flowers large; leaves small; stipulas ovate. P. intermèdia, Thom. cat. 1818. p. 24.

Var. γ, elongàta (Ser. l. c.) leaflets smaller and narrower; stem elongated. P. elongàta, Goldb. ex Fisch. gor. in litt.

Intermediate Cinquefoil. Fl. May, Sept. Clt. 1786. Pl. 1 to 1½ foot.

64 P. INCI'SA (Desf. cat. hort. par. ex Nestl. pot. 51. t. 4. f. 1. but not of Lag.) stems decumbent, dichotomous; lower leaves quinate, upper ones ternate; leaflets oblong-cuneiform, deeply cut at the apex, pilose; petals cuneated, retuse, a little longer than the calyx. ♃. H. Native country unknown. Corolla pale yellow.

Cut-leaved Cinquefoil. Fl. June, July. Clt. 1818. Pl. dec.

65 P. GRA'CILIS (Dougl. mss. Hook. fl. bor. amer. 192.) stems erect, tall, beset with soft hairs, corymbosely panicled at the apex; leaves quinate, lower ones on long petioles, upper ones almost sessile; leaflets lanceolate, deeply and pinnatifidly serrated, clothed with white tomentum beneath; stipulas large, lanceolate, entire; petals obcordate, longer than the calyx, which is silky. ♃. H. Native of North America, on the banks of the Columbia and the plains of the Mulnomak river. Hook. bot. mag. t. 2984. Flowers golden yellow. 23. Pl.

Slender Cinquefoil. Clt. 1826. Pl. 1 to w. ed. 1. 2 feet.

66 P. LODDIGE'SII (Spreng. syst. ap ; leaves p. 199.) stems erect,
hoary, pilose; leaves with 5-7 leaflets, apex
rated, hairy above, hoary and pilose eath. ; leaflets pinnatifidly ser-
bose; petals retuse, exceeding the beneath; flowers corym-
1 calyx. ♃. H. Native of

Siberia. P. vinòsa, Lodd. bot. cab. with a figure. Flowers yellow.

Loddiges's Cinquefoil. Fl. June, July. Pl. 1 foot.

67 P. NORMA'LIS (Bess. ex Spreng. syst. append. p. 199.) stem erect, densely woolly as well as the leaves; leaves quinate; leaflets pinnatifid, white beneath; stipulas oblong, cut; peduncles corymbose; petals exceeding the calyx. ♃. H. Native of Podolia, at Tyra. Flowers yellow.

Normal Cinquefoil. Pl. 1 foot.

68 P. FLABELLIFO'RMIS (Lehm. pug. 2. p. 12.) stem erect, slender; leaves with 7-9 leaflets; leaflets deeply pinnatifid, beset with adpressed pili above, but with white hoary tomentum beneath, with the segments linear, distant, and revolute at the margins; flowers corymbose; petals obcordate, exceeding the calyx. ♃. H. Native of North America, in the plains of the Saskatchawan. Hook. fl. bor. amer. p. 192. t. 64. Corolla golden yellow.

Fan-formed-leaved Cinquefoil. Pl. 1½ foot.

69 P. CHRYSA'NTHA (Trev. ind. sem. hort. wratisl. 1828.) stems ascending, beset with spreading pili; leaves with 5, rarely with 7 leaflets, upper ones ternate, pubescent; leaflets oblong-cuneated, deeply serrated; upper stipulas rather cut; petals obcordate, twice the length of the calyx. ♃. H. Native of Siberia, in dry grassy places and on the sides of hills; of North America in moist prairies near the Rocky Mountains, and of Germany. Led. fl. ross. alt. illust. t. 338. P. Thuringiaca, Bernh. ex Link. enum. pl. hort. berol. 2. p. 64. Flowers golden yellow, loosely corymbose.

Golden-flowered Cinquefoil. Fl. Ju. July. Clt. 1827. Pl. 1 ft.

70 P. DESERTÒRUM (Bunge, in Led. fl. ross. alt. ill. t. 337. fl. alt. 2. p. 257.) stems erect, clothed with viscid glandular hairs, as well as the leaves; leaflets obovate, bluntly toothed; stipulas entire; panicle dichotomous; petals obcordate. ♃. H. Native of Altaia, on the Arkat mountains in the Soongarian desert. Stems purplish at the base. Corolla yellow. Very like *P. geoìdes.*

Desert Cinquefoil. Fl. July. Pl. 1 foot.

71 P. DEALBA'TA (Bunge in Led. fl. ross. alt. ill. t. 326. fl. alt. 2. p. 250.) stems ascending, pubescent; leaves with 5 or 7, rarely with 9 leaflets, upper ones ternate, all smoothish above, but clothed with white tomentum beneath; leaflets oblong, cuneated at the base, pectinately pinnatifid, with revolute margins; stipulas nearly entire; petals obovate, hardly exceeding the calyx. ♃. H. Native of Altaia, at the rivers Irtysch, Bekun, Kurtschum, in meadows, and near Loktewsk. Flowers yellow, panicled.

Whitened-leaved Cinquefoil. Fl. May, June. Pl. 1 foot.

72 P. CONCI'NNA (Richards in Frankl. first journ. ed. 2. app. p. 20.) stem short, few-flowered; radical leaves with 7 leaflets, and cauline ones ternate; leaflets obovate-cuneated, serrated at the apex, densely clothed with white tomentum beneath; petals obcordate, exceeding the calyx. ♃. H. Native of North America, on the plains of the Saskatchawan about Carlton House. Hook. fl. bor. amer. p. 193. t. 67. Petioles and peduncles woolly. Flowers golden yellow.

Neat Cinquefoil. Pl. 2 to 3 inches.

73 P. LEPTOPE'TALA (Lehm. ind. sem. hort. hamb. 1830. 8. pug. 3. p. 32.) stems ascending, pilose, nearly leafless; leaves quinate; leaflets oval, serrated, densely clothed with white tomentum beneath; stipulas ovate, entire; petals obcordate, veiny, shorter than the calyx. ♃. H. Native of mountains between the town of Mexico and Tolucco. Root brown, woody. Corolla small, yellow.

Slender-petalled Cinquefoil. Pl. ¼ foot.

74 P. WALLICHIA'NA (Del. in Wall. cat. no. 1023. Lehm. pug. 3. p. 30.) stems erect, bluntly angled; leaves quinate,

pilose on both surfaces; leaflets stalked, obovate, bluntly serrated at the apex; flowers panicled, crowded; calycine segments lanceolate, outer ones usually bifid; petals emarginate, a little longer than the calyx. ♃. H. Native of Nipaul. Corolla yellow.

Wallich's Cinquefoil. Pl. ½ foot.

75 P. VIRGA'TA (Lehm. pot. 75. no. 27.) stem erect, twiggy; leaves with 7-9 leaflets; leaflets lanceolate, pinnatifid, glabrous above, and clothed with white tomentum beneath; stipulas lanceolate, entire; corolla small; petals obovate, quite entire, twice the length of the calyx. ♃. H. Native country unknown. Flowers yellow, panicled at the tops of the branches.

Twiggy Cinquefoil. Fl. June, July. Clt. 1820. Pl. 1½ foot.

76 P. CANE'SCENS (Bess. fl. galic. no. 607. 1. p. 330.) stem erect, many-flowered; leaves quinate; leaflets oblong-cuneiform, deeply serrated, clothed with adpressed pili above, and canescent from tomentum beneath; stipulas ovate-lanceolate, entire or toothed; petals obcordate, length of calyx. ♃. H. Native of Europe, Caucasus, and Siberia. P. Hungárica, Schlecht. P. parviflòra, Gaud. P. ornithópoda, Tausch. hort. can. 1. fasc. 1. t. 10. ex Tratt. ros. 4. p. 54.?—Jacq. fl. aust. 4. t. 383. Flowers yellow.

Var. β, inclinàta (Ser. in D. C. prod. 2. p. 578.) stems inclinate, weak; leaves clothed with hoary tomentum beneath, smoothish above. ♃. H. P. inclinàta, Vill. dauph. 3. p. 567. t. 45. Horn. hort. hafn. 2. p. 477. P. adscéndens, Waldst. et Kit. ex Lehm. pot. 92. P. intermèdia, Schult. obs. bot. p. 95. P. récta, Lapeyr. abr. 288. P. assúrgens, Vill. fl. dauph. 3. p. 567. P. hírta, Hænke.

Canescent Cinquefoil. Fl. June, July. Clt. 1817. Pl. 1 to 1½ foot.

77 P. STIPULA'RIS (Lin. spec. 712. but not of Lapeyr.) stems erect, weak; lower leaves with 7 leaflets, upper ones ternate; leaflets linear-oblong, tridentate, nearly glabrous; stipulas large, dilated; petals obovate, hardly emarginate, longer than the calyx; receptacle glabrous. ♃. H. Native of Siberia.—Gmel. sib. 3. t. 37. f. 2. Flowers small, yellow, panicled.

Large-stipuled Cinquefoil. Fl. June, July. Clt. 1727. Pl. ½ to 1 foot.

78 P. HI'RTA (Lin. spec. 712. Lehm. pot. t. 8.) stem pilose, erect, few-flowered; leaves with 5-7 leaflets; leaflets pilose, cuneiform, cut at the apex; stipulas lanceolate, entire; petals obcordate, longer than the calyx. ♃. H. Native of the Pyrenees, south of France, Piedmont, Silesia, Siberia, &c. P. crysopétala, Bess. in litt. P. angustifòlia, D. C. fl. fr. 5. p. 540. Flowers yellow.

Var. β, rùbens (Ser. in D. C. prod. 2. p. 578.) stem red, decumbent, viscid. ♃. H. P. hírta β viscòsa, Pers. P. pilòsa, Vill. dauph. 3. p. 570. Willd. spec. 2. p. 1100. P. Sibírica, Patrin.

Hairy Cinquefoil. Fl. May, Sept. Clt. 1725. Pl. ½ to 1 ft.

79 P. PEDA'TA (Poir. suppl. 4. p. 540. Nestl. pot. 447.) stem ascending, reddish; leaves pedate, with 5-7 leaflets; leaflets lanceolate, serrated, pilose on the margins and beneath. ♃. H. Native of Liguria and Piedmont, on hills. Lodd. bot. cab. 579. P. rùbens, All. fl. pedem. 2. no. 1486. but not of Vill. P. pilòsa, D. C. fl. fr. 6. p. 540. exclusive of the synonymes, Willd. spec. 2. p. 1100. P. hírta α, rùbens, Ser. in D. C. prod. 2. p. 578. Flowers large, golden yellow.

Pedate-leaved Cinquefoil. Fl. June, July. Clt. 1819. Pl. ascending 1 foot.

80 P. ASTRACA'NICA (Jacq. icon. rar. 1. t. 92.) stem ascending, pilose, dichotomous; radical leaves quinate; leaflets oblong, bluntly serrated; cauline leaves toothless, tripartite, pubescently pilose; stipulas large; petals obcordate, longer than the calyx. ♃. H. Native of Caucasus and about Constantinople. P. corymbòsa, Mœnch. Flowers terminal and axillary.

Astracan Cinquefoil. Fl. Ju. July. Clt. 1787. Pl. 1 to 1½ ft.

81 P. TAU'RICA (Schlecht. in berol. mag. ann. 7. p. 291. Lehm. pot. 90. t. 9.) stem erect, pilose, many-flowered; leaves quinate; leaflets obovate, cuneated at the base, serrated in front, clothed with adpressed silky pili; stipulas lanceolate, entire; petals obcordate, a little longer than the calyx. ♃. H. Native of Tauria, on the higher mountains, and at Sarepta in arid places. Flowers large, pale yellow, sub-panicled.

Taurian Cinquefoil. Fl. June, July. Clt. 1820. Pl. 1 foot.

82 P. RE'CTA (Lin. spec. 711.) stem erect, pilose; leaves with 5-7 leaflets; leaflets oblong, deeply serrated, beset with spreading pili; lower stipulas lanceolate, entire, upper ones broader and jagged; petals obcordate, exceeding the calyx. ♃. H. Native of Tauria, Caucasus, Austria, Germany, Italy, Switzerland, France, and the Pyrenees. Nestl. pot. 42. t. 6. All. fl. pedem. 71. f. 1. Sav. hort. rom. 5. t. 49. Flowers pale yellow, disposed in terminal corymbs.

Upright Cinquefoil. Fl. Ju. Aug. Clt. 1648. Pl. 1 to 1½ ft.

83 P. OBSCU'RA (Willd. spec. 2. p. 1100.) stem erect, pilose, reddish; leaves with 5-7 leaflets; leaflets oval-oblong, deeply toothed, beset with adpressed pili; stipulas ovate-lanceolate, for the most part cut; petals obcordate, hardly longer than the calyx. ♃. H. Native of Siberia, Tauria, Caucasus, and Italy. Nocca in Balb. fl. tic. 240. t. 10. P. récta β obscùra, Poir. suppl. 5. p. 589. P. récta, Vill. dauph. 3. p. 569. Flowers golden yellow, corymbose.

Obscure Cinquefoil. Fl. Ju. July. Clt. 1800. Pl. 1 to 2 ft.

84 P. LACINIÒSA (Waldst. et Kit. in litt. ex Nestl. pot. 45. Lehm. pot. 86. t. 9.) stem pilose, erect, reddish; leaves with 5-7 leaflets; leaflets oblong, laciniately pinnatifid, pilose; stipulas deeply jagged; petals obcordate, much longer than the calyx. ♃. H. Native of Hungary. P. cardiopétala, Bess. in litt. Flowers yellow, disposed in corymbose panicles.

Jagged-leaved Cinquefoil. Fl. June, July. Clt. 1816. Pl. 1 to 1½ foot.

85 P. DIVARICA'TA (Poir. suppl. 4. p. 540.) stem erect; leaves with 5-7 leaflets; leaflets oblong, tapering a long way at the base, deeply serrated, smoothish; stipulas pinnatifid; petals obcordate, about equal in length to the calyx. ♃. H. Native of Corsica. D. C. fl. fr. 6. p. 541. Stems dichotomously corymbose at the apex, with the branches divaricate. Corolla yellow.

Divaricate-branched Cinquefoil. Fl. Ju. July. Pl. 1 to 1½ ft.

86 P. VALDE'RIA (Lin. spec. 714.) stem erect, hoary as well as the whole plant; leaves with 5-7 leaflets; leaflets obovate, serrated, clothed with silky tomentum, hoary beneath; stipulas lanceolate, entire, rarely denticulated; petals obovate-oblong, hardly emarginate, shorter than the calyx. ♃. H. Native of Piedmont, Valder, &c. in stony places. All. pedem. t. 24. f. 1. Flowers pale sulphur-coloured.

Valder Cinquefoil. Fl. May, June. Clt. 1825. Pl. ¼ to ½ ft.

* * *Flowers white or red.*

87 P. LUPINOÌDES (Willd. spec. 2. p. 1107. Nestl. pot. 60. Lehm. pot. 126.) stem erect, pilose; leaves with 5-7 leaflets; leaflets obovate, roundish, obtuse, connivently serrated at the apex, densely clothed with silky villi; stipulas large, entire; petals obcordate, shorter than the calyx. ♃. H. Native of the higher alps of Dauphiny and the Pyrenees. Lodd. bot. cab. 654. P. nivàlis, Lapeyr. abr. p. 290. act. toul. 1. p. 210. t. 16. P. lupinoìdes β nivàlis, Pers. ench. 2. p. 55. P. Valdèria, Vill. dauph. 3. p. 572. P. lanàta, Lam. fl. fr. 3. p. 646. P. integrifòlia, Lapeyr. abr. 291. Corolla white. Flowers 3-6, terminal.

Lupine-like Cinquefoil. Fl. July. Clt. 1739. Pl. ¼ to ½ ft.

88 P. CLUSIA'NA (Jacq. austr. 2. t. 116. Sims, bot. mag. 1327.) stems ascending, few-flowered, purplish, pubescent; radical leaves quinate, cauline ones ternate; leaflets oval-cuneiform, pubescent, tridentate at the apex, with the teeth connivent; stipulas ovate-lanceolate, entire; petals roundish, hardly longer than the calyx. ♃. H. Native of Austria, Styria, Carniola, Tyrol, and Salisburg, on rocks and among stones. P. caulés-cens β Clusiàna, Poir. suppl. 5. p. 595. P. caulèscens, Scop. fl. carn. ed. 2. vol. 1. p. 361. Corymbs terminal. Corolla large, white.

Clusius's Cinquefoil. Fl. June, Aug. Clt. 1806. Pl. ½ foot.

89 P. CAULE'SCENS (Lin. spec. 713.) downy; stem erect, weak, many-flowered, pilose; radical leaves quinate, cauline ones ternate; leaflets obovate, connivently serrated at the apex, with pilose margins; stipulas entire; petals obovate-cuneiform, hardly emarginate, longer than the calyx. ♃. H. Native of the south of Europe, on the higher Alps. Jacq. aust. 3. p. 11. t. 220. Sturm, deutsch. fl. fasc. 1. with a figure. P. álba var. Lam. fl. fr. 3. p. 118. Peduncles crowded at the tops of the stems. Corolla white.

Caulescent Cinquefoil. Fl. May, July. Clt. 1759. Pl. ½ ft.

90 P. GLAU'CA (Moris, elench. sard. p. 18.) plant very clammy; stems ascending; radical leaves quinate, cauline ones ternate or simple; leaflets obovate-cuneiform, pubescent on both surfaces, bluntly and unequally many-toothed at the apex. ♃. H. Native of Sardinia. Habit of P. caulèscens, Lin. but differs from it in the teeth of the leaflets being more close.

Glaucous Cinquefoil. Pl. ½ foot.

91 P. A'LBA (Lin. spec. 713.) stems procumbent, weak, few-flowered; lower leaves quinate, upper ones ternate; leaflets oblong, connivently serrated at the apex, smoothish above, but clothed with silky canescent down beneath; stipulas lanceolate, entire; petals obcordate, longer than the calyx. ♃. H. Native of middle and south Europe and Caucasus. In Wales in mountainous woods according to Mr. Haviland, but not observed by any other person. Smith, engl. bot. 1384. Jacq. austr. 2. t. 115. P. nítida, Scop. carn. ed. 2. vol. 1. p. 362. P. Clusiàna, Gesh. cat. scep. no. 272. P. cordàta, Braune, fl. salisb. 2. p. 80. Fragària álba, Crantz. Pedicels axillary and terminal. Flowers white.

White-flowered Cinquefoil. Fl. Feb. Aug. Wales. Pl. prostrate.

92 P. ALCHEMILLOÌDES (Lapeyr. act. toul. 1. p. 212. t. 17.) stems erectish, many-flowered; leaves with 5 or 7 leaflets; leaflets oblong-lanceolate, tridentate at the apex, the teeth connivent, glabrous above, but with silky-silvery down beneath; stipulas of radical leaves subulate, of cauline ones ovate-lanceolate; outer calycine segments lanceolate; petals ovate-oblong, emarginate, a little longer than the calyx. ♃. H. Native of the Pyrenees, among rocks. P. Pyrenàica, Schlecht. Flowers white.

Alchemilla-like Cinquefoil. Fl. July, Aug. Clt. 1823. Pl. 1 ft.

93 P. COMAROÌDES (Humb. et Bonpl. ex Nestl. pot. 62. t. 4. f. 3. and Kunth, nov. gen. amer. 6. p. 217.) stems firm, erectish; radical leaves quinate, cauline ones ternate; leaflets elliptic, usually 5-toothed at the apex, smoothish above, but clothed with silky hoary down beneath; stipulas entire; petals obcordate, much longer than the calyx. ♃. H. Native of Mexico, on mount Jorullo at the height of 1600 feet. P. rùbra, Schlecht. in berl. mag. nat. 291. Corolla dark purple.

Comarum-like Cinquefoil. Fl. Sept. Pl. ¾ foot.

94 P. COLORA'TA (Lehm. sem. hort. hamb. 1821. p. 8.) stems erect, purple; lower leaves quinate, with obovate-lanceolate leaflets; upper leaves ternate, with lanceolate leaflets; leaflets serrated, and beset with silky incumbent pili; stipulas ovate, quite entire, sheathing; petals obcordate, veiny, longer than the calyx. ♃. H. Native of Nipaul. P. Nepalénsis, Hook. exot. fl. t. 88. P. formòsa, D.Don, prod. fl. nep. p. 232. Flowers beautiful purple.

Coloured Cinquefoil. Fl. Ju. July. Clt. 1822. Pl. 1 to 1½ ft.

95 P. RUSSELLIA'NA (Sweet, fl. gard. t. 279.) villous; stems branched, diffuse; radical leaves petiolate, ternate, quaternate or quinate; leaflets ovate or obovate, obtuse, deeply serrated, feather-nerved, rather silky beneath; stipulas adnate, ovate-lanceolate, acuminated; calycine segments lanceolate, acute; petals large, obcordate. ♃. H. A hybrid between *P. formòsa* and *P. atropurpùrea.* Petals bright scarlet, with a darker base.

Russell's Cinquefoil. Fl. June, Aug. Hybrid. Pl. 1½ foot.

96 P. HOPWOODIA'NA (Sweet, fl. gard. 2. ser. t. 61.) stems ascending, clothed with villi; lower leaves with 5-6 leaflets, upper ones ternate; leaflets oblong-cuneiform, coarsely toothed, hairy on both surfaces; calycine segments ovate, acuminated; petals obcordate, imbricated, longer than the calyx. ♃. H. A hybrid between *R. formòsa,* impregnated by the pollen of *P. récta.* Petals beautifully variegated, marked with a spot of deep rose colour at the base, and from it to the centre of a pale straw colour, edged with bright rose colour. Lindl. bot. reg. t. 1383.

Hopwood's Cinquefoil. Fl. June, Jul. Hybrid. Pl. 1½ ft.

97 P. MACKAYA'NA (Sweet, fl. gard. 2. ser. t. 42.) villous; stems ascending, branched; leaves flaccid, radical ones quinate; leaflets oblong-cuneated, coarsely and bluntly toothed; cauline leaves ternate, few-toothed; stipulas ovate, acute, quite entire; petals obcordate, undulated, a little longer than the calyx. ♃. H. A hybrid, produced from *P. formòsa* impregnated by the pollen of *P. opàca.* Petals pale yellow tinged with red, and light red at the base.

Mackay's Cinquefoil. Fl. June, Oct. Hybrid. Pl. 1½ ft.

§ 3. *Leaves pinnately digitate.*

98 P. DIVERSIFÒLIA (Lehm. pug. 2. p. 9. Hook, fl. bor. amer. 190.) stems ascending; radical leaves pinnate, with usually 3 pairs of leaflets, and quinate; cauline leaves with 2 pairs of leaflets, digitate or ternate; leaflets cuneiform, coarsely and deeply toothed above, and clothed with silky pili at the apex; stipulas ovate-lanceolate, quite entire; petals obcordate, longer than the calyx. ♃. H. Native of North America, in the alpine prairies, as well as of the higher summits of the Rocky Mountains between lat. 52° and 56°. Corolla yellow.

Diverse-leaved Cinquefoil. Pl. ¼ to 1 foot.

99 P. PULCHE'RRIMA (Lehm. pug. 2. p. 10. Hook, fl. bor. amer. p. 190.) stems ascending, villous; leaves impari-pinnate; leaflets crowded, elliptic, equally serrated, beset with adpressed pili above and clothed with white tomentum beneath; stipulas ovate, acute, quite entire, woolly; petals entire, longer than the calyx. ♃. H. Native of North America, in the prairies as well as on the dry banks of the Rocky Mountains, between lat. 52° and 56°. Corolla golden yellow.

Very fair Cinquefoil. Pl. ½ foot.

100 P. RUBRICAU'LIS (Lehm. pug. 2. p. 11. Hook, fl. bor. amer. p. 191.) stem ascending; radical leaves pinnate, with 2 pairs of leaflets, cauline ones ternate; leaflets approximate, oblong, pinnatifidly serrated, glabrous above and tomentose beneath; stipulas quite entire; petals obcordate, exceeding the calyx a little; receptacle smoothish. ♃. H. Native of North America, about Bear Lake, in lat. 66°. Flowers golden yellow, disposed in a dichotomous panicle.

Red-stemmed Cinquefoil. Pl. 1 foot.

101 P. PULCHE'LLA (R. Br. chl. melv. p. 193.) stems procumbent; usually 1-flowered; leaves pinnate, with 2 pairs of leaflets, clothed with silky tomentum beneath; leaflets 2-3-lobed or linear, entire, with revolute edges, the terminal or odd one pinnatifid; stipulas ovate, sheathing; styles glandular and dilated at the base; petals obovate, emarginate, length of calyx. ♃. H.

Native of the islands of the Arctic sea; shores of the mainland between the Coppermine and Mackenzie rivers. Corolla yellow.

Pretty Cinquefoil. Pl. procumbent.

102 P. Ruthe'nica (Willd. spec. 1079.) stem erect, diffuse, pilose; radical leaves quinately-pinnate, cauline leaves ternate; leaflets hairy, obovate, unequally and deeply serrated; stipulas oblong-lanceolate, outer side toothed; petals shorter than the calyx. ♃. H. Native of Siberia. Flowers small, yellow, panicled on the tops of the branches pedicels hairy, primary ones solitary in the forks of the stem.

Russian Cinquefoil. Fl. May, June. Clt. 1799. Pl. 1 to 2 ft.

103 P. diffu'sa (Willd. enum 555.) stem diffuse, beset with spreading pili; radical leaves quinately pinnate, cauline ones ternate; leaflets lanceolate, unequally and coarsely serrated, beset with spreading pili on both surfaces; primary pedicels solitary; petals retuse, shorter than the calyx. ♃. H. Native country unknown. Flowers small, yellow, panicled at the tops of the branches.

Diffuse Cinquefoil. Fl. May, July. Clt. 1817. Pl. 1 foot.

104 P. Dombe'yi (Nestl. pot. p. 38. t. 5. f. 2.) stems decumbent, pilose; leaves quinately pinnate, upper ones ternate; leaflets obovate, cuneiform, hardly pilose, serrated at the apex; stipulas lanceolate, acute, entire; petals a little longer than the calyx; receptacle hairy; carpels glabrous. ♃. H. Native of Chili. Corolla yellow.

Dombey's Cinquefoil. Pl. decumbent.

§ 4. *Leaves pinnate. Flowers yellow.*

105 P. bifu'rca (Lin. spec. 711.) roots creeping; stems ascending; leaflets about equal in size, bifid or entire, outer ones confluent; stipulas oblong, entire, or a little cut; flowers subcorymbose; pedicels pilose; petals obovate, entire, longer than the calyx. ♃. H. Native of Iberia, Siberia, and Silesia.—Gmel. itin. 1. t. 37. f. 1. Corolla pale yellow.

Var. β, subsericea (Ser. mss. in D.C. prod. 2. p. 580.) stems, leaves, and calyxes smaller, and clothed with rather silky down. ♃. H. Native about Astracan.

Var. γ, monstròsa (Fisch. gor. in litt. Led. fl. alt. 2. p. 246.) branches much crowded, short. ♃. H. Native of Dahuria and Altaia, in sterile salt places.

Forked-leaved Cinquefoil. Fl. May, Ju. Clt. 1773. Pl. ½ ft.

106 P. astragalifòlia (Led. fl. ross. alt. ill. t. 328. fl. alt. 2. p. 246.) plant clothed with silky villi; stems prostrate, nearly leafless; radical leaves pinnate, usually with 6 pairs of leaflets; leaflets oblong, quite entire, or 2-3-parted, upper ones rather confluent, terminal or odd one trifid; cauline leaves small, simple, entire, or wanting; stipulas oblong, entire, or cut a little; petals nearly orbicular, twice the length of the calyx. ♃. H. Native of Altaia, in sterile deserts on the right bank of the river Tschuja. Flowers pale yellow, 2-4, terminal.

Milk-vetch-leaved Cinquefoil. Fl. June. Pl. prostrate.

107 P. Japónica (Blum. bijdr. 1105.) stolons decumbent; radical leaves pinnate, usually with 3 pairs of leaflets, beset with strigose villi; cauline leaves ternate; leaflets obovate, sharply serrated, outer ones largest and approximate; stipulas trifid at the apex. ♃. H. Native of Japan.

Japan Cinquefoil. Pl. creeping.

108 P. geoi'des (Bieb. fl. taur. 1. p. 404.) plant hairy; stems erect; leaves pinnate; leaflets roundish, a little lobed, hairy, outer ones the largest; stipulas multifid; panicle somewhat dichotomous; calycine segments obtuse, denticulated at the apex; petals obovate, entire, about equal in length to the calyx. ♃. H. Native of Tauria, among rocks towards the top of Mount Tschaturdag. Lehm. pot. t. 2. P. fragarioìdes, Habl. 147. but not of Lin. Corolla yellow, about the size of those of *Gèum urbànum.*

Geum-like Cinquefoil. Fl. Ju. Jul. Clt. 1820. Pl. 1 to 1½ ft.

109 P. fragarioi'des (Lin. spec. 710.) stem erect, dichotomous, with creeping stolons issuing from the base; radical leaves pinnate, cauline ones ternate; leaflets oval, sharply serrated, silky-pilose, outer ones larger and more confluent; stipulas serrated; petals obovate-cuneiform, a little longer than the calyx. ♃. H. Native of Siberia. Lehm. pot. t. 4. Gmel. fl. sib. 3. t. 34. f. 2. P. poterioìdes, Schlecht. berol. mag. ann. 7. p. 286. Plant pilose. Flowers yellow, in corymbose panicles.

Strawberry-like Cinquefoil. Fl. May, Ju. Clt. 1773. Pl. ½ ft.

110 P. pimpinelloi'des (Lin. spec. 711.) stem erect, pilose; leaves pinnate; leaflets about equal, roundish, dentately serrated, pilose; stipulas cut; petals obcordate, a little longer than the calyx. ♃. H. Native of America, among stones. Nestl. pot. 32. t. 2. f. 1. Buxb. cent. 1. t. 48. Flowers yellow, disposed in dichotomous panicles.

Pimpernel-like Cinquefoil. Fl. Ju. Aug. Clt. 1758. Pl. 1 ft.

111 P. cicutariæfòlia (Willd. spec. 2. p. 1098.) stem erect, beset with adpressed pili; leaves pinnate; leaflets cuneiform, deeply toothed, with a few hairs on both surfaces; stipulas nearly entire; flowers in corymbose panicles; petals obovate, about equal in length to the calyx; receptacle glabrous. ♃. H. Native of Galatia. Nestl. pot. t. 2. f. 2. Flowers yellow, about the size of those of *P. argéntea.* Leaves resembling those of *Eròdium cicutàrium.*

Cicutarium-leaved Cinquefoil. Fl. June, Aug. Clt. 1818. Pl. ½ to 1 foot.

112 P. supi'na (Lin. spec. 711.) stems decumbent, dichotomous; leaves pinnate; leaflets oblong, deeply serrated; stipulas ovate, entire; pedicels axillary, solitary; petals obovate, length of calyx. ♃. H. Native of Europe and Siberia, also of North America, in the plains of the Saskatchawan. Jacq. fl. aust. 5. t. 406.—Gmel. itin. vol. 1. t. 27. f. 1. P. prostràta, Haenke. Corolla small, yellow.

Supine Cinquefoil. Fl. June, Aug. Clt. 1696. Pl. prostr.

113 P. effu'sa (Dougl. mss. Hook. fl. bor. amer. p. 187.) plant clothed with hoary tomentum; stems ascending, weak; leaves interruptedly pinnate; leaflets oblong, deeply serrated; flowers in dichotomous panicles; stipulas lanceolate, acuminated, entire; petals obcordate, equal in length to the sepals, which are acuminated. ♃. H. Native of the north-west coast of America, on the elevated grounds of the Assinaboyne, and the higher parts of the Red river. Receptacle villous. Corolla golden yellow.

Effuse Cinquefoil. Pl. ascending.

114 P. Pennsylva'nica (Lin. mant. 76.) stem erect, rather pilose; leaves interruptedly pinnate, clothed with hoary tomentum; larger leaflets oblong, truncate, deeply serrated, smaller ones quite entire, about the size of the segments of the larger ones; stipulas lanceolate, usually entire, but sometimes with a few teeth; petals obcordate, a little longer than the calyx. ♃. H. Native of the south of Europe, North America, and Siberia, plentiful. Jacq. hort. vind. 2. t. 189. P. híspida, Poir. suppl. 4. p. 538. Willd. enum. 553. Panicle branched. Flowers yellow.

Var. β, strigòsa (Lehm. pot. p. 55.) leaflets somewhat pectinately pinnatifid; segments with revolute margins; stipulas jagged. ♃. H. Common in North America and Siberia. P. pectinàta, Fisch. in litt. P. absinthifòlia, Dougl.

Pennsylvanian Cinquefoil. Fl. June, Aug. Clt. 1725. Pl. 1 to 2 feet.

115 P. Missou'rica (Horn. ex Lindl. bot. reg. 1412.) stem erect; leaves pinnate, with usually 3 pairs of leaflets, hoary and silky above, and clothed with white down beneath; leaflets oblong, pinnatifid, with the segments lanceolate-linear and acute;

stipulas foliaceous, cut; flowers corymbose; petals emarginate, longer than the woolly calyx. ♃. H. Native of North America, on the plains of the Missouri. P. argùta, Spreng. syst. 2. p. 534. but not of Pursh. Flowers yellow.

Missouri Cinquefoil. Fl. June, Aug. Clt. 1827. Pl. 1½ foot.

116 P. ARGU'TA (Pursh, fl. amer. sept. 2. p. 736.) stem erect, pubescent, clammy at the apex; leaves pinnate; leaflets roundish-ovate, oblique at the base, doubly and deeply toothed; stipulas almost entire; calyxes acute, shorter than the petals, which are obovate and entire. ♃. H. Native of North America, in the woody country as far as lat. 65°. north, and westward to the Rocky Mountains, and at Fort Vancouver on the Columbia. Hook. fl. bor. amer. p. 186. t. 63. Lindl. in bot. reg. t. 1379. P. confertiflòra, Torrey, fl. unit. st. 1. p. 499. P. oblíqua, and P. ferrugínea, Dougl. P. sylvéstris, Bigel. fl. bost. 2. p. 206. Gèum agrimonioìdes, Pursh, fl. amer. sept. 1. p. 351. Plant pubescent all over. Flowers pale yellow. Panicle crowded, dichotomous.

Sharp-serrated-leaved Cinquefoil. Fl. June, Jul. Clt. 1826. Pl. 1 to 3 feet.

117 P. HIPPIA'NA (Lehm. pug. 2. p. 7. Hook. fl. bor. amer p. 188. t. 64.) stem erect; leaves pinnate; leaflets lanceolate, oblong, deeply and connivently serrated, silky above, and clothed with hoary shining tomentum beneath; stipulas lanceolate, acuminated, quite entire; panicle somewhat dichotomous, loose; petals obcordate, exceeding the calyx. ♃. H. Native of North America, on the plains of the Saskatchawan and prairies of the Rocky Mountains. P. leucophýlla, Torrey, ann. lyc. 2. p. 197. but not of Pall. itin. 3. p. 194. P. dealbàta, Dougl. mss. Flowers yellow.

Hippio's Cinquefoil. Fl. June, July. Pl. 1 to 2 feet.

118 P. BIPINNATI'FIDA (Dougl. mss. Hook. fl. bor. amer. p. 188.) stem erect; leaves pinnate; leaflets obovate, pectinately pinnatifid, clothed with silky silvery down above, and with white tomentum beneath; stipulas rhomboid, cut; flowers corymbose, crowded; petals obovate, entire, longer than the calyx. ♃. H. Native of North America, in Louisiana and plains of the Saskatchawan and Red rivers. P. argùta, Lehm. pot. p. 62. but not of Pursh. Flowers yellow.

Bipinnatifid-leaved Cinquefoil. Fl. June, July. Clt. 1826. Pl. 1 to 2 feet.

119 P. DRUMMÓNDI (Lehm. pug. 2. p. 9. Hook, fl. bor. amer. p. 189. t. 65.) stem herbaceous; radical leaves irregularly and subverticillately pinnate, cauline ones with 2 pairs of leaflets; leaflets obovate, truncate, cuneated at the base, profoundly serrated, ciliated, smoothish; stipulas ovate, entire; petals obcordate, veiny, twice the length of the calyx. ♃. H. Native of North America, in alpine woods on the Rocky Mountains, north of the Smoking River, in lat. 56°. Panicle terminal. Petals golden yellow.

Drummond's Cinquefoil. Fl. Ju. Jul. Clt. 1826. Pl. 1 to 2 ft.

120 P. VISCÒSA (Donn, hort. cantab. ed. 7. and Lehm. pot. p. 57.) stems erect, and are as well as the leaves clothed with clammy pubescence; leaves greenish on both surfaces, pinnate; leaflets oblong, sharply and deeply serrated, superior ones decurrent, lower ones small; stipulas almost entire; petals obovate, emarginate, hardly longer than the calyx; receptacle pilose. ♃. H. Native of Dahuria and Siberia, on rocks at the rivers Tscharysch and Buchtorm, and in fields at the river Irtysch. Led. fl. ross. alt. ill. t. 343. P. híspida, Nestl. pot. t. 36. but not of Willd. P. longifòlia and P. nudicaúlis, Schlecht. berl. mag. p. 287. P. Pennsylvánica, Horn. hort. hafn. 2. p. 476. P. pubéscens, Mœnch. meth. p. 658. P. dentàta, Vittm. Flowers yellow, crowded at the tops of the branches into a few-flowered panicle.

Clammy Cinquefoil. Fl. Ju. Aug. Clt. 1797. Pl. 1 to 1½ ft.

121 P. AGRIMONIOI'DES (Bieb. fl. taur. 1. p. 403.) stems ascending, beset with spreading villi; leaves interruptedly pinnate; leaflets numerous, obovate-oblong, obtuse, deeply and bluntly toothed or almost pinnatifid, pubescent above, and clothed with hoary villi beneath; stipulas nearly entire, ovate-lanceolate; petals longer than the calyx; receptacle villous. ♃. H. Native of Armenia, and Siberia in dry grassy places at the river Irtysch. Led. fl. ross. alt. ill. t. 327.—Gmel. sib. 3. t. 38. Flowers yellow, disposed in a terminal panicle.

Agrimony-leaved Cinquefoil. Fl. May, June. Clt. 1817. Pl. ½ to ¾ foot.

122 P. STRIGÒSA (Pall. ex Tratt. no. 31. exclusive of the American plant. Led. fl. alt. 2. p. 237.) stem erect, straight, pubescent; leaves pinnate; leaflets oblong, cuneated at the base, deeply and pectinately toothed, with revolute margins, clothed with hoary pubescence above and with woolly tomentum beneath; stipulas half pinnate; flowers panicled; petals obovate, hardly exceeding the calyx. ♃. H. Native of Altaia, at the river Tscharysch and Tschuja.—Gmel. sib. 3. p. 181. no. 29. t. 34. f. 1. Flowers yellow.

Strigose Cinquefoil. Fl. June, July. Pl. 1 foot.

123 P. FILIPE'NDULA (Schlecht. berol. mag. ann. 7. p. 286. ex Lehm. pot. 59.) stem erect, pilose; leaves interruptedly pinnate, beset with spreading pili, pale green on both surfaces; leaflets lanceolate, pinnatifidly serrated, smaller ones quite entire, outer ones confluent; stipulas toothed; panicle crowded, somewhat trichotomous; petals obcordate, exceeding the calyx; receptacle villous. ♃. H. Native of Dahuria. Corolla yellow.

Dropwort-like Cinquefoil. Fl. June, July. Clt. 1823. Pl. 1 to 2 feet.

124 P. TANACETIFÒLIA (Schlecht. berol. mag. ann. 7. p. 286. ex Lehm. pot. p. 60.) stems ascending, pilose; leaves pinnate, very hairy; leaflets lanceolate, pinnatifidly serrated, upper ones opposite, with the terminal one stalked; stipulas jagged; panicle terminal, corymbose; petals obcordate, twice the length of the calyx; receptacle villous. ♃. H. Native of Siberia. Corolla pale yellow.

Tansy-leaved Cinquefoil. Pl. ½ to 1 foot.

125 P. SANGUISÓRBA (Schlecht. berol. mag. ann. 7. p. 286. ex Lehm. pot. 61. t. 5.) stem erect, 1-2-flowered, glabrous, purplish; leaves pinnate, quite glabrous; leaflets obovate, bluntly serrated; stipulas cut; petals obcordate, hardly the length of the calyx; receptacle glabrous. ♃. H. Native of Siberia. Corolla cream-coloured.

Burnet-like Cinquefoil. Fl. Ju. Jul. Clt. 1826. Pl. ½ to 1 ft.

126 P. MICROPE'TALA (D. Don, prod. fl. nep. 231.) stems almost simple, slender; lower leaves pinnate, upper ones ternate; leaflets 7-9, obovate-oblong, serrate-toothed, outer ones much the largest, all clothed with white tomentum beneath; stipulas oblong, obtuse, scarious, quite entire; pedicels opposite the leaves, usually solitary; petals oval, quite entire, one half shorter than the calyx. ♃. H. Native of Gosaingsthan. Corolla small, yellow. Outer calycine segments bifid or bipartite. Cómarum flàvum, Hamilt. Roxb. hort. beng. p. 36. P. albiflòrum, Wall. cat. no. 1018.

Small-petalled Cinquefoil. Pl. ½ foot.

127 P. LESCHENAULTIA'NA (D. C. prod. 2. p. 584.) plant thickly beset with yellow hairs; stems ascending, few-flowered; radical leaves pinnate, cauline ones ternate, on short petioles; leaflets obovate-roundish, obtuse, crenate-toothed, outer ones the largest, silky above and clothed with white tomentum beneath; stipulas dilated, almost quite entire; petals obcordate, longer than the calyx. ♃. H. Native of the East Indies, on the Neelghiry Mountains, where it is called *Gahè-gueda*, according to Leschenault. Corolla yellow.

Leschenault's Cinquefoil. Pl. ½ foot.

128 P. LEUCONÒTA (D. Don, prod. fl. nep. p. 230.) stems erect, almost simple; leaves pinnate, with many pairs of leaflets; leaflets oblong, obtuse, deeply serrated, green above, but clothed with silvery white down beneath; stipulas ovate, deeply serrated; flowers small, sub-umbellate, involucrated; calycine segments nearly equal; petals obovate, quite entire, exceeding the calyx. ♃. H. Native of Gosaingsthan. Corolla yellow.

White-backed-leaved Cinquefoil. Pl. ½ foot.

129 P. POLYPHY'LLA (Wall. cat. no. 1026. Lehm. pug. 2. p. 14.) stem erect; leaves interruptedly pinnate, with many pairs of leaflets; leaflets quite glabrous, lined with veins, the large ones oblong and bluntly crenate-toothed; stipulas sheathing, oval, crenate-toothed; outer calycine segments large, 3-lobed, with the lateral lobes small; petals obovate-orbicular, longer than the calyx. ♃. H. Native of Gosaingsthan. Panicle terminal, corymbose. Corolla golden yellow.

Var. β, barbàta (Wall. cat. 1030.) stem very pilose; calyxes more foliaceous.

Many-leafletted Cinquefoil. Pl. 1 to 1½ foot.

130 P. PEDUNCULA'RIS (D. Don, prod. fl. nep. p. 230.) stem slender, erect, simple, few-flowered, leafless at the apex; leaves radical, pinnate, length of stem; leaflets oblong, contiguous, sharply and deeply serrated, rather silky above and silvery beneath; outer calycine segments longest, usually 2-3-cleft; petals nearly orbicular, entire, twice the length of the calyx. ♃. H. Native of Gosaingsthan. P. velutìna, Wall. cat. 1016. but not of Lehm. Corolla yellow. Habit of *P. anserìna*.

Peduncular Cinquefoil. Pl. ½ foot.

131 P. COMMUTA'TA (Lehm. pug. 2. p. 16.) stems ascending, 1-2-flowered, almost leafless; leaves pinnate, with many pairs of leaflets, green above, but clothed with silky villi beneath; leaflets oblong, deeply serrated or somewhat pinnatifid; flowers small, outer calycine segments oblong, obtuse, the rest ovate, acute. ♃. H. Native of Kamaon. P. microphýlla δ, latifòlia, Wall. cat. no. 1010. Corolla small, yellow.

Changed Cinquefoil. Pl. ¼ to ½ foot.

132 P. MICROPHY'LLA (D. Don, prod. fl. nep. p. 231. Wall. cat. no. 1010. Lehm. pug. 2. p. 17.) plant humble, tufted, clothed with silky villi; stems erect, 1-flowered, almost leafless, peduncle-formed, length of leaves; leaves pinnate, with many pairs of leaflets; leaflets crowded, deeply and digitately pinnatifid; segments linear, bluntish; petals obovate, quite entire, twice the length of the calyx. ♃. H. Native of Gosaingsthan. Flowers golden yellow.

Var. β, glabriúscula (Wall. l. c.) plant a little larger, and less silky, villous.

Var. γ, depréssa (Wall. l. c.) plant more densely tufted; stems shorter.

Small-leaved Cinquefoil. Pl. 2 to 3 inches.

133 P. CHINE'NSIS (Ser. in D. C. prod. 2. p. 581.) canescent; stem erect, paniculately corymbose at the apex, many-flowered; leaves interruptedly pinnate, larger leaflets oblong, pectinately-pinnatifid, glabrous above, and clothed with hoary tomentum beneath, with the nerves rather prominent; segments parallel, spreading, linear, with revolute edges; stipulas ovate, upper ones cut; flowers small; outer calycine segments minute. ♃. H. Native of China, in the province of Pichiley. Corolla yellow.

China Cinquefoil. Pl. 1½ foot.

134 P. GERARDIA'NA (Lindl. in Wall. cat. no. 1023. Lehm. pug. 2. p. 23.) plant woolly; stem erect, slender; leaves pinnate; leaflets 5-7, green above, and densely clothed with villi beneath, outer ones much the largest, obovate, bluntly serrate-toothed; stipulas broad, lanceolate, quite entire; flowers terminal, sub-corymbose; petals obovate-cuneiform, somewhat 2-lobed, longer than the calyx. ♃. H. Native of Sirmore. Corolla yellow.

Gerard's Cinquefoil. Pl. ½ to 1 foot.

135 P. NIVA'LIS (Torrey, ann. lyc. 2. p. 32. t. 3. f. 1.) plant nearly glabrous; stems erect, leafless, 1-flowered; leaves pinnate, with numerous, contiguous, somewhat imbricated, ovate, rather ciliated 2-3-lobed leaflets, upper ones confluent; lobes acute, spreading; petals nearly orbicular, quite entire, a little longer than the calyx. ♃. H. Native of North America, among the Rocky Mountains. Corolla yellow.

Snow Cinquefoil. Pl. ¼ foot.

136 P. MOORCRÓFTII (Wall. cat. 1014. Lehm. pug. 3. p. 29.) stem erect, simple, few-flowered; leaves pinnate, with 3-4 pairs of leaflets, pilose above, and glabrous beneath; leaflets obovate-oblong, almost quite entire, terminal one trifid; stipulas ovate-lanceolate, quite entire, ciliated; inner calycine segments ovate-roundish, obtuse; petals obovate, quite entire, longer than the calyx. ♃. H. Native of Ladak. Corolla yellow.

Moorcroft's Cinquefoil. Pl. ¼ to ½ foot.

137 P. ANSERÌNA (Lin. spec. 710.) roots and stems creeping; leaves interruptedly pinnate; leaflets oval, sharply serrated, silky; pedicels axillary, solitary, length of leaves; stipulas multifid; petals obovate, longer than the calyx. ♃. H. Native of Europe, Siberia, and America, in meadows and by road sides; plentiful in Britain. Smith, engl. bot. 861. Sturm, deutsch. fl. with a figure. Fl. dan. t. 544. Curt. lond. t. 31. Corolla large, yellow. The roots are astringent, with a sweetish taste, and were formerly used for tanning leather.

Var. β, geminiflòra (Ser. in D. C. prod. 2. p. 582.) flowers twin.—Moris. hist. sect. 2. t. 20. f. 4. P. anserina β, Nestl. pot. 35. Lehm. pot. 72.

Var. γ, cóncolor (Ser. l. c.) leaves silky on both surfaces.

Var. δ, Grœnlándica (Tratt. ros. 4. p. 13.) leaves smaller, with fewer pairs of leaflets; leaflets ovate-roundish, pinnatifidly serrated, glabrous above; stolons very long. ♃. H. Native of Greenland.

Goose Cinquefoil, Silver-weed, or Goose Tansey. Fl. May, Sept. Britain. Pl. creeping.

138 P. SIEMERSIA'NA (Lehm. sem. hort. hamb. 1821. p. 8. pug. 2. p. 31.) stems erect; leaves interruptedly pinnate, with many pairs of silky-silvery leaflets; larger leaflets obovate, sharply serrated, lined above, and nerved beneath; stipulas deeply toothed; petals obovate, a little longer than the calyx. ♃. H. Native of Nipaul. P. spléndens, Wall. mss. D. Don, prod. fl. nep. p. 230. Sweet, fl. gard. t. 191. P. fúlgens, Wall. mss. P. lineàta, Trev. Reichb. hort. bot. 1. p. 7. t. 8. P. naspàta, Hamilt. mss. Flowers yellow, disposed in dichotomous corymbs.

Siemers's Cinquefoil. Fl. May, July. Clt. 1822. Pl. 1 foot.

139 P. CA'NDICANS (Humb. et Bonpl. ex Nestl. pot. p. 34. t. 3. f. 2. and H. B. et Kunth, nov. gen. amer. 6. p. 216.) stems ascending, few-flowered; leaves interruptedly pinnate; leaflets unequal, profoundly pinnatifid, clothed with white silky down on both surfaces; stipulas cut and entire; petals spatulate, obcordate, a little longer than the calyx. ♃. H. Native of Mexico, on the mountains. Flowers yellow, 2-4 at the tops of the stems, and lateral near the tops of the stems, on long pedicels. Receptacle villous.

Var. β, nàna (Humb. et Bonpl. ex Nestl. pot. t. 34. f. 2.) P. Humboldtiàna, Tratt. ros. 4. p. 41. Stem and leaves smaller. Lehm. pot. 67.

White-leaved Cinquefoil. Fl. May, July. Clt. 1820. Pl. ½ to 1 foot.

140 P. VERTICILLA'TA (Steph. in Willd. spec. 2. p. 1096.) stems ascending; leaves pinnate; leaflets narrow-linear, clothed with white tomentum beneath, with revolute margins; lateral ones distant, opposite, twin, subverticillate, terminal one trifid; stipulas cut; petals obovate, entire, a little longer than the

calyx. ♃. H. Native of Siberia. Flowers yellow, crowded at the tops of the branches.

Verticillate-leaved Cinquefoil. Pl. $\frac{1}{4}$ foot.

141 P. LINEARI′LOBA (Moc. et Sesse, fl. mex. icon. t. 298. D. C. prod. 2. p. 582.) root thick, turnip-formed; stems prostrate, 1-2-flowered; leaves silky; radical ones bipinnate, cauline ones 1-lobed; leaflets linear-obovate; stipulas lanceolate, narrow; calycine segments ovate; petals obcordate, length of the calyx. ♃. H. Native of Mexico. Flowers yellow. Allied to *P. anserìna*.

Linear-lobed-leaved Cinquefoil. Pl. prostrate.

142 P. APPROXIMA′TA (Bunge in Led. fl. ross. alt. ill. t. 325. fl. alt. 2. p. 241.) stems erect or ascending at the base, and are, as well as the petioles, clothed with white villi; radical and lower cauline leaves with 7 leaflets, upper ones with 5 leaflets or ternate, all pubescent and green above, but clothed with hoary tomentum beneath, pectinately pinnatifid; stipulas ovate-lanceolate, entire, rarely furnished with a large tooth at the base; petals emarginate, longer than the calyx; receptacle villous. ♃. H. Native of Altaia, in dry grassy places at the river Irtysch. Panicle dichotomous, with the pedicels solitary in the forks. Corolla yellow.

Approximate Cinquefoil. Fl. June, July. Pl. $\frac{1}{2}$ foot.

143 P. CONFE′RTA (Bunge in Led. fl. ross. alt. ill. t. 333.) root many-stemmed; stems ascending, and are, as well as the petioles, beset with long spreading villi; leaves pinnate; leaflets 7-11, oblong-lanceolate, distant, pectinately pinnatifid, with revolute margins, green and pubescent above, and clothed with hoary villi beneath; stipulas broad-ovate, a little cut; panicle terminal, crowded; petals obovate, rather retuse, about equal in length to the calyx; receptacle villous. ♃. H. Native of Altaia, at the river Kerlyk. Corolla yellow.

Crowded Cinquefoil. Fl. June, July. Pl. $\frac{1}{2}$ foot.

144 P. SOONGA′RICA (Bunge in Led. fl. ross. alt. ill. t. 332. fl. alt. 2. p. 244.) stem loose, ascending at the base, puberulous; petioles clothed with white villi; leaves pinnate; radical ones with 3-4 pairs of leaflets, those under the flower lanceolate and entire, the rest of the cauline ones with 2 pairs of leaflets; leaflets cinereous beneath, superior ones deeply pinnate-parted, lower ones smaller, lowest ones almost entire; lower stipulas pinnately jagged; flowers in loose dichotomous panicles; petals obovate, somewhat emarginate, exceeding the calyx; receptacle villous. ♃. H. Native of Altaia, on the mountains of Arkul and Dolen Kara in the Soongarian desert. Corolla yellow.

Soongarian Cinquefoil. Fl. May. Pl. $\frac{1}{2}$ to 1 foot.

145 P. EGE′DII (Wormsk. in fl. dan. 9. p. 5. t. 1578.) stem short, rather branched; leaves pinnate, quite glabrous; leaflets oval, pinnatifid; segments lanceolate, acute; pedicels axillary, solitary, longer than the leaves; stipulas quite entire; petals obovate, longer than the calyx. ♃. H. Native of Greenland, near Holsteinborg. Corolla large, yellow.

Eged's Cinquefoil. Pl. 1 to 2 inches.

146 P. SERI′CEA (Lin. spec. 70.) stems hoary, pubescent; leaves pinnate; leaflets ovate or obovate-oblong, deeply pinnate parted, clothed with silky tomentum on both surfaces; segments linear, obtuse, with revolute margins; stipulas lanceolate, entire or a little cut; flowers in dichotomous panicles; petals obcordate, twice the length of the calyx; receptacle villous. ♃. H. Native of Siberia, on rocks at the rivers Tschuja, Koksun, and Tscharysch. Lehm. pot. t. 6. Led. fl. ross. alt. ill. t. 334. Corolla yellow.

Var. β, glabràta (Hook. fl. bor. amer. p. 189.) leaves hardly silky at the apex. ♃. H. Native of North America, on the Rocky Mountains between lat. 52° and 56°.

Silky Cinquefoil. Fl. May, Ju. Clt. 1780. Pl. $\frac{1}{4}$ to $\frac{3}{4}$ foot.

147 P. DASYPHY′LLA (Bunge in Led. fl. ross. alt. ill. t. 331. fl. alt. 2. p. 243.) stems ascending, rather villous; leaves pinnate; leaflets oblong, pinnate-parted; segments oblong-linear, bluntish, green and pubescent above, but clothed with hoary-silky villi beneath; stipulas ovate-lanceolate, entire; panicle terminal, few-flowered; petals obovate, entire, longer than the calyx; receptacle rather villous. ♃. H. Native of Altaia, on rocks at the rivers Korgon, Tscharysch, Koksun, and Tschuja, in the Soongarian desert. Corolla yellow.

Thick-leaved Cinquefoil. Fl. May. Pl. $\frac{1}{2}$ foot.

148 P. MULTI′FIDA (Lin. spec. 710.) stems ascending, pubescent; leaves pinnate, with few pairs of leaflets; leaflets pinnate-parted; segments linear, green and pubescent above, and clothed with hoary tomentum beneath; stipulas linear-lanceolate, acuminated, entire; flowers corymbose; petals emarginate, about equal in length to the calyx; receptacle pilose. ♃. H. Native of Switzerland, Siberia, Altaia, and Dahuria, in subalpine places, and in rather humid meadows. Ser. mus. helv. 1. p. 56 and 79. t. 8. P. verticillàris, Willd.?—Amm. ruth. p. 88. t. 113. f. 13. Flowers yellow.

Var. β, angustifòlia (Lehm. pot. p. 64.) leaflets more profoundly pinnate-parted, the segments much longer, and more distant.

Multifid-leaved Cinquefoil. Fl. May, June. Clt. 1759. Pl. $\frac{1}{2}$ to $\frac{3}{4}$ foot.

149 P. CORIANDRIFÒLIA (D. Don, prod. fl. nep. p. 232.) plant tufted, nearly glabrous; stems simple, few-flowered, nearly leafless; radical leaves very numerous, pinnate; leaflets profoundly pinnate-parted; segments linear, ending each in a tuft of long white hairs, tipped with obtuse glands; stipulas lanceolate, acute, and entire; petals 2-lobed, twice the length of the calyx. ♃. F. Native of Gosaingsthan. P. meifòlia, Wall. cat. no. 1011. Corolla yellow.

Coriander-leaved Cinquefoil. Pl. $\frac{1}{4}$ to $\frac{1}{2}$ foot.

150 P. DISSE′CTA (Pursh, fl. sept. 1. p. 355.) plant nearly glabrous; stems erect, loose; radical leaves pinnate; lower leaflets lanceolate, quite entire, upper ones cuneiform, pinnatifid; cauline leaves digitately-pinnate, the lateral leaflets the smallest; stipulas large, entire or denticulated; flowers pedunculate at the tops of the stems; petals obovate, hardly longer than the calyx. ♃. H. Native of Hudson's Bay. Flowers pale yellow, corymbose.

Dissected-leaved Cinquefoil. Pl. $\frac{1}{2}$ foot.

§ 5. *Leaves pinnate. Flowers white.*

151 P. RUPE′STRIS (Lin. spec. 711.) stems erect, dichotomous, reddish brown; radical leaves pinnate, cauline ones ternate; leaflets roundish, cuneated at the base, serrate-toothed; stipulas undivided; petals obovate, longer than the calyx. ♃. H. Native of Europe and Siberia, in mountainous regions. In Wales on the sides of a hill called Craig Wreidhin or rather Breddin, Montgomeryshire, but a doubtful native. Jacq. austr. 2. p. 91. t. 114. Ser. mus. helv. 1. p. 65. t. 6. f. 2. Smith, engl. bot. 2058. Krok. fl. sil. 2. t. 9. P. rùbens, Mœnch. meth. p. 657. P. fragarioìdes, Poir. suppl. 5. p. 586. Outer calycine segments usually bifid according to Ledebour, but linear and shorter than the inner ones according to Lehman. According to Smith the petals are obcordate in the British plant, if so it is a distinct species. Corolla white.

Rock Cinquefoil. Fl. May, Sept. England. Pl. 1 to $1\frac{1}{2}$ foot.

§ 6. *Shrubby species.*

152 P. FRUTICÒSA (Lin. spec. 709.) shrubby; leaves pinnate; leaflets oblong-lanceolate, quite entire, hairy; flowers subcorymbose; stipulas lanceolate, scarious, pilose above; petals obovate-roundish, longer than the calyx. ♄. H. Native of Poland, Germany, Dahuria, Piedmont, and the Pyrenees. In

England in mountainous thickets, but rare; about Greta-Bridge, Mickleforce, Egglestone Abbey, and several other places in Teesdale. Smith, engl. bot. t. 88. Nestl. pot. 30. t. 1. P. prostràta, Lapeyr. abr. p. 67. Upper leaves sessile, ternate. Leaves glabrous above, but when young beset with incumbent pili beneath, and canescent. Flowers yellow.

Shrubby Cinquefoil. Fl. Ju. Aug. England. Sh. 2 to 4 feet.

153 P. FLORIBU'NDA (Poir. suppl. 4. p. 54. Pursh, fl. amer. sept. 1. p. 355.) shrubby; leaves pinnate, pilose, grey; leaflets lanceolate, quite entire; flowers corymbose; stipulas lanceolate, scarious; petals obovate-roundish, longer than the calyx. ♄. H. Native of North America, throughout Canada from Lake Huron to the plains of the Saskatchawan and Bear Lake rivers under the Arctic circle, and from Newfoundland to the valleys of the Rocky Mountains on both sides, Kotzebue's Sound, and Behring's Straits. Wats. dend. brit. 70. P. fruticòsa β, Nestl. pot. p. 30. P. tenuifòlia, Schlecht. in berol. mag. ann. 7. p. 285. Upper leaves ternate, sessile? Flowers yellow.

Bundle-flowered Cinquefoil. Fl. June, Oct. Clt. 1811. Sh. 2 to 4 feet.

154 P. PARVIFÒLIA (Fisch. in litt. Lehm. pug. 3. p. 6.) shrubby, branched; leaves ternate, pilose on both surfaces; lateral leaflets deeply bipartite, rarely bifid or entire, terminal one tripartite, with the segments divaricate, linear, with revolute margins; stipulas lanceolate, acuminated, membranous, scarious, pilose above, purplish; flowers 2-3, terminal; petals obovate-cuneiform, entire, much longer than the calyx. ♄. H. Native of the Soongarian desert. Flowers yellow. Receptacle woolly.

Small-leaved Cinquefoil. Shrub 2 to 4 feet.

155 P. DAHU'RICA (Nestl. pot. 31. t. 1.) shrubby, nearly glabrous; lower branches horizontal, upper ones erect; leaves impari-pinnate, with 5 leaflets; leaflets oblong, quite entire, with revolute margins, superior ones confluent; flowers in terminal corymbose panicles; stipulas connate in one, pilose, scarious; outer calycine segments oval, inner ones the largest, ovate, and coloured; petals obovate, entire, longer than the calyx. ♄. H. Native of Dahuria, near Nertschinsk. P. fruticòsa β, Lehm. pot. 32. P. glàbra, Lodd. bot. cab. t. 914. Led. fl. ross. alt. ill. t. 173. Flowers white.

Dahurian Cinquefoil. Fl. June, Aug. Clt. 1818. Shrub 2 to 4 feet.

156 P. SALESÒVII (Poir. suppl. 4. p. 538. Lehm. pot. p. 35. t. 1.) shrubby; leaves pinnate, with 3-4 pairs of oblong sharply serrated leaflets, clothed with white tomentum beneath; stipulas ovate, acuminated, entire; flowers crowded at the tops of the branches; petals obovate, entire, longer than the calyx; outer calycine segments narrow. ♄. H. Native of Siberia. Corolla white.

Salesove's Cinquefoil. Fl. June, Jul. Clt. 1823. Sh. 1 to 2 ft.

157 P. ARBU'SCULA (D. Don, prod. fl. nep. p. 256. Wall. pl. asiat. rar. 3. t. 228.) shrubby, much branched; leaves pinnate; leaflets 5, oval, obtuse, villous above, and naked beneath, when young silky on both surfaces; peduncles elongated, 1-flowered, terminal, solitary, villous; stipulas brown, lanceolate, obtuse, membranous; calycine segments dissimilar, outer ones roundish, obtuse, deeply bipartite; petals orbicular, entire, longer than the calyx. ♄. H. Native of Gosaingsthan. P. Nepalénsis, D. Don, prod. fl. nep. p. 229. but not of Hook. Stems rooting. Flowers yellow.

Little-tree Cinquefoil. Shrub creeping.

158 P. RI'GIDA (Wall. cat. 1009. Lehm. pug. 3. p. 3.) shrubby, much branched; leaves ternate; leaflets oblong, entire, silky above, and glabrous beneath, with revolute margins; flowers terminal, usually solitary; stipulas broad, lanceolate, entire, membranous, sheathing; outer calycine segments usually deeply bipartite; petals orbicular, deeply emarginate, twice the length of the calyx. ♄. H. Native of Gosaingsthan and Kamaon. Flowers yellow.

Stiff Cinquefoil. Shrub 2 to 3 feet.

159 P. LIGNÒSA (Willd. herb. ex Spreng. syst. append. p. 344.) shrubby; branches twisted, compressed; leaves quinately digitate; leaflets cuneated, truncate, 3-toothed at the apex; peduncles solitary. ♄. H. Native of Hyrcania.

Woody Cinquefoil. Shrub.

† *Species not sufficiently known.*

160 P. LAGASCA'NA (Ser. in D. C. prod. 2. p. 586.) tomentose; leaves quinately pinnate; leaflets cuneiform, cut; floral ones ternate, with the leaflets sessile and trifid; petals equal in length to the calyx; receptacle hairy. ♃. H. Native country unknown. P. incìsa, Lag. gen. et spec. p. 16. but not of Desf.

Lagasca's Cinquefoil. Pl. $\frac{3}{4}$ foot.

161 P. CORYMBÒSA (Pour. act. toul. 3. p. 325.) stem shrubby, ascending; leaves quinate and ternate, villous. ♄. H. Native country unknown.

Corymbose-flowered Cinquefoil. Shrub.

162 P. BITHY'NICA (Horn. hort. hafn. suppl. 55.) stem much branched; radical leaves quinate; leaflets roundish-obovate; cauline leaves ternate; petals shorter than the calyx. ♄. H. Native of Bithynia.

Bithynian Cinquefoil. Pl. $\frac{3}{4}$ foot.

Cult. All the species of *Potentilla* are of easy cultivation, and some of them are handsome when in flower. They will grow in any common garden soil, and are easily increased by dividing the plants, or by seed. The shrubby kinds are very proper for the front of shrubberies, and they propagate freely by cuttings planted in the autumn in a sheltered situation.

XIII. TORMENTI'LLA (from *tormentum*, pain; in reference to its supposed efficacy in tooth ache, as well as from being supposed to cure diseases of the bowels). Lin. gen. no. 256. Smith, engl. fl. 2. p. 423.

LIN. SYST. *Icosándria, Polýgynia.* Calyx 8-parted, the 4 outer segments accessory and narrowest. Petals 4, inversely heart-shaped. Stamens 16 or more, not half so long as the corolla. Styles lateral, deciduous. Carpels or akenia seated on a small depressed hairy receptacle.—Herbaceous plants, with weak terete stems, digitate leaves, and solitary lateral pedicels, bearing small yellow flowers.

1 T. ERE'CTA (Lin. spec. 716.) stem ascending, branched, dichotomous; leaves ternate; cauline ones sessile; leaflets oblong, acute, deeply serrated; stipulas cut; pedicels solitary in the forks of the stem, and lateral; petals obcordate. ♃. H. Native of Europe, in barren pastures, heaths, and bushy places; plentiful in Britain. Oed. fl. dan. 589. T. officinàlis, Smith, fl. brit. 552. engl. bot. t. 863. Curt. lond. fasc. 5. t. 35. Potentílla Tormentílla, Sibth. 162. Nestl. pot. 65. Potentílla tetrapétala, Hall. jun. in Ser. mus. 1. p. 57. The flowers are sometimes to be met with having 5 petals, and a double blossomed variety was found by the late Miss Jones, of Hafod, in Cardiganshire. The roots are so astringent as to be used in the Western Isles of Scotland and in the Orkneys for tanning leather; for which purpose they are superior even to oak bark. They are at first boiled in water, and the leather is then steeped in the cold liquor. They are also used for dyeing a red colour. The root has an austere styptic taste, with a slight kind of aromatic flavour, and it is one of the most agreeable and efficacious of our indigenous aromatic astringents, and may be employed with good effect in all cases where medicines of this class are proper. It is sometimes given in powder, but usually in decoction.

Erect Tormentil. Fl. June, July. Britain. Pl. $\frac{1}{2}$ foot or pr.

2 T. RE'PTANS (Lin. spec. 716.) stems procumbent, hardly

branched; leaflets 3-5, obovate, deeply toothed, hairy, as well as the petioles; stipulas lanceolate, entire; pedicels lateral, 1-flowered, long, and slender; petals obcordate. ♃. H. Native of Europe, about hedges and the borders of fields. In Britain in several parts of Oxfordshire, and at Braintree, Essex; at Lakenham, near Norwich; in Hertfordshire and Surrey; at Bright House, near Halifax, Yorkshire; in barren grounds of Scotland. Smith, engl. bot. 864. Potentílla procúmbens, Sibth. Potentílla nemoràlis, Nestl. pot. 65. Plot's tormentil, Pet. herb. brit. t. 41. f. 10. Flowers sometimes with 5 petals.

Creeping Tormentil. Fl. June, July. Britain. Pl. pros.

3 T. HUMIFU'SA; floriferous stems short and filiform, procumbent; leaflets 5, cuneate-oblong, obtuse, deeply toothed, clothed with white tomentum beneath. ♃. H. Native of North America, in the plains of the Missouri. Potentílla humifùsa, Nutt. gen. amer. 1. p. 130.

Trailing Tormentil. Pl. trailing.

Cult. Plants of the easiest culture and propagation; however they are not worth growing except in botanical gardens, to fill up the arrangements.

XIV. CO'MARUM (from *κομαρος*, *comaros*, the arbutus; similar in fruit). Lin. gen. no. 638. Smith, engl. fl. 2. p. 433.

LIN. GEN. *Icosándria, Monogýnia.* Calyx 10-parted, the 5 outer segments accessory and small. Petals 5, lanceolate, shorter than the calyx, attached to the rim of the calyx along with the stamens. Styles lateral. Carpels or akenia numerous, seated on a large, dry, spongy, hairy, hemispherical receptacle.—An herbaceous creeping plant, with broad pinnate and ternate leaves, and terminal panicles of purple flowers.

1 C. PALU'STRE (Lin. spec. 718.) ♃. H. Native of Europe, Siberia, and North America, in marshes; plentiful in Britain. Smith, engl. bot. 173. Schkuhr, handb. t. 138. f. 1. Fl. dan. 637. Potentílla Cómarum, Scop. fl. carn. ed. 2. vol. 1. p. 359. Potentílla palústris, Lehm. pot. 32. Potentílla rùbra, Hall. fil. in Ser. mus. helv. 1. p. 5, 6. Root creeping. Stems ascending. Leaves pinnate. Leaflets broad, acutely serrated, green above, but glaucescent beneath. Flowers pedicellate, axillary, and terminal, dark purple; petals lanceolate, acuminated, much shorter than the calyx. The roots dye wool of a dirty red-colour, and have astringency enough with other plants of the same class to tan leather. In Scotland the fruit are called *cow-berries*.

Marsh Cinquefoil. Fl. June, July. Britain. Pl. 1 to 1½ foot.

Cult. This plant will grow in any kind of moist soil, and is increased by dividing at the root.

XV. HORKE'LIA (in honour of John Horkel, professor of physiology at Berlin). Cham. et Schlecht. in Linnæa. vol. 2. p. 27. Hook. fl. bor. amer. p. 196.

LIN. SYST. *Decándria, Polygýnia.* Calyx campanulate, semi-10-cleft, outer segments accessory. Petals 5, small. Stamens 10, inserted by 2 series in the sides of the calyx. Ovaries numerous, seated on a dry, conical, villous, receptacle. Styles simple, articulated with the ovaries, almost terminal. Akenia inclosed in the calyx.—Erect herbs, with pinnate leaves, and crowded terminal insignificant flowers.

1 H. CONGE'STA (Dougl. mss. Hook. bot. mag. 2880.) radical leaves pinnate; leaflets cuneate-oblong, cut at the apex; outer calycine segments quite entire; petals longer than the calyx. ♃. H. Native of California, at Cape Mendocino, and on the low hills of the Umtqua river in lat. 41° to 42°. Corolla white.

Crowded-flowered Horkelia. Fl. Aug. Clt. 1826. Pl. 1 to 2 ft.

2 H. CALIFÓRNICA (Cham. et Schlecht. in Linnæa. 2. p. 27.) erect, clothed with viscid pili; leaves pinnate and pinnatifid; flowers panicled; petals shorter than the calyx. ♃. H. Native of California. Sibbáldia Califórnica, Spreng. syst. app. p. 341. Corolla white.

Californian Horkelia. Pl. 1 to 2 feet.

Cult. The species of *Horkèlia* will grow in any common garden soil, and are readily increased by dividing at the root.

XVI. SIBBA'LDIA (in honour of Robert Sibbald, professor of physic at Edinburgh, author of Scotia Illustrata, 1684, &c.) Lin. gen. 393. Lam. ill. t. 221. D. C. prod. 2. p. 586.

LIN. SYST. *Penta-Decándria, Penta-Decagýnia.* Calyx flattish, 10-cleft, the 5 outer segments accessory. Petals 5, linear-spatulate. Stamens 5-10. Styles 5-10, lateral. Carpels or akenia 5-10, seated on an almost naked receptacle.—Evergreen, dwarf, glandless herbs, with trifoliate leaves, and glomerate or corymbose heads of yellow or white flowers.

1 S. PROCU'MBENS (Lin. spec. 406.) leaves trifoliate; leaflets equal, cuneated, and coarsely toothed at the apex, rather pilose; flowers corymbose; petals shorter than the calyx. ♃. H. Native of Europe, Siberia, and North America, on high mountains. Plentiful on the summits of the highland mountains of Scotland, in micaceous soil. Smith, engl. bot. t. 897. Fl. dan. 32. Petals small, yellow.

Procumbent Sibbaldia. Fl. July. Scotland. Pl. 1 to 3 inches.

2 S. ADPRE'SSA (Bunge in Led. fl. ross. alt. ill. t. 276. fl. alt. 1. p. 429.) leaves ternate; lateral leaflets oblong-lanceolate, quite entire, intermediate one cuneated, tripartite, with the lateral segments entire, and the middle one tridentate at the apex, silky beneath; flowers with 10 stamens and 10 styles; petals equal in length to the calyx. ♃. H. Native of Altaia, on high dry fields at the rivers Kan and Tschuja. Petals white.

Adpressed Sibbaldia. Pl. ¼ foot.

3 S. PARVIFLÒRA (Willd. act. soc. berol. vol. 2.) leaves trifoliate; leaflets beset with strigose pili on both surfaces; flowers in glomerate heads; petals obovate, one-half shorter than the calyx. ♃. H. Native of Cappadocia. Fragària orientàlis flore luteo, Tourn. cor. 21. Petals yellow.

Small-flowered Sibbaldia. Fl. July, Aug. Pl. ¼ foot.

Cult. *Sibbáldia* is a genus of small alpine plants. They do best in small pots in a mixture of peat, loam, and sand, and are increased by dividing.

XVII. CHAMÆRHO'DOS (from *χαμαι*, *chamai*, on the ground, and *ῥοδος*, *rhodos*, a rose, dwarf-rose). Bunge in Led. fl. ross. alt. ill. t. 257. fl. alt. 1. p. 429. Hook. fl. bor. amer. p. 196. —Sibbáldia species of Lin. D. C. and others.

LIN. SYST. *Pentándria, Penta-Decagýnia.* Calyx campanulate, 5-cleft. Petals 5, obovate. Stamens 5. Styles lateral, rarely 5, usually 10 or more. Carpels 5-10 or more, seated on a villous receptacle.—Small plants, with dissected leaves, beset with glandular pili. Corolla white or purple.

1 C. ERE'CTA (Bunge in Led. fl. alt. 1. p. 431.) herbaceous, pubescent; stems elongated, racemosely panicled; radical leaves biternately multifid, upper cauline ones 3-5-cleft; segments linear-filiform; flowers pentandrous; styles 5-20; petals exceeding the calyx. ♂. F. Native of Siberia, and Altaia, in pine woods, and of North America about Carlton House, on the Saskatchawan, as also among the Rocky Mountains.—Amm. ruth. p. 58. t. 25. Lam. ill. t. 221. f. 2. Sibbáldia erécta, Lin. spec. p. 406. Corolla purple.

Erect Chamærhodos. Fl. June, Aug. Clt. 1806. Pl. 1 ft.

2 C. GRANDIFLÒRA (Bunge, fl. alt. 1. p. 431.) stems numerous, erect, leafy; leaves divided into numerous linear segments, pubescent; petals twice the length of the calyx. ♃. H. Native of Dahuria, on granite rocks near Ouda, and at the river Selenga. Sibbáldia grandiflòra, Pall. in Willd. rel. ex Schultes, syst. 6. p. 770. Corolla red, larger than that of *C. erécta.*

Great-flowered Chamærhodos. Pl. 1 foot.

3 C. SABULÒSA (Led. fl. ross. alt. ill. t. 257. fl. alt. 1. p. 432.) plant suffruticose, clothed with clammy villi, tufted; stems as-

cending, dichotomously and corymbosely panicled at the apex; leaves triternate; segments obovate-oblong, obtuse; flowers with 5 stamens, and usually with 10 styles; petals equal in length to the calyx. ♃. H. Native of Siberia, in sandy islands in the river Tschuja. Petals white.

Sand Chamærhodos. Fl. June. Pl. procumbent.

4 C. POLY'GYNA; stem straight, beset with glandular hairs, panicled; leaves multifid; segments linear; flowers polygynous, disposed in glomerate heads; petals about equal in length to the calyx. ♃. H. Native of Siberia. Sibbáldia polýgyna, Willd. rel. ex Schultes, syst. 6. p. 770. Petals rose-coloured.

Polygynous Chamærhodos. Fl. Jul. Aug. Clt. 1824. Pl. $\frac{1}{2}$ ft.

5 C. ALTA'ICA (Bunge, fl. alt. 1. p. 429.) plant suffruticose, tufted, prostrate; leaves palmate or 3-parted, middle segment trifid, lateral ones bifid or trifurcate; sepals linear; flowers usually solitary, with 5 stamens and 10 styles; petals more than twice the length of the calyx. ⊙. H. Native of Altaia, at the rivers Kan and Kerlyk, in schistous saltish soil. Sibbáldia Altàica, Lin. suppl. 191. Flowers large, red.

Altaian Chamærhodos. Fl. June, July. Pl. prostrate.

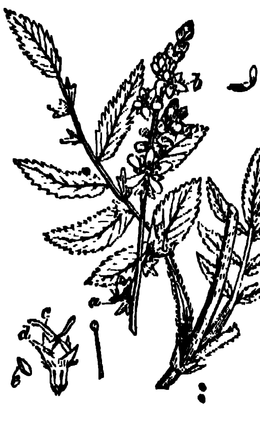
Cult. The species of *Chamærhòdos* are very difficult to preserve through the winter, as they are very liable to be carried off by the damp. They should be grown in pots in a mixture of sand, peat, and loam, and should be placed on a dry shelf in a cold frame in winter, at which time they should be but sparingly watered, if at all. They are only to be increased by seed.

XVIII. AGRIMO'NIA (a corruption of *Argemone*, a name given by the Greeks to a plant which was supposed to cure cataract of the eye, from αργος, *argos*, white, the cataract of the eye being white). Tourn. inst. t. 155. Nestl. pot. 16. D. C. prod. 2 p. 587.

LIN. SYST. *Dodecándria, Digýnia.* Calyx tubular, foveolate on the sides, with 5 small acute marginal segments (f. 73. *d.*), the tube subsequently hardened, and closed over the seeds, furnished on the outside by a circle of hooked bristles, forming an involucre. Petals 5 (f. 73. *b.*). Stamens 7-20, from the rim of the calyx along with the petals. Carpels 2, in the bottom of the calyx. Styles 2, lateral (f. 73. *c.*). Seeds pendulous.—Astringent aromatic herbs, with interruptedly pinnate leaves, each accompanied by a pair of stipulas united to the petioles. Flowers small, numerous, spiked, yellow. Bracteas trifid (f. 73. *a.*).

1 A. EUPATÒRIA (Lin. spec. 643.) hairy or smoothish; leaves interruptedly pinnate; leaflets elliptic-oblong, coarsely serrated, odd one stalked; petals twice the length of the calyx; fruit distant; tube of calyx campanulate, encircled by a whorl of hooked prickles above; spikes of flowers elongated. ♃. H. Native of Europe, in bushy places by road sides, and about the borders of fields; plentiful in some parts of Britain. Smith, engl. bot. 1335. Curt. lond. fasc. 5. t. 32. Woodv. med. bot. suppl. 258. Fl. dan. t. 588. The herb is slightly bitter, aromatic, astringent, evincing a tonic property, for which it has always been noted, and which has procured it a place in several British herb teas. In decoction it was formerly used as an astringent for a gargle, and in diarrhœa and leucorrhœa. Kalm informs us, that the Canadians use the infusion of the root with great success in burning fevers, and Dr. Hill says it is an effectual cure for jaundice, sweetened with honey, in the quantity of half a pint three times a day. The plant will dye wool of a nankeen colour. It is also recommended for dressing leather.

FIG. 73.



Eupator's Agrimony. Fl. June, July. Britain. Pl. 1 to 2 ft.

2 A. NEPALE'NSIS (D. Don, prod. fl. nep. p. 229.) leaves interruptedly pinnate; leaflets ovate, serrated, odd one stalked, very villous on both surfaces, as well as the stems; racemes erect, slender; bracteas trifid, shorter than the calyx; calycine segments lanceolate, acute, keeled. ♃. H. Native of Gosaingsthan.

Nipaul Agrimony. Fl. June, July. Clt. 1820. Pl. 1 to 2 ft.

3 A. DAHU'RICA (Willd. herb. ex Stev. in litt. D. C. prod. 2. p. 587.) glabrous; leaves interruptedly pinnate; the rest unknown. ♃. H. Native of Dahuria. Very like *A. Eupatòria*, but differs in the leaves being narrower and more acute, and in the flowers being more remote.

Dahurian Agrimony. Fl. June, July. Clt. 1811. Pl. 1 to 2 ft.

4 A. ODORA'TA (Cam. epit. 7. D. C. prod. 2. p. 587.) hairy; leaves interruptedly pinnate; leaflets oblong, lanceolate, deeply crenate-toothed; petals twice the length of the calyx; fruit distant; tube of calyx campanulate, pilose, with the foveolæ obovate, and drawn out even to the base, and with the bristles ascending and short. ♃. H. Native of Italy. A. Eupatòria, Desf. cat. 176. ex D. C. fl. fr. 4. p. 451.—Mill. fig. t. 15. Spikes several.

Sweet-scented Agrimony. Fl. July, Aug. Clt. 1640. Pl. 2 to 3 feet.

5 A. PILÒSA (Led. ind. hort. dorp. suppl. 1823. p. 1. fl. alt. 2. p. 205.) pilose; leaves interruptedly pinnate; leaflets cuneate-rhomboid, smoothish above, but pilose at the nerves beneath, serrated, the smaller ones almost quite entire; bristles of fruit erectly connivent; the foveolæ drawn out beyond the middle. ♃. H. Native of Altaia, frequent in meadows and by way sides. Rchb. icon. pl. rar. 3. p. 49. t. 252. f. 414. Stems usually simple, bearing only one spike, rarely branched.

Pilose Agrimony. Fl. June, July. Clt. 1819. Pl. 1 to 2 ft.

6 A. PARVIFLÒRA (Ait. hort. kew. ed. 1. vol. 2. p. 130.) smoothish; leaves interruptedly pinnate; leaflets numerous, lanceolate, deeply serrated; spikes slender; petals one-half longer than the calyx; fruit distant; tube of calyx turbinate; foveolæ drawn out even to the base; bristles ascending. ♃. H. Native of North America, from Pennsylvania to Carolina, and throughout Canada. Fibres of the root tuberous, as in *Spiræ'a filipéndula.*

Small-flowered Agrimony. Fl. June, July. Clt. 1766. Pl. 1 to 2 feet.

7 A. SUAVE'OLENS (Pursh, fl. amer. sept. 1. p. 336.) plant very hairy; leaves interruptedly pinnate; leaflets lanceolate, sharply serrated; spikes of flowers twiggy and clammy; flowers almost sessile; petals twice the length of the calyx; fruit obconical, with divaricate bristles. ♃. H. Native from Virginia to Carolina.

Sweet-scented Agrimony. Fl. July, Aug. Clt. 1810. Pl. 1 to 2 feet.

8 A. BLU'MEI; leaves interruptedly pinnate, velvety, pubescent; the terminal leaflet sessile; racemes elongated, spicately racemose, clothed with clammy pubescence. ♃. H. Native of Java and Japan, on the mountains. A. suavèolens, Blum. bijdr. 1113. but not of Pursh.

Blume's Agrimony. Pl. 1 to 2 feet.

9 A. STRIA'TA (Michx. fl. bor. amer. 1. p. 887.) leaves interruptedly pinnate; spikes twiggy; fruit reflexed, turbinate, sulcately striated. ♃. H. Native of Canada. Flowers white. This species is hardly known.

Striated-calyxed Agrimony. Fl. July, Aug. Clt. 1812. Pl. 1 to 2 feet.

10 A. **re'pens** (Lin. spec. 875.) hairy; leaves pinnate; leaflets oblong, terminal one sessile; spikes nearly sessile; petals 3 times the length of the calyx; bracteas length of flowers; stipulas length of the internodes of the stem, and almost covering it; roots creeping; fruit hispid. ♃. H. Native of Armenia. Like *A. Eupatòria*, but the stems are thicker, the spikes more dense, the flowers sessile, and the fruit larger.

Creeping-rooted Agrimony. Fl. Jul. Aug. Clt. 1737. Pl. 2 ft.

Cult. Plants of easy culture. They will grow in any common soil, and are readily increased by dividing at the root.

XIX. **AREMO'NIA** (altered from *Agrimonia*). Neck. elem. no. 768. Agrimonioides, Tourn. inst. t. 155. Amònia, Nestl. pot. 17. Spallanzània, Poll. giorn. fis. pav. 1816. p. 187. with a figure.

Lin. syst. *Peta-Decándria, Digýnia.* Involucrum calyciform, 10-12-cleft. Tube of calyx oblong, with a 5-cleft bractless limb. Petals 5. Stamens 5-10. Carpels 2. Styles terminal. Akenia usually solitary from abortion, inclosed in the globose tube of the calyx, thin, membranous. Seed pendulous.—An evergreen herb, with interruptedly impari-pinnate leaves; leaflets dentately serrated, lower ones small, outer ones large. Flowers small, yellow, in fascicles or few-flowered corymbs.

1 A. **agrimonioìdes** (D. C. prod. 2. p. 588.) ♃. H. Native of Italy and Carniola, in humid places. Agrimònia agrimonioìdes, Lin. spec. 643. Col. ecphr. t. 144. Mor. oxon. sect. 5. t. 34. f. 9. Stem leaves ternate.

Agrimonia-like Aremonia. Fl. June, July. Clt. 1739. Pl. ½ to ¾ foot.

Cult. See *Agrimònia* for culture and propagation.

XX. **BRAYE'RA** (in honour of Dr. Brayer, the discoverer of the plant). Kunth, in Brayer, not. 8vo. 1824. Paris, dict. class. hist. nat. 2. p. 501. with a figure, D. C. prod. 2. p. 588.

Lin. syst. *Dodecándria, Digýnia.* Calyx permanent, with a turbinate tube, which is silky on the outside; limb 10-parted, outer segments accessory, large, and oblong; the 5 inner ones spatulate and shorter; throat pervious. Petals 5, scale-formed, small, linear, deciduous. Stamens 15-20, nearly equal, shorter than the petals. Carpels 2, free, in the bottom of the calyx, 1-2-ovulate. Styles exserted, crowned by subpeltate crenately lobed stigmas. Seed solitary, pendulous.—A tree. Peduncles branched, and clothed with soft hairs, flexuous, and bracteate; flowers 4 together; bracteas roundish-elliptic. Leaves unknown.

1 B. **anthelmi'ntica** (Kunth, l. c.) ♄. F. Native of Abyssinia, where it is called *cotz* or *cabotz*. The flowers of this tree are the most powerful anthelmintic known. Upon the authority of Dr. Brayer 2 or 3 doses of the infusion are sufficient to cure the most obstinate case of tænia.

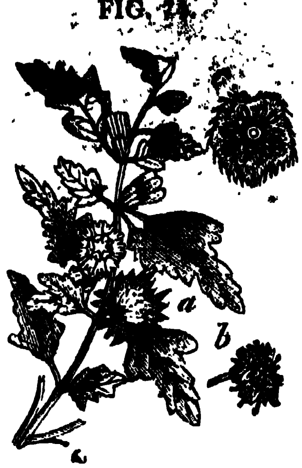
Anthelmintic Brayera. Tree.

Cult. The tree will possibly thrive well in a mixture of loam and peat, and cuttings will most probably root in sand under a hand-glass.

Tribe II.

NEURA'DEÆ. Calyx 5-cleft (f. 74. *a.*), with a short tube, adhering to the ovaries; lobes cut, valvate in æstivation. Petals 5 (f. 74. *b.*), inserted in the bottom of the calycine lobes. Stamens 10. Styles 10. Carpels 10, connected into a 10-celled capsule (f. 74. *c.*), which is depressed at the apex, and girded by the echinated calyx. Seeds solitary in the cells, bony, obliquely pendulous. Embryo curved, with an oblique radicle and oblong cotyledons.—Decumbent, fruticose, tomentose herbs, with sinuately pinnatifid leaves, and small solitary axillary flowers. Seeds germinating in the capsule.

FIG. 74.



XXI. **NEURA'DA** (νευρον, *neuron*, a nerve; in reference to the plaited nerved leaves). Juss. in Lin. gen. 587. Gærtn. fruct. 1. p. 162. t. 32. D. C. prod. 2. p. 548.

Lin. syst. *Decándria, Polygýnia.* Character the same as that of the tribe.

1 N. **procu'mbens** (Lin. spec. 631.) ⊙. H. Native of Egypt, Arabia, and Numidia. Forst. descrip. p. 90. Lam. ill. t. 393. (f. 74.)

Procumbent Neurada. Pl. tr.

Cult. The seeds of this plant only require to be sown in a warm dry sheltered situation in the open ground.

Tribe III.

RO'SEÆ (so named in consequence of the section comprising *roses*). D. C. prod. 2. p. 596.—Rósæ, Juss. gen. p. 353. Calyx with the tube contracted at the mouth (f. 75. *g.*), and with a 5-parted limb (f. 75. *b.* f. 76. *d.*); the segments somewhat spirally imbricated at the apex in æstivation, and usually pinnately divided (f. 75. *b. c.* f. 76. *d.*). Petals 5 (f. 75. *e.* f. 76. *e.*). Stamens numerous. Carpels numerous, bony, inserted on the inside of the tube of the calyx, which at length becomes baccate (f. 75. *f.* f. 76. *b.*), and incloses them; they are dry and indehiscent, bearing each a style on the inner side. Styles exserted from the constricted part of the calycine tube (f. 75. *g.*), sometimes distinct, sometimes connected into a columnar style. Seeds solitary, exalbuminous, inverted. Embryo straight, with flattish cotyledons.—Shrubs, usually with impari-pinnate leaves, serrated leaflets, and with the stipulas adnate to the petiole (f. 75. *a.*).

XXII. **RO'SA** (from *rhos*, red, Celtic; in reference to the colour of the flowers of most of the species of the rose). Tourn. inst. 1. p. 636. t. 408. Lin. gen. 631. Lam. ill. t. 440. Lindl. mon. 8vo. 1820. Pronv. nom. ros. 1818. mon. ross. 1824.—Rhodóphora, Neck. elem. 784.

Lin. syst. *Icosándria, Polygýnia.* The character the same as that of the tribe.

Sect. I. Simplicifòlia (Lindl.). Leaves simple, exstipulate. Fruit bristly.

1 R. **berberifòlia** (Pall. nov. act. petr. 10. p. 379. t. 10. f. 5.) leaves simple, serrated; prickles decurrent; sepals entire. ♄. H. Native of Persia, near Amadan, and in fields at the bottom of Mount Elwend, and in the desert of Soongaria. R. simplicifòlia, Salisb. hort. allert. 359. par. lond. 101. with a figure. Led. fl. ross. atl. ill. 370. Lówea conspícua, Lindl. bot. reg. 1261. Petals yellow, marked with purple at the base.

Var. α, glàbra (Ser. in D. C. prod. 2. p. 602.) stipulas connate, leaf-formed, glabrous; prickles substipular, twin. ♄. H. Native of the Soongarian desert, in salt places beyond the river Irtysch.—Red. et Thor. ros. 1. p. 27.

Var. β, velutìna (Ser. mss. in D. C. prod. 2. p. 602.) stem, prickles, and leaves velvety; leaflets spatulate-lanceolate; prickles substipular, twin. ♄. H. Native of Persia.

Barberry-leaved Rose. Fl. Ju. Jul. Clt. 1790. Sh. 1 to 2 ft.

Sect. II. Feròces (from *ferox*, fierce, in reference to the branches being thickly beset with prickles). Lindl. mon. p. 3. Branches clothed with permanent tomentum. Fruit naked. The plants contained in this section are a strictly natural group. They are low shrubs, losing their leaves early in autumn, and are then remarkable for their hoary branches, bristles and numerous prickles. Their fruit is perfectly smooth, which character separates them from the next section, in which the fruit is downy. Sepals usually toothed.

2 R. FE'ROX (Lawr. ros. t. 42.) prickles of the same shape, and much crowded. ♄. H. Native of Caucasus. Lindl. in bot. reg. t. 440. R. Kamtschática, Red. ros. 1. p. 47. t. 12. R. Kamschática β, ferox, Ser. in D. C. prod. 2. p. 607. R. echinàta, Dupont. Flowers large, red. Fruit globose, scarlet.

Var. β, *nìtens* (Lindl. bot. reg. 824.) leaves shining, pale green, glabrous on both surfaces; flowers pale crimson. R. Kamtschática γ, nìtens, Ser. in D. C. prod. 2. p. 607.

Fierce Rose. Fl. July, Aug. Clt. 1796. Shrub 3 to 4 ft.

3 R. RUGÒSA (Thunb. fl. jap. 213.) arms crowded, nearly equal; peduncles beset with curved prickles. ♄. H. Native of Japan. *Ramanas* of the Japanese. Lindl. ros. p. 5. t. 19.

Wrinkled Rose. Shrub 3 to 4 feet.

4 R. KAMTSCHA'TICA (Vent. cels. t. 67.) prickles infra-stipular, falcate, large; leaves opaque. ♄. H. Native of Kamtschatka, in dry rocky places. Lindl. in bot. reg. t. 419. Flowers solitary, deep red. Fruit spherical, scarlet, less than that of *R. ferox.*

Kamtschatka Rose. Fl. June, Jul. Clt. 1791. Sh. 3 to 4 ft.

SECT. III. BRACTEA'TÆ (from *bracteatus*, propped or covered with plates; flowers furnished with bracteas). Branches and fruit clothed with permanent tomentum. This section is readily distinguished from the last by the woolliness of the fruit. Leaves dense, usually shining, and prickles are placed under the stipulas in pairs. Sepals simple or nearly so.

5 R. INVOLUCRA'TA (Roxb. Lindl. ros. p. 8.) leaflets elliptic-lanceolate, tomentose beneath; bracteas contiguous, pectinate. ♄. H. Native of Nipaul and China. Lindl. bot. reg. 709. R. palústris, Hamilt. mss. R. Lindleyàna, Tratt. ros. 2. p. 190. Flowers white, nearly solitary, surrounded by 3 or 4 approximate leaves.

Involucrated Rose. Fl. Ju. Jul. Clt. 1818. Sh. 3 to 4 ft.

6 R. MICROPHY'LLA (Roxb. Lindl. ros. p. 9.) leaflets ovate, small; bracteas appressed, pectinate; fruit prickly. ♄. H. Native of China. *Hai-tong-hong* of the Chinese. Flowers small, double, of a delicate blush colour.

Small-leaved Rose. Fl. Aug. Oct. Shrub 2 to 3 feet.

7 R. BRACTEA'TA (Wendl. obs. p. 50.) leaflets oblong, obtuse, quite glabrous; bracteas appressed, pectinated. ♄. H. Native of China. Red. ros. p. 35. t. 6. Vent. cels. t. 28. Ròsa lùcida, Lawr. ros. t. 84. Ròsa Macártnea, Dum. Cour. bot. cult. Flowers showy, pure white, solitary, nearly sessile. Fruit spherical, orange red.

Var. β, *scabriúscula* (Lindl. ros. 10.) branches setigerous; prickles smaller, straightish. ♄. H. Native of China. R. bracteàta, Mœnch, meth. suppl. 290. Jacq. fragm. 30. t. 34. f. 2. Sims, in bot. mag. 1377.

Bracteated or Macartney's Rose. Fl. June, Oct. Clt. 1795. Shrub 2 to 3 feet.

8 R. LYE'LLII (Lindl. ros. p. 12. t. 1.) leaflets oblong-lanceolate, glabrous; bracteas distant, entire; flowers cymose. ♄. H. Native of Nipaul. Plant densely villous. Flowers probably white.

Lyell's Rose. Shrub 3 to 4 feet.

SECT. IV. CINNAMÒMEÆ (plants agreeing in character with *R. cinnamòmea*). Lindl. ros. 13. Plants setigerous or unarmed, bracteate. Leaflets lanceolate, glandless. Disk thin, never thickened. This section is distinguished by its long, lanceolate leaflets, without glands, upright shoots, and compact habit; red flowers never solitary except by abortion, and always supported by bracteas; an inconspicuous disk but little thickened; round, small, red fruit, losing their long narrow sepals, and small, smooth, shining pericarps. The shoots are usually setigerous next the ground, but rarely so towards the apex, except in one or two instances. *R. alpìna* and *R. aciculàris* of the following division sometimes have bractea, but their sepals never fall off till the fruit is decayed. Sepals simple, entire, or nearly so, unless when mentioned otherwise.

9 R. NÍTIDA (Willd. enum. 544.) dwarf; prickles crowded, very slender; leaflets shining, narrow-lanceolate, flat. ♄. H. Native of Newfoundland. Lindl. ros. 19. t. 2. R. rubrispìna, Bosc. dict. d. agr. 246.? R. blánda, Pursh, fl. amer. sept. 1. p. 344. R. Redùtea rubéscens, Red. ros. 1. p. 103. t. 36. Shrub beset with straight red spines. Flowers deep red. Fruit depressed, spherical, bright scarlet.

Shining-leaved Rose. Fl. June, Aug. Clt. 1807. Sh. 2 ft.

10 R. RA'PA (Bosc. dict. d'agr. ex. Desf. cat. hort. par. 273.) taller, diffuse; branches unarmed; leaflets oblong, undulated, shining; fruit hemispherical. ♄. H. Native of North America, in the warmer states. Red. ros. 1. p. 7. t. 2. R. túrgida, Pers. ench. 2. p. 49. R. fraxinifòlia, Dum. Cours. bot. cult. Petals always multiplied, smaller than those of *R. lùcida*, bright red. Fruit deep red. Sepals compound.

Turnip Rose. Fl. June, Aug. Shrub 3 to 4 feet.

11 R. LU'CIDA (Ehrh. beitr. 4. p. 22.) compact; prickles of the branches stipular; leaflets oblong, imbricated, flat, shining; fruit globose, depressed. ♄. H. Native of North America, from New York to Carolina; near Boston, in bogs, and on the edges of marshes, and of Newfoundland. R. rùbra lùcida, Ross. ros. t. 7. and t. 25. f. 1. R. lùcida, Jacq. fragm. 71. t. 107. f. 3. Red. ros. 1. p. 45. t. 11.—Dill. elth. 325. t. 245. f. 316. Flowers red, overtopped by the leaves and young branches. Fruit bright red.

Lucid Rose. Fl. June, Aug. Clt. 1724. Sh. 4 to 6 feet.

12 R. LINDLE'YI (Spreng. syst. 2. p. 647.) diffuse; branches twiggy, almost unarmed; leaflets oblong, undulated, opaque, glaucescent. ♄. H. Native of North America. R. láxa, Lindl. ros. 18. t. 3. R. Carolina ε, Ait. hort. kew. ed. 2. vol. 3. p. 260. R. Carolina, pimpinellifòlia, Andrews. ros. with a figure. A spreading shrub, with reddish brown branches. Flowers rose-coloured, growing usually in pairs.

Lindley's Carolina Rose. Fl. July, Aug. Clt. ? Sh. 3 to 4 ft.

13 R. LA'XA (Retz. ex Spreng. syst. 2. p. 548.) cauline prickles recurved; flowers corymbose; bracteas glandularly serrated; petioles unarmed, villous; leaflets oblong, equally serrated, pubescent beneath. ♄. H. Native of Siberia. Flowers red. Fruit oblong, glabrous.

Loose Rose. Shrub 3 to 4 feet.

14 R. KOSINGIA'NA (Bess. ex Spreng. syst. append. 2. p. 548.) prickles almost stipular, recurved; leaflets with cuspidate serratures, glabrous on both surfaces, pale beneath; peduncles and calyxes hispid; fruit oblong, glabrous. ♄. H. Native of Podolia, at Tyra.

Kosingian Rose. Shrub 4 to 6 feet.

15 R. FRUTETÒRUM (Bess. ex Spreng. syst. 2. p. 548.) prickles almost stipular, strong, reflexed; petioles unarmed, and are as well as the under surface of the leaves villous; leaflets elliptic; peduncles very short, glabrous; fruit globose, glabrous. ♄. H. Native of Volhynia.

Bush Rose. Fl. June, July. Clt. 1818. Shrub 5 to 6 feet.

16 R. PARVIFLÒRA (Ehrh. beitr. 4. p. 21.) dwarf; stipulas linear; prickles acicular; leaflets lanceolate, smoothish, sharply serrated; calyxes clammy. ♄. H. Native of North America, on the declivities of hills in the state of New York and Carolina. Du Roi, harbk. 2. p. 354. Smith, insect. georg. 1. p. 49. t. 25.? R. hùmilis, Marsh. arb. 136. R. Caroliniàna, Michx. fl. bor.

amer. 1. p. 295. R. Carolìna γ and δ, Ait. hort. kew. ed. 2. vol. 3. p. 260. Pennsylvanian Rose, Lawr. ros. t. 3. and t. 66. A very low weak plant. Flowers pale blush, usually growing by pairs.

Var. β, flòre-pleno; flowers double, pale blush, unexpanded. A neat little rose. Red. ros. 2. p. 73. with a figure.

Small-flowered Pennsylvanian Rose. Fl. June, Aug. Clt. 1724. Shrub 2 feet.

17 R. Woódsii (Lindl. ros. p. 21.) stipulas and sepals connivent; leaflets oblong, obtuse, glabrous. ♄. H. Native of North America, near the Missouri and north of the Saskatchawan and as far as the Bear Lake. Lindl. bot. reg. t. 976. R. lùtea nìgra, Pronv. nom. p. 24. A low shrub, with dull dark branches. Flowers pink. Fruit ovate, naked. There is a plant which was gathered about Cumberland House Fort, which Mr. Borrer takes to be a variety of the present species, having the leaves downy beneath.

Woods's Rose. Fl. Mar. June. Clt.? Shrub 2 to 3 feet.

18 R. Caroli'na (Lin. spec. 703.) stipulas convolute; leaflets lanceolate; sepals spreading. ♄. H. Native of New England, Virginia, and Canada as far as the Saskatchawan. Red. ros. 1. p. 81. t. 28. Lindl. ros. p. 23. t. 4. R. Virginiàna, Du Roi, harbk. 2. p. 353. Rössig, ros. t. 13. R. palústris, Marsh. arbr. 135. R. corymbòsa, Ehrh. beitr. 4. p. 21. R. Pennsylvánica, Michx. fl. bor. amer. 1. p. 296. R. Caroliniàna, Bigel, fl. bost. 121. R. Hudsoniàna, Red. ros. 1. p. 95. t. 35. Branches green or reddish brown. Cymes one or many-flowered. Flowers crimson. Petals concave or flat, crumpled. Fruit round, scarlet, hispid. Sometimes the ends of the shoots have no prickles.

Var. β, Flórida (Lindl. ros. t. 23.) leaves without pubescence, thinner. R. Flórida, Donn, cant. ed. 8. p. 169. R. enneaphýlla, Rafin.

Carolina Rose. Fl. June, Jul. Clt. 1726. Shrub 2 to 8 ft.

19 R. bla'nda (Ait. hort. kew. 2. p. 202.) taller; prickles deciduous; leaflets oblong, flat; petioles pilose. ♄. H. Native of North America, on the west coast, Hudson's Bay, Canada as far north as Bear Lake. R. fraxinifòlia *α*, blánda, Ser. in D. C. prod. 2. p. 606. Flowers solitary, large, pale red.

Bland Rose. Shrub 2 to 6 feet.

20 R. fraxinifòlia (Börk. holz. 301. Ker. bot. reg. 458.) taller, unarmed; branches straight, glaucescent; leaflets opaque, undulated, glabrous. ♄. H. Native of Newfoundland, and on the north-west coast of America. R. Virginiàna, Mill. dict. no. 10. R. blánda *α*, Sol. mss. Jacq. fragm. 70. t. 105. R. corymbòsa, Bosc. dict. d'agr. ex Desf. cat. hort. par. p. 272.? R. alpìna β, Ait. hort. kew. ed. 2. vol. 3. p. 265. R. alpìna læ'vis, Red. ros. 1. p. 57. t. 19. Lawr. ros. t. 75. Branches dark purple, with a pale blue bloom. Flowers small, red, in few-flowered cymes. Fruit naked, small, round, or ovate, of a dull pale red colour.

Var. β, variegàta (Ser. in D. C. prod. 2. p. 607.) flowers rose-coloured, variegated with purple. R. alpìna flòre variegàto, Red. ros. p. 55. with a figure.

Var. γ, L'Heritieriàna (Ser. l. c.) flowers corymbose, semi-double; prickles scattered, recurved. R. L'Heritieriàna, Red. ros. 3. p. 21. with a figure.

Ash-leaved Rose. Fl. May, June. Clt.? Shrub 4 to 6 ft.

21 R. cinnamòmea (Besl. hort. eyst. vern. ord. 6. p. 5. Lin. spec. 703.) tall, cinereous; branches straight; prickles stipular, straightish; stipulas dilated, undulated; leaflets oblong, obtuse, wrinkled, tomentose beneath. ♄. H. Native of Denmark, Belgium, Portugal, Germany, Switzerland, France, Bohemia, and Caucasus. Lindl. ros. p. 28. t. 5. Red. ros. 1. p. 105. t. 37. and p. 133. t. 51. R. fœcundíssima, Munch. hausv. 5. p. 279. Fl. dan. t. 1214. R. majàlis, Herm. diss. 8. Flowers solitary or 2-3 together, pale or bright red. Fruit round, naked, crimson. The double-flowering variety is much more common than the single.

Var. β, fluviàlis (Lindl. ros. p. 28.) leaflets ovate, acute. ♄. H. Native of Denmark and Switzerland.

Cinnamon Rose. Fl. May, June. Clt.? Shrub 5 to 6 feet.

22 R. Dicksonia'na (Lindl. hort. trans. 7. p. 224. syn. brit. fl. p. 99.) branches flexuous, setigerous, armed with a few slender, scattered prickles; leaflets folded together, unequal, with coarse double serratures; stipulas, petioles, and sepals glandular, the latter unequal; fruit naked. ♄. H. Native of Ireland. Flowers white.

Dickson's Rose. Fl. June, July. Ireland. Sh. 5 to 6 feet.

23 R. Tau'rica (Bieb. fl. taur. 1. p. 394.) taller, cinereous; prickles scattered, weak; branches straight, unarmed towards the apex; leaflets oblong, wrinkled, villous beneath; sepals compound; styles stretched out, glabrous. ♄. H. Native of Tauria, in bushy places. Habit of *R. cinnamòmea.* Flowers red.

Taurian Rose. Fl. June, Jul. Clt. 181[illegible]. Shrub 5 to 6 ft.

24 R. Dahu'rica (Pall. fl. ross. 61. Lindl. ros. p. 32.) tall, much branched; branches slender, coloured; prickles stipular, spreading, a little recurved; stipulas linear; leaflets oblong, wrinkled, tomentose beneath, deeply serrated. ♄. H. Native of Dahuria and Mongol Tartary, in birch woods. Flowers red. Fruit ovate, red.

Dahurian Rose. Fl. May, June. Clt. 1824. Sh. 4 to 6 ft.

25 R. Soonga'rica (Bung. in Led. fl. alt. 2. p. 226.) tall; branches brown; prickles stipular, strong, reflexed; stipulas ovate, lanceolate, glandularly serrated; leaflets glabrous, oval-oblong, simply serrated; fruit globose, glabrous. ♄. H. Native of the Soongarian desert, on the mountains of Arkaul and Dolenkara, at the river Irtysch. Peduncles corymbose, beset with glandular bristles. Petioles prickly. Flowers white; petals length of calyx. Prickles of the sterile branches straight.

Soongarian Rose. Fl. May. Shrub 5 to 6 feet.

26 R. Gmeli'ni (Bunge in Led. fl. alt. 2. p. 228.) branches dark brown, sterile branches very prickly, floriferous ones almost unarmed; prickles setaceous, unequal; sepals ovate, acuminated, undivided, beset with glandular bristles; petioles clothed with glandular down; leaflets 5-7, obovate-oblong, simply serrated, pubescent, and glandless beneath; peduncles hispid; fruit ovate, glabrous. ♄. H. Native of Siberia, common. R. canìna, Sievers in Pall. nord. beytr. 7. Rosa non spinosa, fructu turbinato, Gmel. fl. sib. 3. p. 177. no. 15. Petals deep red, shorter than the sepals.

Gmelin's Rose. Shrub 3 to 4 feet.

27 R. arista'ta (Lapeyr. fl. pyr. t. 105.) upper leaves usually with 2 pairs of leaflets, and with the petiole ending in a spine. ♄. H. Native of the Pyrenees. Stem with a few prickles. Flowers solitary, purple. Perhaps a monstrosity of *R. cinnamòmea.*

Armed-petioled Rose. Shrub 4 to 6 feet.

28 R. maja'lis (Retz, obs. bot. 3. p. 33.) dwarf, grey; branches straight, coloured; prickles scattered, nearly equal; stipulas linear; leaflets oblong, flat, glaucous, and tomentose beneath. ♄. H. Native of Sweden, Lapland, and Britain, near Pontefract, Yorkshire. R. mùtica, Fl. dan. 688. R. spinosíssima, Gorter. ingr. 78. R. collíncola, Ehrh. beitr. 2. p. 70. R. cinnamòmea, Smith, engl. bot. 2388. Flowers usually solitary, pale red. Fruit orange red, spherical, naked.

Var. β, canéscens (Lindl. ros. p. 34.) leaves white from tomentum. ♄. H. Native of Sweden.

Hog Rose. Fl. May, June. Britain. Shrub 3 to 4 feet.

29 R. macrophy'lla (Lindl. ros. p. 35. t. 6.) unarmed; leaves very long; leaflets 5-11, lanceolate; petioles with a few glands, and are, as well as the leaflets, woolly beneath; sepals narrow, longer than the petals, which are apiculated. ♄. H.

Native of Gosaingsthan. Flowers red. Peduncles villous, and furnished with a few unequal setæ, as well as the fruit.

Long-leaved Rose. Shrub 5 to 6 feet.

Sect. V. Pimpinellifòliæ (from *pimpinella*, pimpernel, and *folium*, a leaf; resemblance in leaves to those of *pimpernel*). Lindl. ros. p. 36. Plants bearing crowded, nearly equal prickles, or unarmed. Bractless, rarely bracteate. Leaflets ovate or oblong. Sepals connivent, permanent. Disk almost wanting. This section is essentially different from the last in habit, but in artificial characters they approach very nearly. It, however, may be distinguished by the greater number of leaflets, which vary from 7 to 13, and even to 15, instead of from 5 to 7. The flowers are also universally without bracteas, except in the *R. alpìna*, *R. Sabìni*, *R. Doniàna*, and perhaps *R. marginàta*. These having connivent permanent sepals, cannot be confounded with the preceding division, nor on account of their disk with the following. There is no instance of stipular prickles in the present tribe. The sepals are entire or nearly so, unless when mentioned otherwise.

30 R. alpìna (Lin. spec. 703.) unarmed; fruit elongated, pendulous; peduncles hispid. ♄. H. Native of the alps of Austria, hills in the south of France, Silesia, Bohemia, Dauphiny, Switzerland, &c. Jacq. fl. austr. 3. p. 43. t. 279. Lindl. bot. reg. 424. R. rupéstris, Crantz, austr. 85. R. Monspeliàca, Gouan. monsp. 255. R. inérmis, Mill. dict. no. 6. R. hýbrida, Vill. dauph. 3. p. 554. R. lagenària, Vill. l. c. p. 563. R. biflòra, Krok. fl. sil. 2. p. 157. Flowers erect, blush-coloured, solitary. Fruit orange red, oblong or obovate, with a long neck, generally pendulous.

Var. β, *Pyrenàica* (Lindl. ros. p. 37.) tube of calyx and peduncles hispid. R. Pyrenàica, Gouan. ill. 31. t. 19. R. alpìna, Jacq. hort. schœnbr. 4. p. 416. R. híspida, Krok. siles. 2. p. 152. R. turbinàta, Vill. dauph. 3. p. 550. R. alpìna δ, D. C. fl. fr. 6. p. 536. R. híspida and R. alpìna coronàta, Desv. journ. bot. 1813. p. 119?

Var. γ, *pendulìna* (Lindl. ros. p. 37.) leaflets numerous, and are as well as the stems coloured. ♄. H. R. pendulìna, Lin. herb. Ait. hort. kew. ed. 1. vol. 2. p. 208. Lawr. ros. t. 91. R. alpìna pendulìna, Red. ros. 1. p. 57. t. 17. R. alpìna ι, latifòlia, Ser. in D. C. prod. 2. p. 612.

Var. δ, *pimpinellifòlia* (Lindl. ros. p. 37.) smaller in every part than the other varieties. ♄. H. R. pimpinellifòlia, Vill. dauph. 3. p. 553. R. glandulòsa, Bell. in act. taur. 1790. p. 230. R. pygmæ'a, Bieb. fl. taur. 1. p. 397. R. Pyrenàica β, Smith in Rees' cycl.

Var. ε, *lagenària* (Ser. in D. C. prod. 2. p. 611.) stem and branches glabrous; peduncles hispid; neck of calyx tapering: leaflets lanceolate or oblong, doubly and sharply serrated. ♄. H. Native of the Alps and Pyrenees.

Var. ζ, *sorbinélla* (Ser. in D. C. prod. 2. p. 611.) peduncles short, hispid; calyx smooth; leaflets oblong-lanceolate, distant, acutely and doubly serrated. ♄. H. Native of the Alps of Bern.

Var. κ, *hispidélla* (Ser. l. c.) branches armed with slender, more or less numerous, recurved prickles; peduncles and calyxes smoothish; leaflets elliptic. R. alpìna β, D. C. fl. fr. 4. p. 440. R. alpìna coronàta, Desv. journ. bot. 1813. p. 119.

Var. ϑ, *læ'vis* (Ser. mel. 1. p. 52. ros. exsic. no. 49. but not of Desv. nor Red.) stem, peduncles, and calyxes quite glabrous; fruit oblong. ♄. H. Native of the Alps of Switzerland and Jura. R. sanguisórba majòris, &c. Dill. hort. elth. p. 325. t. 245. f. 317. R. alpìna glàbra, Desv. journ. bot. 1813. p. 119. R. alpìna læ'vis, Desv. l. c. R. alpìna vulgàris, Red. ros. 2. p. 111. with a figure.

Var. ι, *pyrifórmis* (Ser. l. c.) stem, peduncles, and calyxes glabrous; fruit short, pear-shaped. ♄. H. Native on mount Belpberg, about Bern.

Var. κ, *setòsa* (Ser. l. c.) stem smooth; peduncles and calyxes beset with numerous, yellow, long bristles; leaflets distant, elliptic or obovate, sharply and doubly serrated; fruit pear-shaped. ♄. H. Native of Switzerland about Bern, and of the Pyrenees. R. alpìna hircìna, Desv. journ. bot. 1813. p. 119.

Var. λ, *globòsa* (Desv. journ. bot. 1813. p. 119.) stem and branches smooth; peduncles and calyxes hispid; fruit nearly globose. R. alpìna ξ, D. C. fl. fr. 5. p. 536. R. canina ambígua, Desv. journ. bot. 1813. p. 119. There is a variety of this with dark purple petioles and branches.

Var. μ, *hellebórina* (Ser. l. c.) leaflets large, approximate, sharply and broadly toothed, the 3 terminal ones resembling those of *Helléborus lívidus;* germens and pedicels smooth. ♄. H. Native of Russia.

Var. ν, *pilósula* (Ser. l. c.) leaflets obovate, obtuse; petioles hispid; peduncles pilose. ♄. H. Native about Basle.

Var. ζ, *turbinàta* (Desv. journ. bot. 1818. t. 119.) stem and branches almost unarmed; leaflets ovate, glaucescent beneath; peduncles hispid; sepals dilated at the apex; flowers double red. R. inérmis, Delaun. bon. jard. 1808. p. 717. Red. ros. 2. p. 93. with a figure. R. alpìna flore pleno, Godefroy, cat. 1819. no. 58. R. turbinàta, Vill. dauph. 3. p. 550. but not of Ait. R. alpìna múltiplex, Ser. mel. 1. p. 13. in a note. R. míxta, Tratt. ros. 1. p. 136.

Alpine Rose. Fl. June, July. Clt. 1683. Shrub 5 to 8 ft.

31 R. Candolleà'na; prickles crowded, equal; fruit elongated, pendulous. ♄. H. Native of Germany and Siberia. R. rubélla, Lindl. ros. p. 40. R. péndula, Roth. fl. germ. 2. p. 561. R. alpìna, Pall. fl. ros. 61. R. polyphýlla, Willd. enum. suppl. 37. R. alpìna θ, rubélla, Ser. in D. C. prod. 2. p. 612. R. Candolleàna péndula, Red. ros. 2. p. 45. with a figure. R. Candolleàna élegans, Thor. ros. cand. p. 7. Flowers solitary, deep red. Fruit elongated, scarlet.

Var. β, *melanocárpa* (Lindl. ros. p. 40.) fruit shorter, blackish-brown.

De Candolle's Rose. Shrub 3 to 4 feet.

32 R. rubé'lla (Smith, engl. bot. 2521.) prickles slender, straight, crowded; fruit globose; leaflets glabrous; peduncles bristly. ♄. H. Native of England, in Northumberland, on the sandy sea-coast. Flowers either blush coloured or white, blotched with pink. Fruit bright scarlet.

Reddish Rose. Fl. July. England. Shrub 2 to 3 feet.

33 R. strí'cta (Muhl. cat. 50. Lindl. ros. p. 42. t. 7.) much branched; branches unarmed; fruit elongated, pendulous. ♄. H. Native of North America, in New England and Pennsylvania. R. Virginiàna, Herm. diss. 19. R. pendulìna, Lin. spec. 705. R. Carolìna ζ, Ait. hort. kew. ed. 2. vol. 3. p. 260. Lawr. ros. t. 36.—Dill. hort. elth. 325. t. 245. f. 317. Flowers bright red. Fruit speckled with little pale spots before maturity. Leaves glaucous.

Var. β, *pubéscens;* leaves pubescent beneath. ♄. H. Native of North America, on the Saskatchawan.

Straight Rose. Fl. June. Clt.? Shrub 3 to 4 feet.

34 R. suà'vis (Willd. enum. suppl. p. 37. Link. enum. 2. p. 57.) stem hispid; leaves glabrous, glaucescent beneath; peduncles and petioles clothed with glandular bristles. ♄. H. Native country unknown. Petals deep purple, deeply 2-lobed. Fruit oblong, glabrous.

Sweet Rose. Fl. June, July. Clt. 1818. Shrub 3 to 4 feet.

35 R. aciculà'ris (Lindl. ros. p. 44. t. 8.) tall; prickles acicular, unequal; leaflets glaucous, wrinkled, rather convex; fruit sub-ampullaceous, drooping. ♄. H. Native of Siberia. Flowers solitary, pale blush, fragrant. Fruit obovate, naked, of a yellowish orange colour. R. alpìna ε, aculeàta, Ser. in D. C. prod. 2. p. 611.

Acicular-prickled Rose. Fl. May, Ju. Clt. 1805. Sh. 6 to 8 ft.

36 R. LUTE'SCENS (Pursh, fl. amer. sept. vol. 2. p. 735. Lindl. ros. p. 47. t. 9.) prickles of branches crowded, unequal, slender, reflexed; of the branchlets small and nearly equal; leaflets flat, glabrous, simply serrated. ♄. H. Native of North America and Siberia. R. híspida, Curt. bot. mag. 1570. Flowers pale yellow. Fruit large, ovate, black.

Yellow American Rose. Fl. May, Ju. Clt. 1780. Sh. 4 to 6 ft.

37 R. SULPHU'REA (Ait. hort. kew. 2. p. 201. Lindl. ros. t. 77.) stipulas linear, divaricate, dilated at the apex; leaflets glaucous, flattish; tube hemispherical. ♄. H. Native of the Levant. Ker. bot. reg. t. 46. Red. ros. 1. p. 29. t. 3. R. hemisphérica, Herm. diss. 18. R. glaucophýlla, Ehrh. beitr. 2. p. 69. Ròsa lùtea flòre pleno. Rai. hist. 1475. no. 31. R. lùtea, Brot. fl. lus. 1. p. 337. Stem prickles unequal, scattered. Flowers large, of a fine transparent yellow, always double.

Sulphur-coloured-flowered Rose. Fl. July. Clt. 1629. Sh. 4 to 6 feet.

38 R. FLA'VA (Wicks ex Spreng. syst. 2. p. 550.) fruit globose, and is as well as the peduncles hispid; prickles of the branches much crowded, somewhat setaceous; petioles prickly; leaflets pubescent beneath. ♄. H. Native of Siberia. Flowers yellow.

Yellow Siberian Rose. Shrub 4 to 6 feet.

39 R. VIMI'NEA (Lindl. ros. p. 49.) branches twiggy; prickles setaceous, much crowded, straight, spreading, unequal; leaflets membranous, flat, glabrous, simply serrated. ♄. H. Native of Siberia? R. hórrida, Lindl. ex Spreng. syst. 2. p. 549. Flowers very large.

Twiggy Rose. Shrub 3 to 4 feet.

40 R. SPINOSI'SSIMA (Lin. fl. suec. 442. spec. 491.) prickles unequal; leaflets flat, glabrous, simply serrated. ♄. H. Native of Europe; plentiful in Britain. A dwarf, compact bush, with creeping roots. Flowers small, solitary, white or blush coloured. Fruit ovate, or nearly round, black or dark purple.

Var. a, pùmila (Lindl. ros. p. 50.) prickles horizontal; fruit ovate; * peduncles glandular or bristly. ♄. H. Native throughout Europe and of Caucasus, on hills near the sea. R. spinosíssima, Lin. R. cinnamòmea, Herm. diss. 7. R. chamærhòdon, Vill. dauph. 3. p. 555. R. pimpinellifòlia δ, Red. ros. 1. p. 119. t. 44. * * Peduncles naked. R. spinosíssima, Fl. dan. t. 398. Bull. par. t. 277. Lawr. ros. t. 18. and t. 48. Smith, engl. bot. t. 187. R. pimpinellifòlia, Lin. syst. ed. 10. p. 1062. spec. 703. Rossig. ros. t. 9. and t. 25. f. 2. Jacq. fragm. 71. t. 107. f. 1. Red. ros. 1. p. 83. t. 29. and p. 85. t. 30. R. Scótica, Mill. dict. no. 5. R. collìna, Schrank. fl. no. 774. R. pimpinellifòlia, var. α, vulgàris, Ser. in D. C. prod. 2. p. 608. R. spinosíssima, var. pusílla, Woodv. in Lin. trans. 12. p. 179.

† *The following are the names of the Garden varieties of the Scotch Rose.*

* *Double Scotch Roses.*

Anderson's double lady's blush.
double lady's blush.
double pink blush.
double Provin's blush.
double rose blush.
Dutch double blush.
princess double blush.
double crimson.
double crimson marbled.
double dark marbled.
double light marbled.
double purple.
small double light purple.
double dark red.
double light red.
true double red.
large double two-coloured.
small double two-coloured.
large double white.
large semi-double white.
Whitley's double white.
globe double yellow.
large double yellow.
pale double yellow.
small double yellow.

* * *Single-flowered Scotch Roses.*

Aberdeen.
Aberfoil.
alba.
Alloa.
Ancram.
Arbroath.
Argyll.
Arrochar.
Aurora borealis.
Balloch.
Banff.
Bannochburn.
Bass.
Bengloe.
Ben Lomond.
Ben More.
Berwick.
bicolor.
Biggar.
Birnam.
Blair Athol.
Boharm.
Borisdale.
Borthwick.
Buchan.
Bute.
Caithness.
Calder.
Callender.
Campsie.
carnescens.
Carron.
Cheviot.
ciphieri.
Clydesdale.
Cromarty.
Dalkeith.
Dalrymple.
Dornock.
Douglas.
Dumbarton.
Dumblane.
Dumfernline.
Dumfries.
Dunbar.
Duncrieff.
Dundee.
Dunglass.
Dunkeld.
Dunlop.
Dunmore.
Dysart.
dwarf bicolor.
Eden.
Elgin.
Etterick.
Fairy.
Falkirk.
Falkland.
Falla.
Fife.
flavescens.
Forfar.
Forth.
Fort William.
fulgens.
Furness.
Galloway.
Glasgow.
Glenco.
Glenfallach.
Glengarry.
Gourock.
Grahamston.
Grampian.
Greenock.
Haddington.
Halkirk.
Hamilton.
Hawick.
Hawthorndean.
Hector.
humilis.
Huntly.
incarnata.
Inverary.
Inverness.
Invermay.
Janus.
Jedburgh.
Jura.
Keith.
Kelso.
Kilmarnock.
Kincardine.
Kinnaird.
Kinross.
Kircaldy.
Kirkwall.
Lanark.
Laxford.
Leith.
Leslie.
Lismore.
Lochaber.
Lochaird.
Lochfine.
Lochleven.
Lochlomond.
Lothian.
Maidenkirk.
Melrose.
Moncrieff.
Monteith.
Montgomery.
Montrose.
Mount stuart.
Mull.
Moray.
mutabilis.
Nevis.
Northumberland.
Paisley.
penicillata.
Pentland.
perpetual.
picta. L. B. C. 687.
Proteus.

Roberton.
Rosslyn.
Rothsay.
rubicunda.
Selkirk.
Shetland.
Sky.
Staffa.
Stirling.
Strathmore.
striata.
Stronsa.
Sutherland.
Teviotdale.
Tarbet.
Thornhill.
Thurso.
Tranent.
variegata.
venulosa glabra.
venulosa hispida.

Var. β, *revérsa* (Lindl. ros. p. 51.) dwarf; prickles slender; lower ones deflexed; fruit ovate. ♄. H. R. spinosíssima, Jacq. fragm. 79. t. 124. R. nàna, Andrews, ros. R. revérsa, Lindl. bot. reg. t. 431. Flowers of a whitish yellow colour.

Var. γ, *R. polycárpa* (Lindl. l. c.) dwarf; fruit depressed, and are as well as the peduncles bristly. ♄. H. Native of Ireland.

Var. δ, *pilòsa* (Lindl. l. c.) leaflets acute, pilose beneath. ♄. H. Native of Ireland.

Var. ε, *turbinàta* (Lindl. l. c.) dwarf; fruit turbinate. ♄. H. Native of Ireland.

Var. ζ, *Pallásii* (Lindl. l. c.) taller; prickles nearly equal, much crowded. ♄. H. R. pimpinellifòlia, Pall. fl. ross. 62. t. 75. Red. ros. 1. p. 84. R. Altàica, Willd. enum. 543. R. Sibírica, Tratt. ros. 2. p. 230. R. pimpinellifòlia θ, Altàica, Red. ros. 1. p. 84. Flowers white. Grows in elevated plains and exposed precipices, from the northern part of the Altaian mountains, extending through Siberia. Its more robust habit, and its approach to equal size in its prickles are its principal characters.

Var. η, *Róssica* (Lindl. l. c.) taller; prickles long and very slender. ♄. H. Native of Russia.

Var. θ, *argéntea* (Ser. in D. C. prod. 2. p. 608.) branches and stems hispid from prickles, intermixed with minute bristles; peduncles and calyxes purple, hispid; leaflets ovate, clothed with white tomentum beneath; flowers white, semi-double. ♄. H. R. híspida argéntea, Red. ros. 3. p. 81. Curt. bot. mag. 1570.

Var. ι, *echinélla* (Ser. l. c.) teeth of leaflets very numerous; peduncles and calyxes hispid.

Var. κ, *flavéscens* (Ser. l. c.) peduncles and fruit smooth; flowers pale yellow. R. Candolleàna flavéscens, Red. ros. 2. p. 46.

Var. λ, *microcárpa* (Ser. l. c.) flowers and leaves smaller; fruit smaller, and are as well as the peduncles hispid or smooth; stem prickly. ♄. H. Native of Podolia. R. melanocárpa, Bess. enum. pl. Volh. 18. 61 and 62.

Var. μ, *inérmis* (Ser. l. c. D. C. fl. fr. 4. p. 438.) stems and branches unarmed. var. 1. Flowers white. Red. ros. 1. p. 84. var. 2. Flowers pale red. Red. ros. 3. p. 23.

Var. ν, *marmoràta* (Ser. l. c.) flowers small, more or less variegated or blotched; leaflets small, roundish; stems and branches more or less prickly. ♄. H. Lois. in Duham. ed. nov. ex Red. ros. 1. p. 84. R. pimpinellifòlia θ, Red. ros. 1. p. 84.

Var. ο, *Islándica* (Lindl. ros. p. 57.) taller; prickles large, falcate. ♄. H. Common in Ireland. R. Hibérnica, Hook. mss.

Very-spiny or Scotch Rose. Fl. May, June. Britain. Sh. 1 to 2 feet.

41 R. Hibe′rnica (Smith, engl. bot. 2196.) prickles unequal, slightly hooked, smaller ones bristle-formed; leaflets ovate, acute, simply serrated, with the ribs hairy beneath; sepals pinnate; fruit nearly globular, smooth as well as the peduncles. ♄. H. Native of Ireland, in the counties of Derry and Down, in thickets. Flowers rather small, light blush coloured. Fruit orange-coloured.

Irish Rose. Fl. June, Nov. Ireland. Shrub 4 to 6 feet.

42 R. oxyaca′ntha (Bieb. fl. taur. 3. p. 338.) stem very prickly; prickles setaceous, reversed; petioles prickly and glandular; leaflets sharply and simply serrated, glabrous; sepals undivided; peduncles clothed with glandular bristles, when in fruit reflexed; fruit nearly globose, glabrous. ♄. H. Native of Siberia. Flowers red.

Sharp-spined Rose. Fl. Ju. Jul. Clt. 1820. Sh. 2 to 4 ft.

43 R. sanguisorbifòlia (Donn, hort. cant. ed. 8. p. 169.) tall; prickles nearly equal; leaflets 9-11, oblong, glabrous, simply serrated; fruit globose, depressed, dark. ♄. H. Native country unknown. R. spinosíssima, var. ι, sanguisorbifòlia, Lindl. ros. t. 51. R. spinos. ι, macrophýlla, Ser. in D. C. prod. 2. p. 609. Flowers white. This plant is easily distinguished from the last in the greater number of leaflets, and in the globose depressed fruit.

Burnet-leaved Rose. Fl. May, June. Clt.? Sh. 3 to 5 feet.

44 R. grandiflòra (Lindl. ros. p. 55. and bot. reg. 888.) branches without bristles; prickles nearly equal, distant; leaflets flat, glabrous, simply serrated. ♄. H. Native of Siberia. R. pimpinellifòlia, Bieb. fl. taur. 2. p. 394. Flowers white. Fruit dark.

Great-flowered Rose. Fl. May, Ju. Clt. 1818. Sh. 4 to 6 ft.

45 R. Califo′rnica (Schlecht. et Cham. in Linnæa. 2. p. 35.) branches glabrous; prickles stipular, twin, a little recurved, the rest of the shrub unarmed; leaflets 5-7, ovate, obtuse, sharply serrated, pubescent above and tomentose beneath; stipulas with a few glands on the margins; corymbs terminal; peduncles pilose; sepals ovate, acuminated, dilated, and spatulate at the apex, pubescent outside and tomentose inside, white, and densely ciliated on the edges. ♄. H. Native of California. Petals rose-coloured, size of those of *R. pimpinellifòlia.*

California Rose. Shrub.

46 R. Nankine′nsis (Lour. coch. 324.) dwarf, much branched; prickles crowded; leaflets acuminated, ciliately serrated; sepals prickly; petals apiculate. ♄. G. Native of China, about Canton and Nankin. Flowers pale red, small, double.

Nankin Rose. Shrub 1 foot.

47 R. myriaca′ntha (D. C. fl. fr. 4. p. 439. Lindl. ros. p. 55. t. 10.) prickles unequal, largest ones dagger-formed; leaflets glandular, glabrous, orbicular. ♄. H. Native of Dauphiny and near Montpelier. P. parvifòlia, Pall. ross. 62.? R. provinciàlis, Bieb. fl. taur. 1. p. 396.? R. spinosíssima, var. η, myriacántha, Ser. in D. C. prod. 2. p. 608. Flowers white.

Myriad-spined Rose. Fl. May, Ju. Clt. 1820. Sh. 1 to 2 ft.

48 R. involu′ta (Smith, engl. bot. 2068.) prickles very unequal, and very much crowded; leaflets doubly serrated, pubescent; petals convolute; fruit prickly. ♄. H. Native of the western parts of Scotland; in several parts of the Hebrides; in the Isle of Arran (G. Don); and in Glen Lyon. R. nivàlis, Donn, hort. cant. ed. 8. p. 170. Petals pale red, concave.

Involute-petalled Rose. Fl. June. Scotland. Sh. 2 to 3 ft.

49 R. reve′rsa (Waldst. et Kit. hung. 3. p. 293. t. 264.) prickles setaceous, nearly equal, reflexed; leaves doubly serrated, pubescent; fruit hispid. ♄. H. Native of Hungary, on the mountains of Matra, in stony places. Flowers solitary, white, tinged with pink. Fruit ovate; dark purple.

Reversed Rose. Fl. June, July. Clt. 1816. Sh. 2 to 5 ft.

50 R. margina′ta (Wallr. ann. bot. 68. Lindl. ros. p. 58.) dwarf; branches twisted, when young pruinose; leaflets ovate-cordate, triply serrated, quite glabrous; sepals muricated. ♄. H. Native of Germany, in fields about Bennstadt. Petals blush-coloured, with yellow claws. Fruit ovate-globose, purplish. Prickles numerous, straight. Peduncles and calyxes bristly, with glands.

Marginate Rose. Shrub 1 to 2 feet.

51 R. Sabi′ni (Woods. in Lin. trans. 12. p. 188.) peduncles, branches, fruit, and calyx bristly; prickles scattered, straightish; leaflets doubly-serrated, nearly smooth, with hairy ribs; sepals

pinnate. ♄. H. Native of Scotland, near Dunkeld; in England in Cumberland, Northumberland, and Yorkshire. Borr. in engl. bot. suppl. 2594. Flower-stalks rather aggregate. Petals fine red. Fruit ovate, bright scarlet.

Sabine's Rose. Fl. July. Britain. Shrub 5 to 8 feet.

52 R. Donia'na (Woods. in Lin. trans. 12. p. 185.) peduncles bractless, bristly as well as the globular fruit and calyx; stem bristly and prickly, like the downy petioles; leaflets elliptical, doubly and sharply serrated, hairy on both sides; petals spreading. ♄. H. Native of the Highlands of Scotland, particularly on the mountains of Clova, Angusshire. Borr. in engl. bot. suppl. 2601. R. Sabìni β, Lindl. ros. p. 59. Flowers pink, expanded. Segments of the calyx simple.

Don's Rose. Fl. June, July. Scotland. Shrub 2 to 4 feet.

53 R. Wilsòni (Borr. in Hook. brit. fl. p. 228. engl. bot. suppl. 2722.) prickles crowded, unequal, straight, intermixed with setæ; leaflets simply serrated, hairy, their disks glandless; sepals simple; fruit nearly globular. ♄. H. Native of England, near Bangor Ferry. Flowers beautiful dark pink.

*Wilson's*Rose. Fl. June, July. Shrub 2 to 4 feet.

54 R. gra'cilis (Woods. in Lin. trans. 12. p. 186.) peduncles usually in pairs, bristly, often bracteate; branches, fruit, and calyx bristly; larger prickles curved, usually twin; leaflets doubly serrated, hairy on both sides. ♄. H. Native of the north of England, in thickets. R. villòsa, Smith, engl. bot. 583. excluding the synonym and the fruit. Petals slightly concave, of a pale pink. Fruit globular. Segments of the calyx simple.

Slender Rose. Fl. July. Britain. Shrub 8 to 10 feet.

55 R. reclina'ta (Red. ros. 3. p. 79. with a figure) stem nearly unarmed, but very prickly in the single-flowered variety; leaflets 3-7, lanceolate-oblong; flower bud reclinate before expansion; sepals nearly entire; fruit nearly globose, and are as well as the peduncles glabrous. ♄. H. Native of? Perhaps a hybrid between *R. alpìna* and *R. I'ndica*, ex Red. l. c. Flowers lurid purple.

Var. β, *múltiplex* (Red. l. c. p. 79. with a figure,) flowers nearly double, inclinate, somewhat panicled; leaflets 3-5, ovate, rather cordate; stem rather prickly. ♄. H.

Reclinate-flowered Rose. Shrub.

† *Species belonging to section Pimpinellifòliæ, but are not sufficiently known.*

56 R. live'scens (Bess. suppl. cat. hort. crem. et enum. p. 20. 61. and 67.) prickles stipular, spreading; leaflets oblong, serrated, of a livid glaucous colour, party coloured beneath, and are glabrous as well as the petioles; sepals glandular, exceeding the petals; peduncles twin, glabrous; fruit oblong, smooth. ♄. H. Native of Volhynia. R. Guttensteingénsis, Jacq. f. 110. R. Damascèna, var. livéscens, Ser. in D. C. prod. 2. p. 604.

Livescent-leaved Rose. Shrub 4 to 5 feet.

57 R. pa'llens (Retz, ex Spreng. syst. append. p. 200.) prickles of branches twin, horizontal; leaflets oval, quite glabrous; sepals nearly equal; fruit hemispherical, and are smooth as well as the peduncles. ♄. H. Native of Sweden.

Pale Rose. Shrub 4 to 5 feet.

58 R. hemisphe'rica (Spreng. syst. append. p. 200.) prickles of branches twin, horizontal; leaflets small, roundish, and are as well as the petioles quite glabrous; peduncles bristly; fruit hemispherical, short, glabrous. ♄. H. Native country unknown.

Hemispheric-fruited Rose. Shrub.

59 R. Mosque'nsis (Spreng. syst. append. 200.) prickles stipular, straight; leaflets oblong, serrated, pubescent as well as the petioles, which are unarmed; fruit globose, glabrous, as well as the peduncles. ♄. H. Native about Moscow, in fields.

Moscow Rose. Shrub 4 to 5 feet.

60 R. Gorinke'nsis (Fisch. ex Spreng. syst. append. p. 200.) branches shining, nearly unarmed; petioles and leaves pubescent beneath; fruit nearly globose, and are as well as the peduncles quite glabrous. ♄. H. Native about Moscow, in fields.

Gorinki Rose. Shrub 4 to 6 feet.

61 R. ochroleu'ca (Swartz, ex Spreng. syst. append. p. 200.) This species differs from *R. spinosissima* in the prickles being straight, and in the petioles being nearly unarmed. ♄. H. Native country unknown. Flowers cream-coloured.

Cream-coloured-flowered Rose. Shrub 2 to 4 feet.

62 R. coru'scans (Waitz. ex Link. enum. 3. p. 57.) stem bristly and very prickly; petioles pubescent; leaflets oblong-lanceolate, acuminated, serrated, glabrous; peduncles naked; tube of calyx globose and naked, the segments with tomentose edges. ♄. H. Native country unknown. Flowers pink.

Glittering Rose. Fl. June, July. Clt.? Shrub 4 to 5 feet.

63 R. Kentucke'nsis (Rafin. ros. amer. in ann. sc. phys. 5. p. 213.) stems weak, and are as well as the petioles glabrous; prickles recurved; branches flexuous; leaflets ovate-elliptic, attenuated at the base and apex, serrated, pale and pubescent beneath; calyx hispid and villous; fruit globose, glabrous. ♄. H. Native of North America, in Kentucky. Leaflets 3-5. Fruit dark purple. Prickles bay-coloured.

Kentucky Rose. Shrub 2 to 3 feet.

64 R. trifolia'ta (Rafin. l. c. p. 213.) quite glabrous; prickles recurved; leaflets 3, acute, serrated, glabrous; flowers subcorymbose; fruit globose, glabrous. ♄. H. Native of North America, in Kentucky. Flowers large, rose-coloured. Anthers copper-coloured.

Trifoliate Rose. Shrub 4 to 5 feet.

65 R. e'legans (Rafin. l. c. p. 214.) branches and petioles prickly; leaflets 5-7, elliptic, subcordate, serrated, glabrous, the same colour on both surfaces; flowers 1-3, terminal; fruit globose, hispid. ♄. H. Native of North America, on the banks of Hudson's river. Flowers large, rose-coloured, fragrant. Stipulas hispid.

Elegant Rose. Shrub 4 to 5 feet.

66 R. globòsa (Rafin. l. c. p. 215.) branches glabrous; prickles twin, straight, short; petioles pubescent, prickly; leaflets 3-5, ovate, serrated, villous beneath; flowers panicled; fruit globose, large, glabrous. ♄. H. Native of North America.

Globose-fruited Rose. Shrub.

67 R. cu'rsor (Rafin. l. c. p. 215.) branches flagelliform, glabrous; prickles recurved; petioles, nerves, peduncles, and calyxes glandular; leaflets 3-5, oblong, acuminated, serrated, pale and villous beneath; flowers numerous, corymbose; peduncles jointed, bracteolate; fruit globose, glabrous, small. ♄. H. Native of North America, in Kentucky. Stems running even to the tops of trees. Stipulas narrow. Flowers large, scentless. Fruit pear-shaped.

Runner Rose. Shrub cl.

68 R. obova'ta (Rafin. l. c. 5. p. 217.) stem glabrous; prickles stipular, straight; petioles prickly, pubescent; leaflets 7, obovate, acute, entire, pubescent beneath; flowers solitary; fruit globose, depressed; peduncles glabrous. ♄. H. Native of New York. Flowers large, rose purple, very fragrant. Branches beset with glandular dots.

Obovate-leafletted Rose. Shrub.

69 R. serrula'ta (Rafin. l. c. p. 218.) stem and petioles prickly and hispid; stipular prickles straight; stipulas ciliated; leaflets 5-7, obovate, doubly serrated, pale; flowers usually solitary: sepals serrulated; fruit globose, hispid. ♄. H. Native of North America. Flowers middle-sized, rose-coloured, sweet-scented. Petals almost entire.

Var. β, *rotundifòlia* (Rafin. l. c.) prickles slender, straight, numerous; leaflets oval-roundish. Native of Kentucky.

Serrulated-calyxed Rose. Shrub 3 to 6 feet.

70 R. Rafine'squii (Ser. in D. C. prod. 2. p. 611.) plant almost unarmed and glabrous; petioles hispid; leaflets 3-7, oval-oblong, acuminated, serrated, glabrous; flowers usually solitary; fruit turbinate, glabrous; sepals undivided. ♄. H. Native of North America. R. nivea, Rafin. l. c. p. 218. but not of D. C. Flowers white, rather sweet scented.

Rafinesque's Rose. Shrub 3 to 6 feet.

71 R. fusílla (Rafin. l. c. p. 218.) stems procumbent, glabrous, twisted; prickles stipular, straight; petioles pubescent; leaflets 3-5, obovate-oblong, serrated, shining, paler beneath and pubescent: flowers solitary; peduncles hispid; stigmas tomentose, umbilicate; fruit globose, depressed, smooth, scarlet. ♄. H. Native of North America, in Kentucky.

Small Rose. Shrub procumbent.

Sect. VI. Centifòliæ (from *centum*, a hundred, and *folium*, a leaf; because of the species contained in this section agreeing in character with the *hundred-leaved rose*). Lindl. ros. p. 60. Shrubs bearing bristles and prickles of two forms. Peduncles bracteate. Leaflets oblong or ovate, wrinkled. Disk thickened, closing the throat. Sepals compound. This division comprises the portion which has most particularly interested the lovers of flowers. It is probable that the earliest of which there are any records as being cultivated belonged to some portion of it; but to which particular species those of Cyrene or Mount Pangæus are to be referred, is now too late to enquire. The attar of roses, which is an important article of commerce, is either obtained from them indiscriminately, as in the manufactory at Florence, conducted by a convent of friars, or from some particular kind, as in India. It appears, from specimens brought from Chizapore by Colonel Hardwicke, that *R. Damascèna* is there exclusively used for obtaining the essential oil. The Persians also make use of a sort which Kœmpfer calls *R. Shirazénsis*, from its growing about Schiraz, in preference to others; this may be either *R. Damascèna* or *R. centifòlia.* It is, however, well known that attar of roses from different countries is of various degrees of goodness, that from Turkey being usually the best. It is therefore probable that *R. moschàta* may be sometimes used either alone or mixed with other kinds, especially at Mogodor, where considerable quantities are procured, but of inferior quality. To the three or four first species of the section nearly all the fine double roses of the gardens are referrible. The species contained in the present section are all setigerous, by which they are distinguished from the following divisions; their thickened disk and divided sepals separate them from the preceding. To the section of *Rubiginòsæ* the glanduliferous sorts approach; but the difference of their glands, the size of their flowers, and their dissimilar habit, prevent their being confounded.

72 R. Damasce'na (Mill. dict. no. 15.) prickles unequal, larger ones falcate; sepals reflexed; fruit elongated. ♄. H. Native of Syria. Redout. ros. 1. p. 137. t. 53. R. Bélgica, Mill. dict. no. 17. R. Calendàrum, Mœnch. hausv. ex Bork. holz. 330. Rossig. ros. t. 8. and t. 33. R. bífera, Poir. suppl. 6. p. 276. Red. ros. 1. p. 107. t. 38. and p. 121. t. 45. Flowers large, white, or red, single or double. The present species may be distinguished from *R. centifòlia* in the greater size of the prickles, green bark, elongated fruit, and long reflexed sepals. The petals of this species, and all the varieties of *R. centifòlia*, as well as those of other species, are employed indiscriminately for the purpose of making rose water. The following are the garden varieties of the *Damask rose.*

Agathe, rouge.
argéntea.
Auguste, belle.
Auròra.
Belgic, blush.
Belgique carnée.
Belgique violette.
bífera cárnea.
bífera de Naples.
bífera grandiflòra.
blush, early.
blush, imperial.
blush, monthly.
blush, Watson's.
Brunswick.
cluster, pale.
couronnée, belle.
couronnée, petite.
damas argenté.
damas pourpré.
damask, blush.
damask, red.
damask, white.
Egyptian.
emperor.
félicité.
Goliath.
gracieuse.
hundred-leaved, petite.
incomparable.
mignonne, favorite.
monarque, grande.
monthly, red.
monthly, white.
pæstàna.
paragon.
Parnassus.
perpetual.
prolific.
quatre saisons.
quatre saisons, blanche.
quatre saisons, flesh-coloured.
quatre saisons, francois.
quatre saisons, panachée.
quatre saisons, pompone.
quatre saisons, sans épines.
quatre saisons, semi-double.
royal, great.
Swiss.
valiant.
Versailles.
York and Lancaster.
Zealand.

Damascus or Damask Rose. Fl. June, July. Clt. 1573. Shrub 2 to 4 feet.

73 R. Centifòlia (Lin. spec. 704.) prickles unequal, larger ones falcate; leaflets ciliated with glands; flowers drooping; calyxes clammy; fruit oblong. ♄. H. Native of Eastern Caucasus, in groves. Bull. par. 275. Rossig. ros. t. 1. Red. ros. 1. p. 25. t. 1. p. 37. t. 7. p. 77. t. 26. p. 79. t. 27. p. 111. t. 40. R. provinciàlis, Mill. dict. no. 18. R. polyánthos, Rossig. ros. t. 35. R. caryophýllea, Poir. suppl. 6. p. 276. R. unguiculàta, Desf. cat. 175. R. vàrians, Pohl, boh. 2. p. 171. Flowers white or red, single, but most commonly double. This species is distinguished from *R. Damascèna* in the sepals not being reflexed, the flowers full, double, and the petals very large, whence the name of *Cabbage-rose*. Its fruit is either oblong or roundish, but never elongated. From *R. Gállia* it is distinguished by the flowers being drooping and by the larger size of the prickles, with a more robust habit. The following are the garden varieties of the *hundred-leaved* or *cabbage-rose*.

Aunay, belle d'.
Auròra.
Belgic, red.
Blandford, or Kingston.
blush, royal.
Bourbon.
bright crumpled.
cabbage, blush.
cabbage, single.
carmine.
carmine, superb.
centfeuilles anemone.
centfeuilles de Bruxelles.
centfeuilles de Hesse.
centfeuilles Gaufrée.
chamois.
cluster.
Constance.
cramois, grand.
Cumberland.
Dragon.
Duchesse d'Angoulême.
Duchesse de Berry.
Elysian.
emperor.
Juno.
Louis XVIII.
Malta.
Mère Gryone.
mottled purple.
Neapolitan.
œillet.
one-sided.
pencilled.
petite Hollande.
Persian.
pompon, gros.
pourprée, aimable.
pourprée, favorite.
pourprée, violette.
prolific.
provins, blush.
provins, cabbage.
provins, Childings.
provins, common.
provins, damask.
provins, Dutch.
provins, early.

provins, grand.
provins, imperial.
provins, invincible.
provins, royal.
provins, scarlet.
provins, semidouble.
provins, Shaillers.
provins, single.
provins, white.
rouge superbe.
sans pétales.
Souchet.
Spongs.
striped nosegay.
surpassante.
syren.
Trianon, belle de.
Versailles.
Vilmorin.

Var. β, *muscòsa* (Lindl. ros. p. 64.) calyx and peduncles mossy. ♄. H. R. muscòsa, Mill. dict. no. 22. Lawr. ros. t. 14. Rossig. ros. t. 6. Ker. bot. reg. t. 53. and t. 102. Red. ros. 1. p. 39. t. 8. p. 41. t. 9. p. 87. t. 31.—Mill. fig. t. 221. f. 1. R. provinciàlis β, Smith, in Rees' cycl. The *Moss rose* is either white or red and always very double. The following are the names of the varieties:

moss, blush.
moss, common.
moss, dark.
moss, prolific.
moss, single.
moss, striped.
moss, white.

Var. γ, *Pompònia* (Lindl. ros. p. 64.) smaller in every part than the other varieties. ♄. H. R. centifòlia minor, Rossig. ros. t. 20. and t. 37. R. Divionénsis, Rossig. ros. t. 24. R. Pompònia, D. C. fl. fr. 4. p. 443. Red. ros. 1. p. 65. t. 21. R. Burgundìaca, Pers. ench. 2. p. 48. R. provinciàlis γ, Smith, in Rees' cycl. R. centifòlia τ, Red. ros. 1. p. 113. t. 41. Flowers double, white, or red. The following are the names of the garden varieties of the *Pompone rose.*

De Meaux.
dwarf Bagshot.
mossy de Meaux.
mignonne charmante.
pompone.
pompone, proliferous.
provins, dwarf.
provins, small.
Rheims, de.
St. Francis.

Var. δ, *bipinnàta* (Lindl. ros. p. 65.) leaves bipinnate. ♄. H. R. centifòlia bipinnàta, Pers. ench. 1. p. 48. Red. ros. 2. p. 11. t. 4. Celery-leaved rose of the French.

Hundred-leaved, Cabbage, Pompone, Provins, and Moss Roses. Fl. June, July. Clt. 1596. Shrub 3 to 6 feet.

74 R. Ga'llica (Lin. spec. 704.) prickles nearly equal, the same shape, weak; leaflets stiff, elliptic; flowers erect; sepals ovate; fruit nearly globose. ♄. H. Native of middle Europe and Caucasus, in hedges. Mill. fig. t. 221. f. 2. Rossig. ros. tt. 17. 22. 25. figures 6. 26. 28. 31. 36. 38. 39. Red. ros. vol. 1. p. 73. t. 25. p. 135. t. 52. vol. 2. p. 17. t. 7. p. 19. t. 8. and 10. R. centifòlia, Mill. dict. no. 41. R. sylvática, Gater. mont. p. 94. R. rùbra, Lam. fl. fr. 3. p. 130. R. holoserícea, Rossig. ros. t. 16. R. Damascèna, rùbra-purpùrea, Rossig. ros. t. 18. R. Bélgica, Brot. fl. lus. 1. p. 338. R. blánda, Brot. l. c. Flowers from red to crimson, double or semidouble. The flowers of the *officinal rose* have not the fragrance of the *Dutch hundred-leaved rose*, but the beautiful colour of the petals, and their pleasant astringency, have rendered them officinal. It must, however, be remarked, that their odour is increased by drying, while that of the *damask rose* is almost destroyed. They are kept dried for making gargles. The following are the names of the garden varieties of the French or officinal rose.

admirable.
aigle, noir.
Albanian.
amaranth.
Antwerp.
atlas.
belle Aurore.
beauté aimable.
beauté rouge.
beauté suprême.
bijou.
Bishop.
black frizzled.
blue.
bouquet rouge royale.
brunette.
Brussels.
Buonaparte.
burning coal.
cardinal.
carmine.
carmine, brillante.
carmine, proliferous.
carnation.
Catalonian.
champion.
chancellor.
changeable.
cherry.
Clementine.
coquette.
couleur de feu.
cramoisie, belle.
cramoisie, grande.
crimson, Dutch.
crimson, purple.
crimson, royal.
crown.
Cupid.
damask, black.
delicious.
dingy.
Duc de Guiche.
Duchesse d'Orleans.
dwarf proliferous.
enchanter.
enfant de France.
eucharis.
Fanny Bias.
fiery.
Flanders.
Flemish.
formidable.
fringed.
garnet.
gay.
giant.
Glòria Múndi.
Granatappel.
grand monarque.
grand sultan.
Henry IV.
Herminie, belle.
Hervi.
Hollande, noir de.
hundred-leaved, blush.
hundred-leaved, Dutch.
hundred-leaved, Singleton's.
imperatrice.
incomparable.
infernal.
invincible.
Italian.
Josephine.
Junon.
King.
La Dauphine.
l'ombre agréable.
l'ombre superbe.
Leyden.
Lisbon.
lively.
lurid.
maiden.
Majorca.
Malabar.
Malta.
Manteau royal.
marbled.
marbled, dark.
marbled, double.
marbled, grand.
Margaret.
matchless.
mauve.
mignonne.
mignonne, blush.
mignonne, dark.
mignonne, favorite.
mignonne, red.
mignonne, semidouble.
mignonne, striped.
Mirabelle.
Mogul.
Montauban.
Morocco.
mottled, black.
Natalie.
negrette.
negro.
ninon de l'Enclos.
nonpareil.
nonsuch.
Normandy.
officinal.
officinal, blush.
officinal, carmine.
Orleans.
ornement de parade.
pæstàna.
panachée, petite.
Paradise.
paragon.
pavot.
perruque.
Phœnix.
plicate.
Pluto.
Pomòna.
Pompadour.
pompon bazard.
Poniatowsky.
poppy.
porcelaine.
Portland.
pourpré, belle.
pourpré, bouquet.
pourpré, charmante.
pourpré de Tyr.
pourpré, grande belle.
pourpré, point.
pourpres, roi des.

pourpre velours.
prince.
Prince William V.
princess.
prolific.
Pronville.
Proserpine.
provins pulmonaire.
purple, blue.
purple, bright.
purple, favorite.
purple, grand.
purple, light.
purple, royal.
pyramid.
queen.
ranúnculus.
ranúnculus, early.
red and violet.
roi de France.
Rósa Múndi.
rose de parade.
royal red.
royal virgin.
sable.
St. John's.
sanspareil.
sceptre.
shell.
Spanish.
Stadtholder.
Stepney.
striped nosegay.
sultana.
superb red.
Trafalgar.
triumphant.
Tuscany.
two-coloured.
velvet, double.
velvet, semidouble.
velvet, single.
velvet, striped.
Venetian.
victory.
violet, dark.
violette, belle.
violette et rouge.

Var. β, *pùmila* (Lindl. ros. p. 68.) flowers single; roots creeping. ♄. H. Native of Austria, Piedmont, Tauria, Caucasus, Iberia, and about Geneva. R. pùmila, Lin. suppl. 262. Jacq. austr. 2. p. 59. t. 198. R. rèpens, Munch. hausv. 5. p. 281. R. híspida, Munch. l. c. R. Austrìaca, Crantz. austr. 86. R. Olýmpica, Donn, hort. cant. ed. 8. p. 170. Flowers single, red.

Var. γ, *arvìna* (Lindl. ros. p. 69.) leaves naked on both surfaces. ♄. H. Native of Silesia. R. arvìna, Krok. siles. 2. p. 150.

Var. δ, *inapérta* (Ser. mel. 1. p. 86.) branches and peduncles hispid from prickles; calyx campanulate, glandular; flowers double from abortion, white and red. Called *vilmorin rose.*

Var. ε, *Agàtha* (Red. et Thor. ros. 3. p. 35. with a figure,) leaflets small or large; sepals more or less pinnate; flowers small, very double, outer petals spreading, but the inner ones are concave. Called *Agatha rose.*

Var. ζ, *inérmis* (Ser. in D. C. prod. 2. p. 604.) glabrous; branches smooth; peduncles hardly glandular; tube of calyx bell-shaped; flowers double, purple; sepals shortly and simply pinnate.

French or Officinal Rose. Fl. June, July. Sh. 2 to 3 feet.

75 R. PYGMÆ'A (Bieb. fl. taur. 1. p. 397. suppl. p. 342. cent. pl. ross. 1. t. 2.) stems unarmed; branches and petioles hispid from prickles; leaflets ovate, acute, glandularly biserrated, smoothish above, and glaucescent beneath; sepals entire; fruit rather obovate. ♄. H. Native of Tauria. Flowers red. Perhaps a variety of *R. Gállica.*

Pygmy Rose. Fl. June, July. Shrub 2 feet.

76 R. PARVIFÒLIA (Ehrh. beitr. 6. p. 97.) dwarf; prickles nearly equal; leaflets stiff, ovate, acute, sharply serrated; sepals ovate, nearly simple. ♄. H. Native on mountains in the neighbourhood of Dijon. Ker. bot. reg. t. 452. R. Burgundìaca, Rossig, ros. t. 4. R. Reménsis, Desf. cat. 175. R. Gállica var. κ parvifòlia, Ser. in D. C. prod. 2. p. 664. Shrub compact, bluish grey. Flowers solitary, overtopped by the young shoots, purple, very double. Red. ros. 3. p. 107. with figures.

Small-leaved or Burgundy Rose. Fl. June, July. Shrub 1 to 2 feet.

77 R. PULCHE'LLA (Willd. enum. p. 545.) ovaries roundish-obovate; peduncles and calyxes beset with glandular bristles; petioles clothed with glandular pubescence, unarmed; cauline prickles scattered. ♄. H. Native country unknown. Allied to *R. turbinàta,* but the stems are much smaller; flowers also smaller, and the form of the ovaries is different. Perhaps this is the *rose de Meaux* of the gardens, or some variety of *R. Gállica.*

Neat Rose. Fl. June, July. Clt. 1824. Shrub 2 feet.

78 R. ADENOPHY'LLA (Willd. enum. 546.) ovaries ovate, and are, as well as the calyxes and peduncles, clothed with glandular bristles; petioles beset with glandular pubescence, unarmed; leaves simply serrated, glaucous beneath, with glandular margins; prickles of the branches scattered. ♄. H. Native country unknown. Flowers large, single, red; petals emarginate. Allied to *R. turbinàta* and *R. pulchélla.*

Gland-leaved Rose. Fl. June, July. Shrub 2 feet.

79 R. ORBESSA'NEA (Red. ros. 2. p. 21. with a figure.) This appears to be some garden production, and possibly a variety of *R. Gállica,* but its fruit is that of *R. turbinàta.* Flowers red, double. ♄. H. Native country unknown.

Orbessan Rose. Fl. June, July. Shrub 2 to 4 feet.

80 R. VERECU'NDA (Waitz in Tratt. ros. vol. 1.) prickles crowded, straight; petioles villous, prickly; leaflets sweet-scented, ovate-oblong, acute, simply serrated, hoary-green, hairy above, and villous beneath, and on the margins; stipulas quite entire; branches setigerous and prickly; fruit oblong, and is, as well as the peduncles, clothed with glandular villi; flowers sub-cymose; styles exserted. ♄. H. Native country unknown. Perhaps a variety of *R. Damascéna.*

Reddish Rose. Shrub 3 to 6 feet.

81 R. LE'PIDA (Waitz in Tratt. ros. vol. 1.) prickles straight, crowded, unequal; branches prickly, glanduliferous, as well as the petioles, peduncles, and base of fruit; leaflets ovate, acute, simply serrated, hairy on both surfaces, with ciliated margins. ♄. H. Native country unknown. R. Francísca, Hortul. Perhaps a variety of *R. Damascèna.*

Lepid Rose. Fl. June, July. Shrub.

† *Garden roses belonging to some of the species of the present section.*

abundant.
abyla.
Achaia.
Achilles.
Adelina.
admirable.
Adonis.
African black.
agate.
agate superb.
agate Japanese.
agate magnifique.
agate nouvelle.
agate prolifere.
agate Marie Louise.
agate royale.
agate Thalie.
aglace noir.
aimable violette.
Ajax.
aland.
alba feuille fermee.
alba bifera.
Albanian.
alba nova pleno.
alba nova cœlestis.
albo-rosea.
alba triangularis.
aline.
amaranth.
Amazon.
amour constant.
Andalusian.
anemoneflora.
Antwerp.
Arcadian.
arcaro.
archbishop.
ardoise.
Armenian.
armida.
Assyrian
Athenian.
augusta.
aurelia.
baden.
balbec.
beauté frappante.
beauté insurmontable.
beauté panachée.
beauté renommée.
beauté rouge.
beauté sans pareille.
beauté tendre.

belladonna.
belle actrice.
belle aimable.
belle aurore descemet.
belle brune.
belle cataline.
belle cerisie.
belle d'Aunay.
belle du jour.
belle flamande.
belle forme.
belle galathée.
belle hâtive.
belle incarnate.
belle inconnue.
belle Matilde.
belle mahæca.
belle parade.
belle Tigridia.
belle zulme.
belle rouge.
belle sans flatterie.
belle sans pareille.
belle Therese.
belle vue.
Bellona.
Berkshire.
bifera carnea.
bifera de Naples.
bengale floride.
bengale Thisbe.
bifera grandiflora.
bishop, m.l.r.
bizard royal.
black frizzled.
black purple.
blanche superbe.
blondine.
blush Italian.
blush velvet.
bold.
Bonifacius.
bouquet blanc.
bouquet panache.
bouquet parfait.
bouquet superbe.
Bourbon.
Brabant.
bracelet d'amour.
brigitte.
brilliante.
brune brillante.
brunette aimable.
brunette superbe.
Brunswick.
bucephalus.
bullata.
Buonaparte.
cabinet.
Calypso.
camellote.
cannabina.
canopus.
carnation.
Carthaginian.
Castile.
Catalonian.
cecropia.
Ceres.
cervalis.
champion.
chance.
changeable.
charmante pourprée.
chausse.
chiron.
cicris pale rose.
Clementina.
Cleopatra.
comtesse de Genlis.
cornelian.
cossack.
couleur a la mode.
couleur de cendre.
couleur de cerise.
couleur excellent.
coupée.
couronne.
couronne des roses.
couronne impériale.
cramoisie éblouissant.
cramoisie élegant.
cramoisie fonce.
cramoisie impériale.
cramoisie incomparable.
cramoisie minor.
cramoisie nouveau.
cramoisie panaché.
cramoisie sans pareil.
cramoisie triomphant.
crimson.
crimson perpetual.
crown imperial.
crown purple.
Cybele.
Danæ.
Danish.
dark mignonne.
dark mottled.
dark shell.
darling.
de bengal gros violet.
Dejanira.
delicate.
Derby.
descemets.
diadem.
damascena argentea.
dianthiflora.
Dickson's duchess.
Dido.
don des dames.
Dione.
discolor.
Dorothee.
double apple bearing. m.l.r.
double dog.
double Mimms.
double Pæony.
double purple.
double red thornless.
double white thornless.
duc de Brabant.
Duchess.
duchesse d'Angouleme.
duchesse de Berri.
duchesse d'Oldenburgh.
duke of Clarence.
Durham.
Dutch cinnamon.
Dutch crimson.
Dutch velvet.
dwarf burnet.
dwarf Chester.
dwarf prolific.
early Provins.
early red.
eglanteria alba.
eglanteria pumila.
eglantine sweet briar.
Egyptian.
elegans.
enchanters.
erato.
Etna.
Euphrosyne.
evratina.
ex alba rosea.
fair maid.
favonius.
favorite.
favorite des dames.
fausse unique.
felicie.
felicite.
Felix.
feu amoureux.
feuille chiffonée.
feuille crenulée.
feuille de chene.
feuille de frene.
few-spined.
fine panachée.
fine crimson.
fine purple.
flavia pourpre.
Flemish.
flesh-coloured.
flesh-coloured four seasons.
fleur de parade.
fleur de pomme.
fleur et feuille marbrée.
fleur panachée.
flora.
flore nigricante.
florentine.
flore rubra.
floribunda.
florio.
flos puniceus.
folie de Corse.
formidable.
four seasons semidouble.
Franconian.
Frankfort.
Frankfort agate.
freckled.
frilled.
frizzled.
gallica foliacea.
garnett.
Gascony.
Genoese.
Genoese velvet.
Genévre.
globe.
gloomy.
gloria mundi.
gloria mundi flore pallido.
gloria mundi pourpre.
gloria rubrorum.
gloriosa.
glowing.
grande Alexandre.
grande Angloise.
grand Cæsar.
grande centifolia.
grande chausse.
grande cramoisie.
grande foncée.
grand Mogul.
grande pivoine.
grande pompadour.
grand pyramidal.
grand rouge.
grand triumphant.
grandesse royale.
grandeur royale.
great Mogul.
grey.
grisdeline.
grisdeline sans épines.
Hainault.
Haarlem.
harpagus.
Helena.
Hebe.
hero.
Hertford.
Hildesheim.
Hollandia magniflora.
hortulanus.
hundred leaved mignonne.
hyacinth.
hybrida perfecta.
hybrid nouvelle.
iconium.
idumea.
illustrious.
impératrice.
impératrice de France.
Indian queen.
inermis.
iris noir.
Isabelle.
Isis.
Jaqueline.
Jeanne d'Arc.
Jersey.
Jessica.
jolie.
Josephine.
Julian.
king Agrippa.

king of Mexico.
la belle Elise.
la belle Rosine.
l'abondance.
la constance.
la coquette.
la Diane.
l'admirable.
la fidele.
la gracieuse.
la grandesse.
l'aimable de Stors.
lake.
la maculée.
la magnifique.
la majestueuse.
la mignarde.
l'amitié.
la moderne.
Lancaster.
Lanckman.
la négresse.
la parfaite.
la Parisienne.
la petite Lisette.
la plus belle.
la plus rouge.
la pomme grenade.
la précieuse pourpre.
la reine.
la reine des roses.
large platter.
large perfect.
la rose de Medicis.
la rose d'Ispahan.
la royale.
la superbe.
la superbe en brun.
la tendresse.
la victorieuse.
la virginité.
leafy.
Leander.
le dauphin.
Lee's perpetual.
le grandeur.
le grand Lowendael.
le grand Suwarrow.
le grand visir.
Leipsick.
les alliés.
le violet triomphant.
light hundred-leaved.
l'impayable.
l'importante.
lively.
l'obscurité.
Lodona.
Lodoiska.
l'ombre panaché.
l'ombre sans pareille.
London pride.
Louis eighteenth.
Lubeck.
Ludolph.
Ludovicus.
Luxemburg.
Lyonnoise.
Lystra.
madder.
Magdalen.
maiden blush.
mantle.
marbled.
marble apple bearing.
Margaretta.
Marie Anne.
marquis de la Romana.
Marseilles.
maxima.
mere gigon.
merveilleuse.
Mexican.
Milanese.
Minerva.
mirabelle.
miroir des dames.
Mogul.
mon bijou.
monstrosa.
monstrous cluster.
monstrous 100-leaved. m.l.r.
Montpelier.
Morin.
morning star.
mottled.
mourning.
multiplex.
Napoleon.
Napoli di romana.
Narbonne.
Nassau.
negro.
négre panachée.
Neptune.
new mottled.
new Provins.
nigritienne.
Niobe.
noblesse.
noir foncé.
non plus ultra.
Normandica.
nouvelle favorite.
nouvelle de Provins.
nouvelle pivoine.
Oldenburg.
Oliver.
Olympic.
Omphale.
orient.
orion.
ornement de parc.
ornement de violet.
oublié des François.
painted.
painted Belgic.
Palestine.
panachée admirable.
panachée nouvelle.
panachée sans pareille.
panachée superbe.
Pannonian.
Paradise.
Paris hundred-leaved.
Parnassus.
parson.
party-coloured.
Patmos.
Palmyra.
Paulina.
Pearson's gigantic.
Pegasus.
pencilled mignonne.
pencilled Provins.
Penelope.
perfecta.
perle de l'orient.
perpetuelle rouge.
Peruvian.
petit Cæsar.
petit cramoisie.
petit favorite.
petit mignon.
petit panachée.
phœnix.
Pierian.
pilgrim.
pink velvet.
plicata purpurea.
Pomeranian.
pomegranate.
Pomona.
pompone.
pompone blanc.
pompone bifera.
pompone quatre saisons.
pompone varin.
Poniatowski.
Pope's cluster.
Portlandica grandiflora.
Portlandica perpetua.
Portobella.
Portugal.
pourpre agréable.
pourpre de Paris.
pourpre de Tyre.
pourpre sans epines.
pourpre de Vienne.
pourpre imperiale.
pourpre incomparable.
pourpre obscur.
pourpre sans defaut.
pourpre sans pareil.
pourpre superbe.
predominant.
Presburg.
prince.
prince d'Aremberg.
princely.
Prince Regent.
princess Charlotte.
princess noble.
professor.
proliferous carmine.
purple crimson.
purple crown.
purple imperial.
purple velvet.
pyramide pourpré.
quatre saisons blanche.
quatre saisons François.
quatre saisons panachée.
quatre saisons sans épines
queen's Provins.
ragged robin.
ranunculus.
Raphael.
Ratisbon.
Ravenna.
red cluster.
red crown.
red Provins.
red velvet.
refulgent.
regina florum.
reine Caroline.
reine d'Hongrie.
renoncule nouvelle.
rex rubrorum.
riche en fleurs.
roi des nègres.
roi de Rome.
roi de Maroc.
roi des Pays Bas.
roi des pourpres.
Roman.
Rosabel.
Rosanna.
rose agréable.
rose bouquet.
rose de Cères.
rose des dames.
rose du roi.
rose d'Orleans.
rose du prince.
rose la mode.
rose Lee.
rose pivoine.
rose prolifère.
rouge agréable.
rouge bien vif.
rouge éclatant.
rouge formidable.
rouge frappant.
rouge luisant.
rouge panaché.
rouge sans épines.
rouge semidouble.
rouge vegetable.
royal bouquet.
royal carmine.
royal crimson.
royal gabina.
royal mantle.
royal viscous.
rubrispina.
rubiginosa umbellata.
ruby.
sable.
St. Antoine.
St. Catharine.
St. George.
St. Germain.

St. Gothard.
St. Jago.
St. Mark.
St. Patrick.
sans défaut.
sans pétales.
Sarmatian.
scarlet Brabant.
[illegible]
semidouble hep.
semidouble mignonne.
semidouble monthly.
semidouble new.
seigneur d'Ærtzelaar.
septum cerise.
Seville.
Sheffield.
Shylock.
Silenus.
Silesian.
shining semidouble.
simplicité.
singulière agate.
Sirius.
soliditas.
Southampton.
Spartan.
spineless red.
spiral.
stæbon.
standard.
state.
Stephanus.
Stepney, m.l.r.
striped monthly.
striped Provins.
striped velvet.
sugarloaf.
sulphurea.
sulphurea minor.
Sultan, m.l.r.
superb.
superb amaranth.
superbe brune.
superbe pyramide.
surpasse Singleton.
surpasse tout.
Swiss.
Syrian.
Tangiers.
ten-leaved.
temple d'Apollon.
tête de mort.
Theseus.
Tigris.
tricolor.
tomentosa alba.
toujours.
tous les mois gris.
transparent.
transparente nouvelle.
Trebonius.
tree burnet-leaved.
tree pæony.
trésorier.
triangular.
triomphe.
triomphe des dames.
triomphe royale.
Turban.
two-coloured hundred-leaved.
two-coloured mignonne.
vacuna.
vagrant.
velours cramoisie.
veloute.
venerable.
venetatus.
Venetian.
ventome noir.
Venus.
venusta.
veritas.
vermillion.
Vesta.
Vesuvius.
victoria.
Vidua.
villosa nouvelle.
Vilmorin.
violette.
violette agréable.
violette aimable.
violette brillante.
violette curieuse.
violette foncée.
violette maculée.
violette nouvelle.
violette sans pareille.
violette superbe.
violette supérieure.
virgin's.
virginale.
virbilia.
virgo cramoisie.
ulterio.
ultra-marine.
umbrella.
unique rouge.
Waterloo.
Watson's blush.
Watson's white.
Wellington.
woolly-leaved.
white damask.
white pompone.
York.
Yorkshire blush.
Yorkshire Provins.
zabet.
zatre.
Zenobia.

SECT. VII. VILLÒSÆ (from *villosus*, villous; shrubs villous). Lindl. ros. p. 72. Surculi straight. Prickles straightish. Leaflets ovate or oblong, with diverging serratures. Sepals connivent, permanent. Disk thickened, closing the throat. This division borders equally close upon those of *Caninæ* and *Rubiginòsæ*. From both it is distinguished by its root shoots being erect and stout. The most absolute marks of difference, however, between this and Sect. *Caninæ*, exist in the prickles of the present section being straight, and the serratures of the leaves diverging. If, as is sometimes the case, the prickles of this tribe are falcate, the serratures become more diverging. The permanent sepals are another character by which this tribe may be known from Sect. *Caninæ*. The section *Rubiginòsæ* cannot be [illegible] with the present section on account of their unequal, hooked [illegible] glandular leaves. Roughness of fruit and permanence of sepals are common to both.

82 R. TURBINÀTA (Ait. hort. kew. 2. p. 206.) tube of calyx turbinate; sepals undivided; leaves villous beneath. ♄. H. Native of Germany, probably spontaneous. Lawr. ros. 63. Jacq. schœnbr. 4. t. 415. Jacq. fragm. 71. t. 107. f. 2. Red. ros. 1. p. 127. t. 48. R. campanulàta, Ehrh. beitr. 6. p. 97. R. Francofortiàna, Mœnch. hausv. 5. p. 24. R. Francfurténsis, Rossig. ros. t. 11. Habit of *R. Damascèna*. Flowers large, red, very double.

Turbinate-calyxed or Franckfort Rose. Fl. June, July. Clt. 1629. Shrub 4 to 6 feet.

83 R. VILLÒSA (Lin. spec. 704.) leaflets rounded, bluntish, downy all over; fruit globose, rather depressed, partly bristly; sepals slightly compound. ♄. H. Native of Europe, in hedges; in Britain, in bushy rather mountainous situations, in Wales, Scotland, and the north of England. R. móllis, Smith, engl. bot. t. 2459. R. tomentòsa β, Lindl. ros. p. 77. R. heterophýlla, Woods. in Lin. trans. 12. p. 195. R. pulchélla, Woods. l. c. p. 196. R. pomífera, Herm. diss. 16. Flowers red or pink. This is a very variable plant. Branches without bristles.

Var. β, *resinòsa* (Lindl. ros. p. 77.) dwarf, grey; leaflets narrow; flowers very red. ♄. H. Native of Ireland.

Villous Rose. Fl. July. Britain. Shrub 5 to 6 feet.

84 R. SYLVÉSTRIS (Lindl. syn. brit. fl. p. 101.) stem erect, coloured, flexuous; prickles hooked; leaflets oblong, acute, hoary on both sides; sepals diverging, deciduous before the fruit is ripe; fruit elliptic, bristly. ♄. H. Native of Oxfordshire, in hedges. R. tomentòsa sylvéstris, Woods.

Wild Rose. Fl. June, July. England. Shrub 6 to 8 feet.

85 R. BOREYKIÀNA (Bess. ex Spreng. syst. 2. p. 652.) prickles of branches scattered, recurved; petioles prickly; leaflets doubly serrated, pubescent beneath, glandular on the margins, but not beneath; peduncles corymbose, covered with glandular bristles; fruit oblong, glabrous. ♄. H. Native of the north of Podolia.

Boreykian Rose. Shrub 6 to 8 feet.

86 R. TOMENTÒSA (Smith, fl. brit. 539. engl. bot. 990.) leaflets ovate, acute, more or less downy; fruit elliptical, hispid; sepals pinnate; prickles slightly curved. ♄. H. Native of Europe, in hedges and thickets; plentiful in Britain. Red. ros. 2. p. 39. t. 17. R. villòsa, Ehrh. arb. 45. Du Roi, harbk. 2. p. 341. Fl. dan. 1458. R. mollíssima, Börk. holz. p. 307. R. dùbia, Wibel. wirth. p. 263. R. villòsa β, Huds. 219. Petals red, white at the base.

Var. β, *scabriúscula* (Smith, engl. bot. 1896.) leaves greener, nearly smooth except the ribs, which are hairy. ♄. H. Native near Newcastle. R. fœ̀tida, Batard, suppl. 29. Red. ros. 1. p. 131. t. 150.

Tomentose Rose. Fl. June, July. Britain. Shrub 6 feet.

87 R. SHERRÀRDI (Davies, Welsh. bot. 49.) prickles conical, hooked, compressed; leaflets elliptical, acute, downy on both surfaces; sepals pinnate; fruit globular, abrupt, rather bristly. ♄. H. Native near Kingston-upon-Thames, near Tonbridge Wells, and Down in Kent; in Cambridgeshire and Anglesea.

R. subglobòsa, Smith, engl. fl. 2. p. 384. R. tomentòsa, var. ε and η, Woods. in Lin. trans. 12. p. 201. Peduncles from 1-8, the more numerous the shorter, beset with glandular bristles. Fruit large, globular.

Sherard's Rose. Fl. June, July. Britain. Shrub 6 feet.

88 R. HI'SPIDA (Poir. encyc. bot. no. 15.) ovaries globose, and are as well as the peduncles hispid from prickles; leaflets ovate, white from tomentum beneath; stem prickles scattered; flowers solitary. ♄. H. Native of Europe. R. villòsa β, pomífera, Desv, journ. bot. 1813. p. 117.

Hispid Rose. Shrub 5 to 6 feet.

89 R. A'LBA (Lin. spec. 705.) leaflets oblong, glaucous, nakedish above, simply serrated; prickles straightish or falcate, slender or strong, without setæ; sepals pinnate, reflexed; fruit unarmed. ♄. H. Native of Piedmont, Cochin-china, Denmark, France, and Saxony. Lawr. ross. tt. 23. 25. 32. 37. Oed. fl. dan. 1215. Red. ros. 1. p. 97. t. 34. and p. 117. t. 43. R. usitatíssima, Gat. montaub. 94. Flowers large, either white or of the most delicate blush colour, with a grateful fragrance. Fruit oblong, scarlet, or blood-coloured. The following garden varieties belong to this species:

agate.
belle Aurore.
blanche à cœur vert.
blanche de Belgique.
blush, double white.
bouquet blanc.
celestial.
Duc d'Yorck.
Eliza.
feuille fermée.
grande cuisse de nymphe.
Henriette, belle.
Joanne d'Arc.
maiden's blush, cluster.
maiden's blush, great.
maiden's blush, small.
Moraga la favorite.
muscat rouge.
nòva cœléstis.
nòva plèna.
petite cuisse de nymphe.
ròsea.
Simonville.
spineless virgin.
thornless, double.
triangulàris.
white, double.
white, semidouble.

White Rose. Fl. June, July. Clt. 1597. Shrub 4 to 7 feet.

90 R. MÓLLIS (Led. ex Spreng. syst. 2. p. 551.) ovaries ovate, glaucous, and are prickly as well as the peduncles; branches glabrous, unarmed, pubescent as well as the petioles; leaflets obtuse, doubly serrated, villous on both surfaces. ♄. H. Native of Caucasus. R. Ledeboùrii, Spreng. syst. 2. p. 551.

Soft Rose. Fl. June, July. Clt. 1818. Shrub 4 to 6 feet.

91 R. TEREBINTHA'CEA (Bess. ex Spreng. syst. 2. p. 551.) prickles of the branches straight and compressed; petioles pubescent; leaflets tomentose beneath; peduncles corymbose, bristly; sepals lanceolate, emarginate; fruit oblong, tapering to both ends, bristly. ♄. H. Native of Podolia, at Tyra.

Turpentine Rose. Shrub 4 to 6 feet.

SECT. VIII. RUBIGINÒSÆ (from *rubiginosus*, rusted; the leaves of the species are usually clothed with rust-coloured glands beneath). Lindl. ros. p. 84. Prickles unequal, sometimes bristle-formed, rarely wanting. Leaflets ovate or oblong, glandular, with diverging serratures. Sepals permanent (f. 75. *d.*). Disk thickened. Sirculi arched. The numerous glands on the lower surface of the leaves will be sufficient to prevent any thing else being referred to this section. But *R. tomentòsa* has sometimes glandular leaves, but in such cases the inequality of the prickles of *Rubiginòsæ*, and their red fruit, will alone distinguish them.

92 R. LU'TEA (Dodon. pempt. 187. Mill. dict. no. 11.) prickles straight; leaflets deep green; sepals nearly entire, setigerous; petals flat, concave. ♄. H. Native of Germany and south of France. Lawr. ros. t. 12. Curt. bot. mag. 363. R. eglantèria, Lin. spec. 703. Red. ros. 1. p. 69. t. 23.. R. fœ'tida, Herm. diss. 18. R. chlorophýlla, Ehrh. beitr. 2. p. 69. R. cèrea, Rossig. ros. t. 2. Flowers deep yellow, large, cup-shaped, solitary. Fruit unknown.

Var. β, *subrùbra* (Red. ros. 3. p. 73. with a figure) peduncles rather hispid and glandular; leaves and petioles glabrous; stem prickly at the base; prickles unequal, scattered; petals of a lurid red above and yellowish beneath; stigmas yellow.

Var. γ, *punícea* (Lindl. ros. p. 84.) petals scarlet above and yellow beneath. ♄. H. Native of Austria. R. punícea, Mill. dict. no. 12. Rossig. ros. t. 5. R. cinnamòmea, Roth. fl. germ. 1. p. 217. R. lùtea bícolor, Jacq. vind. 1. t. 1. Lawr. ros. t. 6. Sims, bot. mag. t. 1077. R. eglantèria punícea, Red. ros. 1. p. 71. t. 24. R. eglantèria bícolor, D. C. fl. fr. 4. p. 437.

Yellow Eglantine Rose. Fl. June. Clt. 1596. Sh. 3 to 4 ft.

93 R. RUBIGINÒSA (Lin. mant. 2. p. 564.) prickles hooked, compressed, with smaller straighter ones interspersed; leaflets elliptical, doubly serrated, hairy, clothed beneath with rust-coloured glands; sepals pinnate, and are bristly as well as the peduncles; fruit obovate, bristly towards the base. ♄. H. Native throughout Europe, and of Caucasus. In Britain, in bushy places, on a dry, gravelly, or chalky soil. Smith, engl. bot. t. 991. Curt. fl. lond. t. 116. Jacq. austr. t. 50. Lawr. ros. tt. 41. 61. 65. 72. and 74. Schkuhr, handb. t. 134. R. suavifòlia, Lightf. scot. 1. p. 261. Fl. dan. 870. R. eglantèria, Mill. dict. no. 4. Lin. spec. ed. 1. p. 491.? R. agréstis, Savi. fl. pis. p. 475. R. rubiginòsa parviflòra, Rau, enum. 135. Leaves sweet-scented when bruised. Flowers pink. Fruit scarlet, obovate, or elliptic.

Var. β, *Vaillantiàna* (Red. ros. 3. p. 95. with a figure,) fruit ovate and hispid as well as the peduncles; prickles of the branches somewhat horizontal; leaflets nearly glabrous above; flowers white.

Var. γ, *rotundifòlia* (Lindl. ros. 88.) branches flagelliform; prickles straightish, slender; leaflets roundish, small, tube of calyx nearly globose, glabrous. ♄. H. Native of Germany. R. rubiginòsa rotundifòlia, Rau, enum. p. 136. Flowers solitary.

Var. δ, *aculeatissima* (Dup. gym. ros. p. 13. ex Red. et Thor. ros. 2. p. 97.) flowers usually solitary; fruit ovate, and are as well as the peduncles beset with glandular bristles; leaflets ovate-roundish; prickles straightish, very numerous. Cultivated in gardens.

Var. ε, *nemoràlis* (Red. et Thor. ros. 2. p. 23. with a figure) flowers usually solitary, small; fruit ovate, and is as well as the peduncles beset with glandular bristles; leaflets large, thin; prickles straightish, few. ♄. H. Native of France. R. nemoròsa, Lebert et Lejeune, fl. spa. 2. p. 311.

Var. ζ, *umbellàta* (Lindl. ros. 87.) flowers several, in a fascicle; fruit globose, almost smooth; peduncles hispid; branches very prickly; leaflets ovate-roundish, glabrous, glandular beneath; prickles hooked. ♄. H. R. umbellàta, Leers, fl. herb. 119. add. p. 286. Gmel. fl. bad. 2. p. 425. D. C. fl. fr. 5. p. 532. Rau, enum. 134. R. tenuiglandulòsa, Mer. fl. par. 189. R. rubiginòsa eglantèria cymòsa, Woods, in Lin. trans. R. sempervìrens, Roth, fl. germ. 1. p. 218.

Var. η, *pùbera* (Ser. in D. C. prod. 2. p. 616.) flowers usually solitary; fruit ovate, smooth; peduncles beset with glandular bristles; leaflets roundish, glandular beneath, and are as well as the petioles puberulous. ♄. H. Native of Switzerland, about Aarberg.

Var. θ, *grandiflòra* (Lindl. ros. 88.) leaflets nearly naked; petioles villous; flowers large; fruit purple, and are as well as the peduncles glabrous. ♄. H. Native of Germany. R. grandiflòra, Wallr. ann. bot. 66.

Var, ι, *màjor* (Ser. exsic. no. 4. mel. 1. p. 45.) stems erect; flowers solitary or corymbose, numerous; fruit ovate, and are as well as the peduncle clothed with glandular bristles; leaflets broad, sparingly glandular beneath; petiole and middle nerve villous; flowers semidouble.

Var. ι, *spinulifòlia* (Ser. in D. C. prod. 2. p. 616.) prickles large, straight, or somewhat deflexed; leaflets oval, spinulose beneath; tube of calyx ovate, and is as well as the peduncles more or less hispid. ♄. H. Native about Fribourg and Verviers. R. spinulifòlia, Dem. ess. p. 8. R. spinulifòlia, Dematratiàna, Thor. ros. t. 1. Red. et Thor. ros. 3. p. 8.

Var. λ, *flexuòsa* (Lindl. ros. 88.) branches very flexuous; leaflets nearly orbicular; bracteas deciduous; flowers usually solitary; styles smooth. ♄. H. Native of Germany and Switzerland. R. Reynièri, Hall. fil. in Rœm. arch. 6. 1. st. 2. p. 7. R. flexuòsa, Rau, enum. p. 127. R. montàna, D. C. suppl. 532.?

Var. μ, *parvifòlia* (Lindl. ros. 145.) dwarf; branches setigerous; leaflets roundish. ♄. H. Native of Tauria, and France. Willd. enum. 546. R. micrántha, D. C. fl. fr. 5. p. 539. but not of Smith. Flowers pale rose-coloured.

Garden varieties of the Sweet Briar.

American, single.
blush.
Clementine.
cluster.
double.
dwarf, semidouble.
maiden.
Mannings.
monstrous.
mossy.
petite Hessoise.
royal.
scarlet.
tree, double.
white, semidouble.
Zabeth.

Rusty Rose, Sweet Briar, or Eglantine. Fl. June, July. Britain. Shrub 4 to 6 feet.

94 R. SUAVE`OLENS (Pursh. fl. amer. sept. vol. 1. p. 346.) prickles scattered, straight; petioles beset with glandular bristles; leaflets ovate, serrated, sparingly glandular beneath; flowers usually solitary; peduncles bracteate; fruit ovate. ♄. H. Native of North America. R. rubiginòsa and eglantèria of the Americans. Rafin. ros. amer. in ann. phys. 5. p. 518. Leaves sweet-scented when bruised. Flowers pink. Sepals entire.

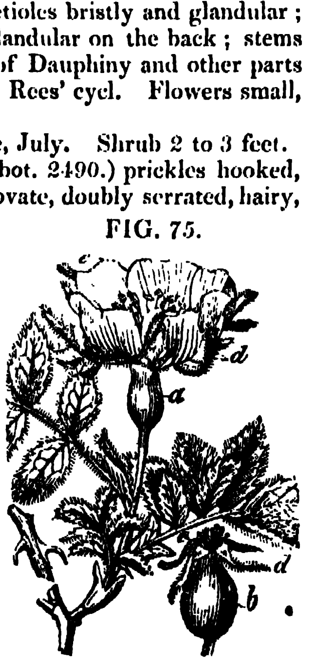
American *Sweet* Briar or Eglantine. Fl. June, July. Clt. 1100. Shrub 5 to 6 feet.

95 R. MONTA`NA (Vill. dauph. 3. p. 547.) prickles solitary, hooked; leaflets roundish, abrupt, doubly serrated, smooth, hardly glandular; peduncles and petioles bristly and glandular; sepals partly pinnate, bristly and glandular on the back; stems strong, reddish. ♄. H. Native of Dauphiny and other parts of the south of Europe. Smith in Rees' cycl. Flowers small, generally white.

Mountain Sweet Briar. Fl. June, July. Shrub 2 to 3 feet.

96 R. MICRA'NTHA (Smith, engl. bot. 2490.) prickles hooked, scattered, nearly uniform; leaflets ovate, doubly serrated, hairy, glandular beneath; sepals pinnate; fruit elliptic, rather bristly, contracted at the summit; stems straggling. ♄. H. Native of Britain, in hedges and thickets, chiefly in the south of England. R. rubiginòsa β, micrántha, Lindl. ros. p. 87. with erroneous synonyms. Leaves sweet-scented. Flowers small, pale red.

FIG. 75.



Small-flowered Sweet Briar. Fl. June, July. Britain. Sh. 4 to 5 ft.

97 R. SE`PIUM (Thuil. fl. par. 252. Borr. in engl. bot. suppl. t. 2653.) prickles slender; branches flexuous; leaflets shining, acute at both ends; flowers usually solitary; fruit polished; sepals pinnate, with very narrow segments. ♄. H. Native of Europe, in hedges; in England near Bridport, Warwickshire. Flowers small, pink. R. Helvética and R. myrtifòlia, Hall. R. canìna β, D. C. fl. fr. ed. 3. no. 3617. R. agréstis, Savi. fl. pis. 1. p. 474. R. biserràta. R. macrocárpa and R. stipulàris, Mer. fl. par. 190. ex Desv. (f. 75.)

Hedge Briar. Fl. June, July. Britain. Shrub 4 to 6 feet.

98 R. PULVERULE'NTA (Bieb. fl. taur. 1. p. 399.) branches glandular; leaflets pruinose on both surfaces; prickles recurved, dilated at the base; fruit ovate, and are as well as the peduncles hispid. ♄. H. Native of Caucasus, on hills about Narza. Flowers solitary, pale red, almost sessile. Leaves grey, with glands on both surfaces.

Var. β, *eriocárpa* (Ser. in D. C. prod. 2. p. 617.) leaflets oval, doubly serrated; fruit smooth. R. pulverulénta, Lyell. in Lindl. ros. p. 93.

Powdery Briar. Fl. June, July. Clt. 1817. Shrub 5 to 6 feet.

99 R. UNCINE'LLA (Bess. ex Spreng. syst. 2. p. 552.) prickles of the branches scattered, recurved; petioles rather prickly; leaflets pubescent beneath, doubly serrated, glandular on both surfaces; fruit oblong, and are as well as the peduncles glabrous. ♄. H. Native of Volhynia and Tauria.

Small-hooked Briar. Shrub 5 to 6 feet.

100 R. CARYOPHYLLA`CEA (Bess. enum. p. 19.) prickles of branches equal, recurved, scattered; petioles nearly unarmed; leaflets doubly serrated, glandular on both surfaces, and hoary beneath; fruit oblong, glabrous as well as the peduncles. ♄. H. Native of Podolia, Volhynia, and Iberia. R. rubiginòsæ var. μ caryophyllàcea, Ser. in D. C. prod. 2. p. 617.

Clove-scented Briar. Shrub 5 to 6 feet.

101 R. IBE'RICA (Stev. in Bieb. fl. taur. suppl. 343.) cauline prickles scattered, hooked, dilated at the base; petioles glandular and prickly; leaflets broad ovate, glandularly biserrated, and beset with glands on both surfaces; fruit ovate, smooth, or with a few bristles as well as the peduncles. ♄. H. Native of Eastern Iberia, about the town of Krzchinval. Very nearly allied to *R. pulverulénta* according to Bieberstein.

Iberian Rose. Fl. June, July. Clt. 1820. Shrub 4 to 6 ft.

102 R. INODO`RA (Fries. nov. fl. suec. 9.) stem very prickly; leaflets oblong, clammy and glandular beneath; fruit oblong, and are as well as the peduncles glabrous. ♄. H. Native of the north of Holland. Leaves scentless. Sepals reflexed, pinnate. Fruit oblong-ovate, purple. Said to be the same as *R. Borrèri*, no. 122.

Scentless Briar. Shrub 4 to 5 feet.

103 R. CUSPIDA`TA (Bieb. fl. taur. 1. p. 396.) prickles strong, hooked, dilated at the base, scattered; leaflets ovate-lanceolate, acute, villous on both surfaces, glandular beneath; flowers corymbose; sepals pinnate, ending in a narrow serrated point; fruit ovate, and are as well as the peduncles hispid. ♄. H. Native of Tauria, about Kisljar. Flowers white. Fruit dark purple.

Cuspidate-sepalled Briar. Shrub 5 to 6 feet.

104 R. GLUTINÒSA (Smith, fl. græc. prod. 1. p. 348. fl. græc. t. 482.) branches pilose; prickles numerous, falcate; leaflets roundish, coarsely serrated, hoary, glandular and viscid on both surfaces; fruit and peduncles beset with stiff bristles. ♄. H. Native on Mount Parnassus; of Sicily, and Candia, on the mountains. R. rubiginòsa Crética, Red. ros. 1. p. 93. and p. 125. t. 47. R. rubiginòsa sphærocárpa, Desv. journ. bot. 1813. t. 118. Cupan. pamph. ed. 1. t. 61. Flowers pale blush. Sepals subpinnate. Fruit scarlet.

Clammy Briar. Fl. June, July. Clt. 1821. Shrub 2 to 3 ft.

105 R. AGRE'STIS (Swartz ex Spreng. syst. 2. p. 553.) prickles of branches scattered, recurved; petioles unarmed, villous, and

glandular; leaflets equally serrated, villous and glandular beneath; germens oblong, and are, as well as the peduncles, quite glabrous. ♄. H. Native of Sweden.

Field Briar. Shrub 6 feet.

106 R. pseu'do-rubiginòsa (Lejeune, fl. spa. 1. p. 229.) stem and petioles armed with recurved prickles; leaflets ovate-oblong, beset with glandular pili, covered with rusty glands beneath and on the margins; fruit roundish, hispid. ♄. H. Native of France near Malmedy. Sepals pinnate. Petals red.

False-rusty Rose or False Sweet Briar. Shrub 2 to 3 feet.

107 R. Wolfgangia'na (Bess. enum. p. 61. and p. 67.) leaflets hardly glandular; styles very long, pubescent above; peduncles hispid from glandular bristles; fruit elongated, contracted at the neck, nearly naked, pear-shaped, with hardly any glandular bristles at the base. ♄. H. Native of Podolia, in a wood near Wichlor.

Wolfgange's Briar. Shrub 4 to 5 feet.

108 R. dimórpha (Bess. ex Spreng. syst. append. p. 200.) prickles of branches scattered and recurved; petioles prickly and pubescent; leaflets pubescent on both surfaces; peduncles short, crowded, thickly beset with glandular bristles, as well as the germens, which are ovate and contracted at both ends; calyx thickly beset with glands. ♄. H. Native of Podolia.

Two-formed Briar. Shrub 5 to 6 feet.

109 R. Willdenòvii (Spreng. syst. 2. p. 547.) prickles on the branches opposite, a little recurved; petioles villous, unarmed; leaflets oblong, narrow, equally serrulated, villous beneath, and full of resinous dots; bracteas adpressed; peduncles short, solitary, glabrous, as well as the ovate fruit. ♄. H. Native of Siberia. R. microphýlla, Willd. herb. R. arenària, Bieb. et Stev. in Willd. herb. ex Spreng. l. c.

Willdenow's Briar. Shrub 4 to 6 feet.

110 R. Klu'kii (Bess. cat. hort. crem. 1816. suppl. 4. p. 19. Bieb. fl. taur. suppl. 343.) cauline prickles strong, compressed, dilated at the base, recurved; petioles villous and prickly; leaflets small, elliptic, acute, sharply biserrated, with the serratures glandular, villous above, but rusty and glandular beneath; peduncles and fruit beset with glandular bristles. ♄. H. Native of Tauria. R. rubiginòsa, Bieb. fl. taur. no. 979. exclusive of the synonyms. R. floribúnda, Stev. and R. balsàmea, Bess. Flowers pink. Allied to *R. rubiginòsa*, according to Bieberstein, but according to Besser to *R. álba*.

Kluki's Sweet-briar. Fl. June, Jul. Clt. 1819. Sh. 5 to 6 ft.

111 R. floribu'nda (Bess. hort. crem. ex Spreng. syst. append. but not of Steven.) prickles of branches strong, recurved; petioles prickly and villous; leaflets doubly serrated, wrinkled, glandular beneath and on the margins, as well as pubescent; peduncles aggregate, clothed with glandular pili, as well as the elliptic-oblong fruit. ♄. H. Native of Podolia.

Bundle-flowered Briar. Shrub 5 to 6 feet.

112 R. Montezu'mæ (Humb. et Bonpl. in Red. ros. 1. p. 55. t. 16.) petioles armed with little hooked prickles; branches unarmed; leaflets ovate, sharply serrated, glabrous; flowers solitary, terminal; tube of calyx elliptic, and is as well as the peduncles glabrous. ♄. H. Native of Mexico, on the chain of Porphyry mountains, which bound the valley of Mexico on the north, at the elevation of 1416 toises, on the top of Cerro Ventosa, near the mine of San Pedro. Flowers pale red. Sepals compound, dilated at the end.

Montezuma's Briar. Fl. June. Jul. Clt. 1825. Sh. 4 to 6 ft.

Sect. IX. Cani'næ (from *canis*, a dog; because *R. canina* is commonly called *Dog-rose*. The name is applied to this section because all the species contained in it agree in character with *R. canìna*). Lindl. ros. 97. Prickles equal, hooked. Leaflets ovate, glandless or glandular, with the serratures conniving. Sepals deciduous (f. 76. *g*.). Disk thickened, closing the throat. Larger surculi arched.

113 R. Cauca'sia (Pall. ross. t. 11.) prickles strong, recurved; leaflets soft, ovate; calyx and peduncles hispid; sepals simple; fruit smooth? ♄. H. Native of Iberia. Lindl. ros. p. 97. t. 11. R. leucántha, Bieb. fl. taur. suppl. 351.? Flowers large, growing in bunches, white or pale red.

Caucasian Dog-rose. Fl. Ju. Jul. Clt. 1798. Sh. 10 to 12 ft.

114 R. cilia'to-pe'tala (Bess. enum. 66.) leaflets lanceolate; petals ciliated. ♄. H. Native of Lithuania. This plant differs from *R. villòsa* in the lower stipulas being blunt, and in the ribs being prickly; from *R. Caucàsia* in the leaflets being rounder, in the sepals being more dilated, in the flowers being redder, and the petals being ciliated.

Ciliated-petalled Rose. Shrub.

115 R. cani'na (Lin. spec. 704.) prickles strong, hooked; leaflets simply serrated, pointed, quite smooth; sepals pinnate; fruit ovate, smooth, or rather bristly, like the aggregate flower stalks. ♄. H. Native throughout Europe and the north of Africa; plentiful in Britain, in hedges, woods, and thickets. Smith, engl. bot. 992. Fl. dan. 555. Curt. lond. 299. Lawr. ros. tt. 21. 29. R. dumàlis, Bechst. forstb. 241. et 939. ex Rau. R. Andegavénsis, Bat. fl. main. et loir. 189. Red. ros. 2. p. 9. t. 3. R. glaúca, Lois. in Desv. journ.? R. arvénsis, Schranck, fl. mon. R. glaucéscens, Mer. par. R. nítens, Mer. l. c. R. Teneriffénsis, Donn, hort. cant. ed. 8. p. 169. R. senticòsa, Achar. acad. handl. 34. p. 91. t. 3. Flowers rather large, pale red, seldom white. Fruit ovate, bright scarlet, of a peculiar and very grateful flavour, especially if made into a conserve with sugar. The pulp of the fruit, besides saccharine matter, contains citric acid, which gives it an acid taste. The pulp before it is used should be carefully cleared from the seeds.

Var. β, *surculòsa* (Woods. in Lin. trans. 12. p. 228.) differs from the species in having remarkably strong shoots, bearing sometimes great plenty of flowers.

Var. γ, *nùda* (Woods. l. c. p. 205.) is more doubtful than the last, having the calyx tube globose and the prickles nearly straight. Gathered by Mr. Woods at Ambleside.

Var. δ, *aciphýlla* (Lindl. ros. p. 99.) dwarf; leaves smooth on both surfaces; flowers smaller than those of the species. ♄. H. Native of Germany, about Wircebourg. R. aciphýlla, Rau, 69. with a figure. Red. ros. 2. p. 31. t. 13.

Var. ε, *Egyptìaca* (Lindl. ros. p. 99.) leaflets broad ovate, coarsely serrated, glabrous on both surfaces; receptacle elongated. ♄. H. Native of Egypt. R. I'ndica, Forsk. ægyp. descr. 113.

Var. ζ, *Burboniàna* (Desv. journ. bot. 1813.) leaflets ovate, rather cordate, simply toothed; flowers purple, semidouble; petals rather concave; sepals undivided. R. Gállica Burbónica, Red. ros. 1. p. 74.

Var. η, *nitens* (Desv. journ. bot. 1813. p. 114.) petioles smoothish; leaflets ovate, acute, same colour on both surfaces, smooth and shining; fruit ovate, and are as well as the peduncles smooth. ♄. H. Native of France and Switzerland. Ser. mel. 1. p. 43. R. nítens, Desv. in Mer. fl. par. p. 192.

Var. θ, *obtusifòlia* (Desv. journ. bot. 1813. p. 15.) petioles puberulous, usually glandular; leaflets ovate-roundish, acuminated, the same colour on both surfaces, and rather pilose beneath; fruit ovate, and are as well as the peduncles glabrous. R. obtusifòlia, Desv. journ. bot. 2. p. 1809. p. 317. R. leucántha, Lois. bot. 1802. Bast. suppl. 32. D. C. fl. fr. 5. p. 535. but not of Bieb.

Var. ι, *glaucéscens* (Desv. journ. bot. 1813. p. 114.) prickles slender; petioles glabrous; leaflets ovate, smooth on both surfaces, glaucous beneath; fruit ovate-globose, and are as well as the peduncles glabrous. ♄. H. Native of France. R. glaucéscens, Desv. in Mer. fl. par. 192. R. canìna glaúca, Desv. journ. bot. 1813. p. 116.

Var. κ, *Schottiàna* (Ser. in D. C. prod. 2. p. 116.) branches rugged, unarmed; stipulas and petioles glabrous and hispid; leaflets ovate, acuminated, glabrous, glaucescent beneath; fruit ovate, smooth; peduncles hispid. ♄. H. Native of Podolia. R. glaúca, Schott, ex. Besser. enum. 64.

Var. λ, *pilosiúscula* (Desv. journ. bot. 1813. p. 115.) branches prickly; petioles tomentose and hispid; leaflets ovate, acute, puberulous beneath and smoothish above; fruit ovate, smoothish; peduncles hispid. R. hùmilis, Bess. suppl. cat. crem. 4. R. nitídula, Bess. enum. p. 20. and 61. R. Friedlanderiàna, Besser. enum. 46. 60. 63. R. collìna, Rau, enum. no. 163.

Var. μ, *fastigiàta* (Desv. journ. bot. 1813. p. 114.) prickles strong; petioles puberulous; leaflets ovate, acute, puberulous beneath; fruit ovate, smooth; peduncles hispid. ♄. H. Native of France. R. fastigiàta, Bast. suppl. 30. D. C. fr. 5. p. 535. Red. ros. 2. p. 3. with a figure. R. stylòsa β, Desv. journ. bot. 2. p. 317. Styles approximate, but not joined.

Var. ν, *híspida* (Desv. journ. bot. 1813. p. 114.) branches prickly; petioles smoothish; leaflets ovate, acute, about the same colour on both surfaces, glabrous; fruit ovate, and are as well as the peduncles hispid. R. canìna, var. lanceolàta grandidentàta and ovoidàlis, Desv. l. c. p. 114. and p. 115. R. Andegavénsis, Bast. ess. 189. suppl. 29. D. C. fl. fr. 5. p. 539. Red. ros. 2. p. 9. with a figure. R. sempervìrens, Bast. ess. p. 188. Rau, enum. 120. Lindl. ros. p. 142. but not of Lin.

Var. ζ, *microcárpa* (Desv. journ. bot. 1813. p. 115.) leaflets oblong-lanceolate, velvety beneath; fruit smaller, ovate, glabrous. ♄. H. Native of France.

Var. ο, *Meratiàna* (Ser. in D.C. prod. 2. p. 614.) prickles strongly arched, and are as well as the petioles glabrous; leaflets broad, biserrated, glabrous; flowers usually solitary; fruit large. ♄. H. Native about Paris. R. biserràta, Mer. fl. par. 190. Red. ros. 3. p. 27. with a figure. Perhaps the same as *R. canìna vulgàris*.

Var. π, *ambígua* (Desv. journ. bot. 1813. p. 114.) prickles straight; leaflets ovate-roundish, and are as well as the petioles glabrous; flowers solitary or tern; fruit ovate-globose, and is as well as the peduncles smooth. ♄. H. Native about Malmedy, in France. R. Malmundiariénsis, Lejeune, fl. spa. 1. p. 231. Red. ros. p. 34. with a figure.

Var. ρ, *squarròsa* (Rau, enum. 77.) petioles and primary nerves of leaves glandular; prickles straightish, strong, and much crowded; leaflets doubly serrated. ♄. H. Native of Germany. R. canìna β, Bieb. fl. taur. 1. p. 400. ex Rau, l. c.

Var. σ, *rubiflòra* (Ser. in D. C. prod. 2. p. 614.) prickles strong, and are, as well as the petioles, rather puberulous, rarely hispid; leaflets large, the same colour on both surfaces, smooth, and simply serrated; flowers usually solitary, about the size of those of *Rùbus Idæ̀us;* peduncles and fruit smooth. ♄. H. Native about Geneva.

Common *Dog* Rose. Fl. June, July. Britain. Sh. 6 to 8 ft.

116 R. Forstèri (Smith, engl. fl. 2. p. 392.) prickles scattered, conical, hooked; leaflets simply serrated, smooth above, but hairy on the ribs beneath; sepals doubly pinnate; fruit elliptical, smooth, like the aggregate flower stalks. ♄. H. Native of Europe, in hedges; plentiful in England. Borr. in engl. bot. suppl. 2611. R. collìna β and γ, Woodv. in Lin. trans. 12. p. 392. Flowers pale red.

Forster's Dog-rose. Fl. June, July. Britain. Sh. 6 to 8 ft.

117 R. Gmelìni (Bunge in Led. fl. alt. 2. p. 229.) fruit ovate, glabrous: peduncles hispid; sepals ovate, acuminated, undivided, glandular, and prickly; flower-bearing branches almost unarmed, young sterile ones very prickly; prickles setaceous, unequal; petioles clothed with glandular down; leaflets 5-7, ovate-oblong, simply serrated, pubescent, and glandless beneath. ♄. H. Native of Siberia. R. canìna, Sievers in Pall. nord. beytr. 7. Petals deep rose-coloured, shorter than the sepals, emarginate.

Gmelin's Dog-rose. Fl. June, July. Shrub 3 to 4 feet.

118 R. dumetòrum (Thuill. fl. par. 250. Woods in Lin. trans. 12. p. 217.) prickles numerous, scattered, hooked; leaflets simply serrated, hairy on both surfaces; sepals pinnate, deciduous; peduncles aggregate, slightly hairy; fruit elliptical, smooth, as tall as the bracteas. ♄. H. Native of Europe, in hedges. In England in the southern counties, seldom in any abundance. Borr. in engl. bot. suppl. 2610. R. leucántha β acutifòlia, Bast. in D. C. fl. fr. 5. p. 535. R. sèpium, Borkh. ex Rau, enum. 79. R. solsticiàlis, Bess. prim. fl. gall. 324. R. corymbífera, Gmel. fl. bad. als. 2. p. 427. Synonymes from Lindl. and Ser. Flowers reddish.

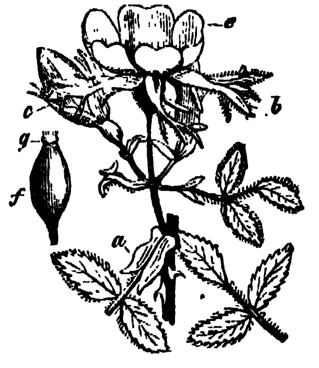
Thicket Dog-rose. Fl. Ju. July. Britain. Sh. 4 to 6 feet.

119 R. bractéscens (Woods. in Lin. trans. 12. p. 216.) prickles aggregate, hooked; leaflets ovate, almost simply serrated, downy beneath; bracteas rising much above the fruit; sepals pinnate, deciduous? peduncles aggregate, occasionally rather hairy; fruit globose, smooth. ♄. H. Native of England, in hedges, about Ulverton, Lancashire, and Ambleton, Westmoreland. Flowers flesh-coloured.

Bractescent Dog-rose. Fl. Ju. July. England. Sh. 6 to 7 ft.

120 R. sarmentàcea (Swartz, mss. Woods, in Lin. trans. 12. p. 213.) prickles hooked; leaflets ovate, doubly serrated, smooth, glandular; peduncles aggregate, smooth or minutely bristly; sepals pinnate, deciduous; fruit broadly elliptic, naked. ♄. H. Native of Europe, in hedges and bushy places common; plentiful in Britain. Borr. in engl. bot. supp. 2595. R. glaucophýlla, Winch, geogr. distri. 45. R. canìna, Roth. fl. germ. 2. p. 560. Curt. lond. fasc. 5. t. 34. Flowers pink, fragrant. Fruit scarlet, as grateful to the palate probably as that of *R. canìna*, with which this equally common plant is generally confounded.

FIG. 76.



Sarmentaceous Dog-rose. Fl. Ju. Jul. Britain. Sh. 8 to 10 ft.

121 R. cæ̀sia (Smith, engl. bot. t. 2367.) prickles hooked, uniform; leaflets elliptical, somewhat doubly serrated, glaucous, hairy beneath, without glands; sepals distantly pinnate, deciduous; flower-stalks smooth, solitary; fruit elliptical, smooth. ♄. H. Native of Scotland, in the highland valleys, but rare; at Taymilt, in Mid-Lorn, Argyleshire; and in Strath Tay between Dunkeld and Aberfeldie, and by the side of Loch Tay. R. canìna pubéscens, Afz. ros. suec. tent. 1. p. 2. R. canìna ζ cæ̀sia, Lindl. ros. p. 99. Flowers of an uniform carnation hue, occasionally white.

Grey Dog-rose. Fl. July. Scotland. Shrub 4 to 5 feet.

122 R. Borrèri (Woods. Lin. trans. 12. p. 210.) prickles hooked; leaflets ovate, doubly serrated, hairy, without glands; sepals pinnate, often doubly pinnate, deciduous; flower-stalks aggregate, hairy; fruit elliptical, smooth. ♄. H. Native of Britain, in hedges and thickets. R. dumetòrum, Smith, engl. bot. 2579. R. rubiginòsa ϑ, Lindl. ros. 88. R. rubiginòsa inodòra, Hook. lond. t. 117. R. sèpium, Börkh. ex Rau, enum. 90? but not of Thuill. R. affìnis, Rau, enum. 79. R. uncinélla β, Besser. enum. 64.? Flowers pale red. Fruit deep scarlet.

Borrer's Dog-rose. Fl. June, July. Britain. Sh. 6 to 10 ft.

123 R. COLLI'NA (Jacq. fl. austr. t. 197.) prickles hooked; leaflets roundish, simply serrated, smooth above, but clothed with hoary pubescence beneath; flower-stalks aggregate, bristly; fruit smooth. ♄. H. Native of Austria and other parts of Europe. Red. ros. 2. p. 13. t. 5. R. frutetòrum, Bess. enum. 1860. R. umbellàta, Leys. pal. 495. R. fastigiàta, Bat. fl. main. et loir. suppl. 30. R. platyphýlla, Rau, enum. 82. R. psilophýlla, Rau, l. c. p. 191. Sepals pinnate, deciduous, bristly. Flowers pink. Peduncles beset with glandular bristles.

Hill Dog-rose. Fl. June, July. Shrub 4 to 5 feet.

124 R. BA'LTICA (Roth, nov. spec. pl. 234.) leaflets oblong-ovate, obtuse, simply serrated; petioles nearly unarmed, pilose; tube of calyx globose, with its base and peduncles beset with glandular bristles; sepals nearly simple, covered with rusty glandular bristles on the outside; bracteas coloured. ♄. H. Native near Rostock by the sea side. Flowers pale red.

Baltic Dog-rose. Fl. June, July. Shrub 5 to 6 feet.

125 R. JUNDZI'LLII (Bess. Cat. hort. crem. 1810.) prickles of branches few, recurved; petioles prickly, and covered with glandular villi; leaflets glandularly biserrated, glaucescent beneath, and rather villous; fruit ovate, hispid at the base; peduncles hispid. ♄. H. Native of Volhynia, Tauria, and Caucasus. R. Jundzilliàna, Bess. enum. p. 46, 61, and 67. R. glandulòsa and R. nitídula, Bess.

Jundzill's Dog-rose. Shrub 5 to 6 feet.

126 R. TURBINE'LLA (Swartz, ex Spreng. syst. 2. p. 554.) prickles of branches few, and a little recurved; petioles unarmed, villous; leaflets equally toothed, clothed with hoary villi beneath; sepals entire, villous, elongated; germens globose, depressed, and are, as well as the aggregate peduncles, glabrous. ♄. H. Native of Sweden.

Small-turban-fruited Dog-rose. Shrub 5 to 6 feet.

127 R. VENÒSA (Swartz ex Spreng. syst. 2. p. 554.) prickles of branches scattered, strong, and recurved; petioles unarmed, glabrous; leaflets doubly serrated, veiny, quite glabrous, glaucescent beneath; sepals elongated, a little cut, with the margins tomentose; germens ovate, and are, as well as the peduncles, glabrous. ♄. H. Native of Sweden.

Veiny-leaved Dog-rose. Shrub 5 to 6 feet.

128 R. CORIIFÒLIA (Fries. ex Spreng. syst. 2. p. 554.) prickles of branches scattered, recurved; petioles unarmed, villous; leaflets coriaceous, opaque, unequally serrated, villous beneath; peduncles solitary, short, glabrous; germens globose, glabrous. ♄. H. Native of Denmark. R. crassifòlia, Liljebl.

Hide-leaved Dog-rose. Shrub 5 to 6 feet.

129 R. SWA'RTZII (Fries. in Billberg Svensk, bot. ex Schrad. neuve entd. 3. p. 219.) germens ovate, and peduncles smooth; branches and petioles beset with recurved scattered prickles; leaflets glabrous on both surfaces, shining, unequally and glandularly serrated; styles exserted. ♄. H. Native of the south of Sweden. Allied to *R. canina.*

Swartz's Dog-rose. Fl. June, July. Shrub 4 to 6 feet.

130 R. SAXA'TILIS (Stev. in Bieb. fl. taur. p. 349.) germens ovate, and are, as well as the peduncles, hispid; cauline prickles scattered, strong, compressed, recurved; petioles clothed with glandular villi, prickly; leaflets largish, unequally and sharply serrated, smoothish on both surfaces, paler beneath; the serratures somewhat duplicate; flowers corymbose. ♄. H. Native of Tauria. Allied to *R. canìna.*

Rock Dog-rose. Fl. June, July. Shrub 4 to 6 feet.

131 R. RUBRIFÒLIA (Vill. dauph. 3. p. 549.) prickles small, distant; leaflets ovate, and are, as well as the branches, glabrous, opaque, discoloured; sepals narrow, entire; fruit ovate-globose, smooth; flowers corymbose; peduncles smooth. ♄. H. Native of Dauphiny, Austria, Savoy, Pyrenees, and Auvergne, in woods. Bell. in act. taur. 1790. p. 229. t. 9. Jacq. fragm. 70. t. 106. Red. ros. 1. p. 35. t. 4. Lindl. in bot. reg. t. 430. R. multiflòra, Reyn. act. laus. 1. p. 70. t. 6. R. rubicúnda, Hall. fil. in Rœm. arch. 1. fasc. 2. p. 6. R. canìna β, Sut. helv. 1. p. 302. R. glaúca, Desf. cat. p. 175. R. glaucéscens, Wulf. in Rœm. arch. 3. p. 376. R. lùrida, Andr. ros. R. cinnamòmea γ, rubrifòlia, Red. ros. 1. p. 134. Stems red. Leaves red at the edges. Flowers small, deep red. Sepals narrow, longer than the petals.

Var. β, *hispidula* (Ser. mus. helv. 1. p. 8 and 12. t. 1.) leaflets ovate; flowers red; fruit corymbose, smooth; peduncles hispid; sepals entire. R. cinnamòmea glaúca, Desv. journ. bot. 1813. p. 120. Red. ros. 1. p. 134.

Var. γ, *Redoútea* (Ser. in D. C. prod. 2. p. 609.) stems and branches reddish; prickles slender, hardly curved; petioles spinulose; corymbs few-flowered; leaflets ovate; petals very pale red, with rose-coloured and dotted margins. R. Redoùtea, Red. ros. p. 3. and Mill. in ann. encycl. 1818. p. 35. R. Redoùtea glaúca, Red. ros. 1. t. 38. p. 101. Lindl. ros. 137. This appears to be a hybrid production between *R. rubrifòlia* and *R. spinosíssima.*

Var. δ, *inérmis* (Ser. in D. C. prod. 2. p. 610.) stem and branches unarmed; petioles prickly; leaflets ovate; peduncles and calyxes smooth; stipulas broad. ♄. H. Native of Switzerland. R. rubrifòlia, Thomas.

Var. ε, *pinnatifida* (Ser. in mus. helv. 1. p. 11. t. 2. f. 11.) leaflets ovate; flowers solitary, terminal; sepals pinnatifid; fruit globose, and are, as well as the peduncles, smooth. ♄. H. Native of Switzerland. R. rubrifòlia germinibus ovatis, and R. montàna germinibus glabris, Schleich. cat. 1815. pp. 24. 46. R. canìna globòsa, Desv. journ. bot. 1813. p. 114.

Red-leaved Dog-rose. Fl. June, July. Clt. 1814. Sh. 5 to 6 ft.

132 R. SERI'CEA (Lindl. ros. p. 105. t. 12.) prickles stipular, compressed; leaflets 7-11, oblong, obtuse, serrated at the apex, silky beneath; flowers solitary, bractless; sepals entire, ending in long points. ♄. H. Native of Gosaingsthan. Flowers pale red? Fruit and peduncles naked.

Silky Rose. Fl. June, July. Shrub 4 to 6 feet.

133 R. MICROPHY'LLA (Roxb. Lindl. ros. p. 146.) prickles under the stipulas straight; stipulas very narrow, spreading at the tip; leaflets 5-9, shining, sharply serrated, glabrous; flowers solitary; calyx beset with straight prickles; sepals short, broadly ovate, apiculated, downy at the edge. ♄. H. Native of China. A charming little shrub, resembling the *Macartney Rose.* Flowers very double, pale red.

Small-leaved Rose. Fl. June, July. Shrub 2 to 3 feet.

134 R. I'NDICA (Lin. spec. 705.) branches glaucous-green, armed with equal hooked prickles; leaflets elliptic, acuminated, glabrous, crenate-serrated, glaucous beneath; stipulas ciliately serrulated; sepals ovate, entire; flowers numerous; fruit turbinate. ♄. H. Native of China, near Canton. Lawr. ros. t. 26. Red. ros. 1. p. 51. t. 142. p. 35. t. 15. R. Sínica, Lin. syst. veg. ed. 13. p. 398. R. semperflòrens cárnea, Rossig. ros. t. 19. R. I'ndica Chinénsis semiplèna, Ser. mel. 1. p. 31. R. reclinàta flore submultiplici, Red. ros. p. 79. with a figure. Flowers red, usually semidouble. Petioles setigerous and prickly. Petals obcordate.

Var. β, *Noisettiàna* (Ser. in D. C. prod. 2. p. 600.) stem firm, and is, as well as the branches, prickly; stipulas nearly entire; flowers panicled, very numerous, semidouble, pale red; styles exserted. R. Noisettiàna, Red. ros. 2. p. 77. with a figure, Noisette rose.

Var. γ, *Ternauxiàna* (Ser. in D. C. prod. 2. p. 600.) stem rather firm, and is, as well as the branches, prickly; leaflets lanceolate, smaller; flowers panicled, red, size of the *Pompone rose.* R. Noisettiàna purpùrea, Red. ros. p. 103. with a figure.

Var. δ, *odoratissima* (Lindl. ros. p. 106. bot. reg. 864.) stem firm; prickles strong; stipulas fringed or entire; flowers rose-coloured, sweet-scented; peduncles thickened; fruit ovate. ♄. H. Native of China. R. odoratíssima, Sweet. hort. suburb. lond. R. I'ndica fràgrans, Red. ros. 1. p. 6. t. 19. Flowers semidouble. Called *sweet-scented Chinese-rose* and *Rose à odeur de thé.*

Var. ε, *longifòlia* (Lindl. ros. p. 106.) stems firm, nearly unarmed; leaflets 3-5, long, lanceolate; stipulas nearly entire; flowers rose-coloured, almost single; peduncles roughish. R. longifòlia, Willd. spec. 2. p. 1079. Red. ros. 2. p. 27. t. 12.

Var. ζ, *pùmila* (Lindl. ros. p. 106.) smaller in every part than the other varieties; flowers purplish; petals ovate. ♄. H. Native of China. R. I'ndica pùmila, Red. ros. 1. p. 115. t. 42. R. I'ndica ζ hùmilis, Ser. mel. 1. p. 44.

Var. η. *caryophýllea* (Red. ros. 3. p. 69. with a figure,) leaflets large, thin; flowers subpanicled; petals cucullately inflexed.

Var. ϑ, *pannòsa* (Red. ros. 2. p. 37. and p. 38. with a good figure,) stem and branches firm and prickly; leaflets ovate, red beneath; stipulas finely denticulated; flowers drooping a little, purple on the outside; petals oblong, concave, outer ones purple, inner ones somewhat cucullate, rose-coloured.

Var. ι, *cruénta* (Red. ros. 1. p. 128. with a figure, and 2. p. 38.) large; stems and branches almost unarmed, firm; leaflets large, red beneath; stipulas almost entire; flowers purplish, drooping, size of those of var. *odoratissima*; petals concave, broad.

Var. κ, *Fraseriàna* (Hortul. Loud. hort. brit. p. 211.) a hybrid with double pink flowers.

Var. λ, *rùga* (Lindl. bot. reg. t. 1389.) flowers double blush, changing to white, sweet-scented. The *ruga-rose* is a hybrid, raised between the *sweet-scented Chinese-rose* and *R. arvénsis.*

Var. ω, *ochroleùca*; flowers double, large, cream-coloured, without any scent. This variety was introduced from China in 1824 by Mr. Parks, and is figured in the thirteenth volume of the Botanical Register. It is commonly called the *yellow Chinese rose.*

† *Garden varieties referrible either to R. I'ndica* or *R. semperflòrens.*

alba.
animating.
atronigra.
Bengale à Bouquet.
Bengale à Fl. Panaché.
Bengale Blanche.
bichonia.
carnescens.
centifolia.
cerise eclatante.
chiffonée.
cucullata.
elegans.
Florida.
gigantea.
lie de vin.
lucida.
major.
minor.
monstrosa.
moonshine.
nigra.
purpurea.
sanguinea.
sans épine.
subalba.
Terneaux.
Thisbe.
Veloutée.

Indian Rose, Monthly Rose, Blush or Common China Rose. Fl. year. Clt. 1789. Shrub 4 to 20 feet.

135 R. SEMPERFLÒRENS (Curt. bot. mag. 284.) branches dark green, armed with scattered compressed hooked prickles, and a very few glands; leaflets 3-5, ovate-lanceolate, crenate-serrated, shining above, glaucous and slightly pubescent beneath, deeply stained with purple; petioles glandular, and slightly setigerous; sepals compound, narrow; fruit spherical. ♄. H. Native of China. Lawr. ros. t. 23. Smith, exot. bot. 2. p. 91. Jacq. schœnbr. 3. p. 281. R. diversifòlia, Vent. cels. t. 35. R. Bengalénsis, Pers. ench. 2. p. 50. R. I'ndica, Red. ros. 1. p. 49. t. 13. p. 123. t. 46. and 2. p. 37. t. 16. Flowers solitary, single or semidouble, deep crimson. There are some very splendid varieties of this species with semidouble crimson flowers in our gardens, and the French appear to have some others still more beautiful, which have not yet been imported.

Ever-flowering China-rose. Fl. year. Clt. 1789. Shrub 3 to 10 feet.

136 R. LAWRENCIA`NA (Sweet, hort. suburb. Lindl. ros. p. 110.) dwarf; prickles large, stout, nearly straight; leaflets ovate, acute, finely serrated; petals acuminated. ♄. H. Native of China. R. semperflòrens mínima, Sims, bot. mag. 1762. R. I'ndica var. ι acuminàta, Red. ros. 1. p. 53. with a figure. R. I'ndica Lawrenciàna, Red. ros. 2. p. 38. Flowers small, single or semidouble, pale blush.

Miss *Lawrence's* China-rose. Fl. year. Clt. 1810. Sh. 1 ft.

137 R. ATROPURPU`REA (Brot. fl. lus. 2. p. 488.) stem and petioles prickly; leaflets 5, lanceolate, serrulated, glabrous, permanent; flowers terminal, solitary or few; germens nearly oval, and are, as well as the peduncles, hispid. ♄. H. Collected in the gardens of Lisbon, where it flowers all the year. Flowers semidouble, about the size of those of *R. moschàta.* Perhaps *R. semperflòrens.*

Dark-purple China-rose. Fl. year. Shrub.

138 R. PSEU`DO-I'NDICA (Lindl. ros. 132.) prickles nearly equal; stipulas very hairy; peduncles covered with little short prickles; calycine tube and sepals very hairy; flowers double, deep yellow; leaves more finely serrated and coriaceous than those of *R. I'ndica.* ♄. G. Native of China. Habit of *R. I'ndica.*

False-Indian Rose. Shrub.

SECT. X. SY'STYLA (from συν, *syn*, together, and στυλος, *stylos*, a column; in reference to the styles being connected). Lindl. ros. p. 111. Styles cohering together into an elongated column. Stipulas adnate. The habit of this section is nearly the same as that of the last division. The leaves are frequently permanent.

139 R. SY'STYLA (Bat. fl. main. et loir. suppl. 31.) surculi assurgent; prickles strong, hooked; peduncles glandular; sepals pinnate, deciduous; styles smooth; floral receptacle conical. ♄. H. Native of France and England, in hedges and thickets; common in Sussex; at Walthamstow, Quendon, and Clapton, near London; at Dunnington Castle, Berkshire; near Penhurst, Kent, and Hornsey, Middlesex. Hills in the south of Scotland. R. collina, Smith, engl. bot. t. 1895. R. stylòsa, Desv. journ. bot. 2. p. 317. R. brevístyla, D. C. fl. fr. suppl. p. 537. R. dibracteàta, D. C. l. c. R. sýstyla *a* ovàta, Lindl. ros. p. 111. Shrub slender. Flowers fragrant, pink or almost white. Fruit ovate-oblong.

Var. β, *lanceolàta* (Lindl. ros. 111.) leaflets ovate-lanceolate; fruit spherical. ♄. H. Native of Ireland.

Var. γ, *Monsòniæ* (Lindl. ros. 111.) stem more humble, erect, many-flowered; branches usually setigerous. ♄. H. Native of England, near Watford. R. collìna Monsòniæ, Red. ros. 3. p. 67.

Var. δ, *leucochròa* (Ser. in D. C. prod. 2. p. 599.) leaves glabrous, not glandular; peduncles hispid; calyxes glabrous. ♄. H. Native of Andegavany. R. leucochròa, Desv. journ. bot. 1809. vol. 2. p. 316. and 1813. p. 113. t. 15. R. brevístyla *a*, D. C. fl. fr. 5. p. 537. R. brevístyla leucochròa, Red. et Thor. ros. 1. p. 91. with a figure. R. sýstyla, Bast. fl. suppl. 31. D. C. fl. fr. 5. p. 537. var. γ.

Var. ε, *glandulòsa* (Ser. l. c.) leaflets 5-7, obovate-elliptic, somewhat biserrulated, glabrous above, but covered with rusty glands beneath; petals tomentose and glandular; column of styles short.

Close-styled Rose. Fl. May, July. Britain. Sh. 8 to 12 ft.

140 R. ARVE'NSIS (Huds. ang. ed. 1. p. 192.) surculi flagelliform; prickles unequal, falcate, scattered; leaflets simply serrated, glaucous beneath; peduncles glandular; sepals pinnate, deciduous; styles smooth; floral receptacle slightly convex; fruit globose or elliptical, smooth. ♄. H. Native of many parts of middle Europe. In England in hedges and thickets, and the borders of fields, chiefly in the midland counties. Smith, engl. bot. t. 188. Lawr. ros. t. 86. Red. ros. 1. p. 89. t. 32. Sims, bot. mag. 2054. R. sylvéstris, Herm. diss. 10. R. scándens, Mœnch. weiss. pfl. 118. R. herperhòdon, Ehrh. beitr. 2. p. 69. R. Hallèri, Krok. siles. 2. p. 150. R. fúsca, Mœnch. meth. 688. R. sérpens, Ehrh. arbr. 35. R. sempervìrens, Rossig. ros. t. 32. R. rèpens, Gmel. fl. bad. als. 2. p. 418. Jacq. fragm. 69. t. 104. R. rámpans, Reyn. mem. laus. 1. p. 69. t. 5. Flowers usually white, slightly scented, generally several together, rarely solitary. Fruit of a dark blood-colour. Shrub sending out many arched trailing shoots.

Var. β, *hýbrida* (Lindl. ros. 113.) surculi thicker and shorter; floriferous stems erect, many-flowered; branches bearing a few bristles; styles free. ♄. H. Native of Switzerland. R. hýbrida, Schleich. cat. R. geminàta, Rau, enum. 39. R. gállica, hýbrida, Gaud. in Ser. mel. bot. 1. p. 39. The branches have a few setæ mixed among the prickles. The flowers are semi-double, of a most delicate flesh-colour. Called in the nurseries *double-hip rose.*

Var. γ, *Andersònii* (Smith, engl. fl. 2. p. 398.) habit stout; flowers large, pale flesh-coloured. Found wild in a hedge in Somersetshire.

Var. ε, *Ayreshìrea* (Ser. in D. C. prod. 2. p. 597.) prickles slenderer, very sharp; leaflets sharply serrated, thin; peduncles beset with glandular bristles. ♄. H. Cultivated in the gardens under the name of *Ayrshire rose.* R. capreolàta, Neill, edinb. phil. journ. no. 3. p. 102. Flowers white, in clusters, fragrant.

Var. ζ, *obtusàta* (Ser. l. c.) leaflets roundish, blunt. ♄. H. Native of Switzerland, about Bern.

Field Rose or White Trailing Dog-rose. Fl. July. Britain. Shrub rambling.

141 R. ABYSSI'NICA (Brown in Salt's abyss. append. 64.) surculi climbing; prickles much crowded, falcate; leaflets ovate, evergreen; peduncles and calyxes tomentose; sepals entire; petioles very rough, with unequal glands and setæ. ♄. H. Native of Abyssinia. Lindl. ros. p. 116. t. 13.

Abyssinian Rose. Shrub cl.

142 R. SEMPERVI'RENS (Lin. spec. 704.) surculi climbing; prickles nearly equal, falcate; peduncles numerous, glandular; leaves evergreen; leaflets ovate-lanceolate, simply serrated, smooth on both surfaces, paler beneath; sepals nearly simple; petioles armed with little hooked prickles; styles hairy. ♄. H. Native of France, Portugal, Italy, Greece, and the Balearic Islands. Lawr. ros. t. 45. Ker. bot. reg. 459. R. scándens, Mill. dict. no. 8. R. Balcárica, Desf. cat. Pers. ench. 2. p. 49. R. atrovìrens, Viv. fl. ital. 4. t. 6. R. sempervìrens globòsa, Red. ros. 2. with a figure. R. sempervìrens var. *a*, scándens, D. C. fl. fr. 5. p. 533. Flowers very numerous, white, and fragrant. Receptacle of flower conical, very thick. Fruit orange-colour, small.—There are varieties of this plant with semidouble and pale rose-coloured flowers. It is a very ornamental plant, rapidly forming a compact covering to old pales or buildings against which it is planted: and the Ayrshire rose is equally good for that purpose.—Smith, græc. t. 483.

Var. β, *microphýlla* (Desf. atl. 1. p. 401.) leaflets nearly orbicular. ♄. H. Found about Tunis.

Var. λ, *latifòlia* (Red. ros. 2. p. 16. and p. 49. with a figure,) leaflets broader; peduncles and fruit hispid; stems green.

Var. δ, *Leschenaultiàna* (Red. et Thor. ros. 3. p. 87. with a figure,) germens ovate, and are, as well as the peduncles, beset with glandular bristles; stems and petioles prickly, pruinose, and violaceous; leaflets ovate-lanceolate. ♄. H. Native of the Nelligery mountains, in Asia. Stems climbing to the height of 60 or 70 feet. Perhaps a proper species.

Var. ε, *microphýlla* (D. C. cat. hort. monsp. 138. fl. fr. 5. p. 533.) leaflets smaller; peduncles and fruit hispid. ♄. H. Red. ros. 2. p. 16.

Var. ζ, *pilósula* (Ser. in D. C. prod. 2. p. 598.) peduncles and petioles usually pilose and hispid. ♄. H. Native of the Eastern Pyrenees.

Var. η, *Russeliàna* (Hort.) flowers pale red. *Russel's rose.*

Var. ϑ, *rose Clare* (Lindl. bot. reg. 1438.) an elegant rose, with spreading corymbs of deep red flowers. It is perhaps a hybrid between the present species and *R. I'ndica.*

Evergreen Dog-rose, Fl. June, Aug. Clt. 1629. Sh. cl.

143 R. PROSTRA'TA (D. C. hort. monsp. 138. fl. fr. 5. p. 536.) surculi prostrate; prickles nearly equal, falcate; leaves evergreen; styles glabrous; flowers usually solitary. ♄. H. Native of the south of France. Red. ros. 1. p. 90. R. arvénsis var. γ prostràta, Ser. in D. C. prod. 2. p. 597.

Var. β, *bibracteàta;* peduncles furnished with 2 or many bracteas; flowers very numerous; leaflets broadish. ♄. H. Native of France. R. arvénsis β bibracteàta, Red. ros. 1. p. 90. Ser. in D. C. prod. 2. p. 597. R. bibracteàta, Bast. ann. litt. and in D. C. fl. fr. 5. p. 537. Flowers white or pale red.

Prostrate Evergreen Dog-rose. Fl. July. Shrub prostrate.

144 R. MULTIFLÒRA (Thunb. jap. 214.) branches, peduncles, and calyxes tomentose; leaflets soft, lanceolate, wrinkled; stipulas pectinated; styles downy; sepals ovate, entire; fruit turbinate, smooth. ♄. H. Native of Japan and China. Sims, bot. mag. 1059. Ker. bot. reg. 425. R. fláva, Donn, hort. cant. ed. 4. p. 121. R. flórida, Poir. suppl. R. diffùsa, Roxb. Flowers single, red, clustered. Fruit bright red, not crowned by the calyx. Red. ros. 2. p. 70.

Var. β, *Thunbergiàna* (Red. ros. 2. p. 70.) flowers white; petioles prickly. ♄. H. Native of Japan. Flowers small, double, clustered.

Var. γ, *cárnea* (Red. ros. 2. p. 69. with a figure,) flowers of a beautiful pink, small, double clustered. ♄. H. Native of China. Lindl. bot. reg. 425. Sims, bot. mag. 1059.

Var. δ, *platiphýlla* (Red. ros. 2. p. 69. with a figure,) leaflets broader; flowers large, double, purple, clustered, changing colour as they fade. ♄. H. Lindl. bot. reg. 1372. R. Thorỳi, Tratt. ros. 2. p. 85. R. Grevíllei and R. Roxbúrghii, Hort.

Var. ζ, *Boursoúltii* (Hort.) flowers small, double, pink, clustered. The garden roses known under the names of *R. Fraseriàna*, *R. purpùrea*, and *R. hyacinthìna* are slight varieties of this.

Many-flowered Rose. Fl. June, July. Clt. 1804. Sh. cl.

145 R. BRUNÒNII (Lindl. ros. p. 120. t. 14.) branches, lanceolate leaflets, and calyxes tomentose and glandular; stipulas serrated; prickles strong, scattered, hooked; sepals entire; styles hairy. ♄. H. Native of Nipaul. R. Brównii, Spreng. syst. 2. p. 556. Leaves simply serrated. Flowers in terminal bunches white or pale red.

Var. β, *nudiúscula* (Lindl. in bot. reg. 829.) leaflets oblong, acute, glabrous; petioles, pedicels, and calyxes glandular.

Var. γ, *Nipalénsis* (Lindl. l. c.) leaflets ovate-lanceolate, distant; petals acute; pedicels and calyxes glandular.

Var. δ, *arbòrea* (Lindl. l. c.) stem arboreous; leaves firmer, pubescent beneath. ♄. H. Native of Persia. R. arbòrea, Pers. ench. 2. p. 50. Shrub upright.

Brown's Rose. Fl. June, July. Clt. 1822. Shrub rambling.

† 146 R. MOSCHA'TA (Mill. dict. no. 13.) branches very sparingly glandular, almost naked; prickles strong, hooked, scattered;

leaflets elliptic, acuminated, glaucous beneath, with the serratures connivent; stipulas entire; sepals compound, acuminated; styles hairy; pedicels glandular, downy, like the ovate tube, and reflexed sepals; fruit small, red. ♄. H. Native of the north of Africa, extending across the continent from Egypt to Mogodor, and thence to Madeira. Jacq. schœnbr. 3. t. 280. Lawr. ros. tt. 53 and 64. Jacq. fragm. 31. t. 34. f. 3. Red. ros. 1. p. 33. t. 5. p. 99. t. 35. R. opsostémma, Ehrh. beitr. 2. p. 72. R. glandulífera, Roxb. Cymes very numerous, many-flowered, corymbose, with hairy ramifications. Flowers pure white, with a slight scent of musk. The Persian attar of roses is obtained from this species.

Var. β, *múltiplex;* flowers double, white, sweet-scented, with the claws of the petals yellow.

Var. γ, *nudiúscula* (Lindl. ros. p. 122.) leaflets oblong, acute, glabrous; petioles, pedicels, and calyxes glandular.

Var. δ, *nìvea* (Lindl. bot. reg. 861.) leaflets 3-5, large, ovate-cordate; flowers corymbose; peduncles and calyxes hispid; petals white, with a tinge of blush, large, obcordate. ♄. H. R. nivea, Dupont, but not of D. C. R. moschàta β, ròsea, Ser. in D. C. prod. 2. p. 598.

Musk Rose. Fl. July, Oct. Clt. 1596. Shrub rambling.

147 R. EVRATÌNA (Bosc. dict. Poir. suppl. 714.) branches and petioles almost unarmed; leaflets 3-5, oval, obtuse, nearly equally toothed, green above, paler and rather glaucous beneath; stipulas with 2 sharp teeth; flowers in bunches, terminal, almost umbellate; peduncles bristly and glandular; sepals entire, acute; germens ovate, hispid. ♄. H. Native of Carolina. Flowers large, pale red.

Evratine Rose. Fl. June, July. Clt.? Shrub.

148 R. RUBIFÒLIA (Brown, in Ait. hort. kew. ed. 2. vol. 3. p. 260.) branches glabrous, armed with scattered, falcate prickles; leaflets ovate-lanceolate, serrated, green and shining above, but paler and downy beneath, with the serratures divaricate; petioles glabrous, with a few prickles; stipulas entire, fringed with glands; styles downy. ♄. H. Native of North America. Peduncles and calyxes glabrous, the former glandular. Flowers small, pale red, about 3 together. Fruit about the size of a pea, round and naked.

Var. β, *macrophýlla* (Ser. in D. C. prod. 2. p. 599.) flowers twin or in fascicles, large, rose-coloured, approximate. R. rubifòlia, Red. ros. 3. p. 71. with a figure.

Var. γ, *fenestràlis* (Lindl. ros. p. 125. t. 15.) flowers solitary; leaflets smaller, smooth on both surfaces. ♄. H. R. fenestràta, Donn, hort. cant. ed. 8. p. 170.

Bramble-leaved Rose. Fl. Aug. Sept. Clt. 1800. Shrub 3 to 4 feet.

SECT. XI. BANKSIA'NÆ (so called in consequence of all the species contained in this section agreeing in character with *R. Bánksiæ*). Lind. ros. p. 125. Stipulas nearly free, subulate, or very narrow, usually deciduous. Leaves usually ternate, shining. Stems climbing. The species of this section are remarkable for their long, graceful, often climbing shoots, drooping white flowers, and ternate shining leaves. They are particularly distinguished by their deciduous, subulate, or very narrow stipulas. Their fruit is very variable. *R. hýstrix* has setigerous branches and *R. setígera* has united styles.

149 R. LÆVIGA'TA (Mich. fl. bor. amer. 1. p. 295.) stipulas linear-lanceolate, half adnate; leaflets shining, glabrous; prickles scattered, falcate; petioles unarmed; fruit muricated; sepals entire, permanent. ♄. H. Native of Georgia, in shady woods. Peduncles and tube of calyx beset with dense, weak, unequal bristles, also the back of the sepals. Flowers solitary, large, white.

Smooth Rose. Shrub cl.

150 R. SI'NICA (Ait. hort. kew. ed. 2. vol. 3. p. 261. Lindl. ros. p. 126. t. 16.) stipulas setaceous, deciduous; cauline prickles equal, falcate; petioles and ribs of leaves prickly; peduncles and fruit beset with straight bristles; sepals entire, permanent. ♄. H. Native of China. Hook. bot. mag. 2847. R. trifoliàta, Bosc. dict. ex Poir. R. ternàta, Poir. suppl. 6. p. 284. R. Cherokeénsis, Donn, hort. cant. ed. 8. p. 170. R. nìvea, D. C. hort. monsp. 137. Red. ros. 2. p. 81. with a figure. Flowers white, solitary. Fruit elliptic, orange red. Disk conical.

Three-leaved *China* Rose. Fl. May, July. Clt. 1759. Sh. rambling.

151 R. RECU'RVA (Roxb. fl. ind. ined. Lindl. ros. p. 127.) stipulas subulate; leaflets 5-9, ovate-lanceolate, acutely serrated, smooth; petioles prickly; fruit muricated. ♄. ◡. G. Native of Nipaul. Flowers white? Branches armed with strong recurved prickles.

Recurved-prickled Rose. Shrub climbing.

152 R. SETI'GERA (Michx. fl. bor. amer. 1. p. 295.) stipulas subulate; petioles rough from little setæ and little recurved prickles; leaflets 3, rarely 5, acutely serrated, smooth; peduncles setigerous; sepals pinnatifid and setigerous; fruit muricated; stem with 1-3 recurved prickles beneath the stipulas. ♄. H. Native of North America. Flowers numerous, sometimes solitary, rose-coloured. The united styles distinguish it from all the other species of this section.

Setigerous Rose. Shrub.

153 R. HY'STRIX (Lindl. ros. p. 129. t. 17.) prickles on branches unequal, crowded, larger ones falcate, small ones straight; stipulas very narrow, united half way, the free part deciduous; leaflets 3, smooth, ovate, shining, simply serrated, with a few prickles on the middle nerve; sepals nearly entire, permanent; fruit bristly. ♄. H. Native of China, in the province of Kiangsi, and of Japan. Branches flagelliform. Flowers large, solitary. Fruit large, oblong, purple.

Porcupine Rose. Shrub rambling.

154 R. MICROCA'RPA (Lindl. ros. 130. t. 18.) cauline prickles hooked, scattered; stipulas subulate; petioles downy or naked; leaflets 3-5, ovate-lanceolate, naked, crenate-serrated; flowers corymbose, with smooth peduncles; fruit pea-formed, unarmed. ♄. H. Native of China, in the province of Canton. Flowers very numerous, small, white.

Small-fruited Rose. Fl. May, Sept. Clt. 1822. Sh. rambl.

155 R. TRIPHY'LLA (Roxb. fl. ind. ex Lindl. ros. p. 138.) shrub climbing and armed; leaves ternate; leaflets lanceolate. ♄. ◡. F. Native of China. Perhaps the same as *R. microcárpa*, or a variety of *R. Sínica.*

Three-leaved Rose. Shrub cl.

156 R. BA'NKSIÆ (Brown, in Ait. hort. kew. ed. 2. vol. 3. p. 258.) branches unarmed; stipulas subulate, rather hairy; leaflets 3-5, glabrous, except at the base of the middle nerve, oblong-lanceolate, simply serrated; sepals ovate, entire; fruit unarmed. ♄. ◡. H. Native of China. Sims, bot. mag. 1954. Red. ros. 2. p. 43. with a figure. Lindl. in bot. reg. 397. R. Banksiàna, Abel. chin. 160. R. inérmis, Roxb.? Flowers drooping, numerous, small, white and very double, with a weak but very pleasant scent.

Var. β, *lùtea* (Lindl. bot. reg. 1105.) flowers double yellow. An elegant shrub when in flower.

Lady *Banks's* Rose. Fl. June, July. Clt. 1807. Sh. cl.

157 R. FRAGARIÆFLÒRA (Ser. in D. C. prod. 2. p. 601.) stem prickly; leaflets petiolulate, ovate, acuminated, entire; flowers corymbose, white; peduncles and calyxes smooth; sepals entire; stipulas solitary? basilar. ♄. ◡. G. Native of China.—Braan. icon. chin. 1821. t. 28. Flowers the size and colour of those of *Fragària vésca.*

Strawberry-flowered Rose. Shrub cl.

158 R. AMYGDALIFÒLIA (Ser. in D. C. prod. 2. p. 601.) branches prickly; leaves trifoliate, exstipulate ?; leaflets oblong-lanceolate, entire, acute; flowers lateral, solitary; peduncles and calyxes hispid; petals longer than the calyx, white; styles combined into a long, filiform column. ♄. G. Native of China. —Braan. icon. chin. t. 19. Sepals broad, acute. Fruit ovate, large.

Almond-leaved Rose. Shrub cl.

† *Species not sufficiently known.*

159 R. HISPA'NICA (Mill. dict. no. 7.) leaves villous on both surfaces; sepals acutely serrated; fruit glabrous. ♄. H. Native of Spain. Mill. Prickles strong. Flowers bright red.

Spanish Rose. Fl. May. Clt. ? Shrub 4 feet.

160 R. XANTHI'NA (Lindl. ros. p. 132.) very like *R. spinosissima*, except in having no setæ, and double flowers the colour of those of *R. sulphùrea*. ♄. F. Native of China.

Yellowish-flowered Rose. Shrub 2 to 3 feet.

161 R. AGRE'STIS (Gmel. fl. bad. als. 2. p. 416.) germens almost globose, and are as well as the peduncles hispid; leaflets round, obtuse, clothed with white tomentum beneath; stem prickly; prickles unequal, straight; flowers solitary. ♄. H. Native of Alsatia, in calcareous soil, in fields. Flowers large, white. Fruit roundish, smooth, red. Perhaps allied to *R. tomentòsa*.

Field Rose. Shrub 1 to 2 feet.

162 R. LYÒNII (Pursh, fl. amer. sept. 1. p. 345.) germens subglobose, glabrous; peduncles hispid; petioles rather prickly; stem glabrous; prickles scattered, straight; leaflets 3-5, ovate-oblong, acute, serrated, smoothish above, tomentose beneath; uppermost leaves simple; flowers usually tern; stipulas linear; sepals tomentose, linear, hardly jagged. ♄. H. Native of Tenessee. Flowers pale red. Leaves small, with coloured veins. Evidently related to *R. Carolina*.

Lyon's Rose. Fl. June, July. Clt. ? Shrub 3 to 4 feet.

163 R. POLLINIA'NA (Spreng. pl. min. cogn. pug. 2. p. 66.) tube of calyx ovate, and is, as well as the peduncles and petioles, beset with glandular bristles; leaflets ovate-roundish, serrated, glabrous on both surfaces, having the teeth glandularly serrated; stem prickly. ♄. H. Grows in hedges, at the foot of Mount Baldo. Flowers large, purple. This species is evidently related to *R. rubiginòsa*.

Pollini's Rose. Shrub 4 to 6 feet.

164 R. HÍSPIDA (Poir. encycl. no. 15.) germens globose, and are as well as the peduncles hispid and prickly; leaflets ovate, clothed with white tomentum beneath; stem prickly; prickles scattered; flowers solitary. ♄. H. Native country unknown. Evidently nearly allied to *R. tomentòsa*.

Hispid Rose. Shrub 6 to 8 feet.

165 R. LOUREIRIA'NA; stem shrubby, tufted, branched, prickly; petioles prickly; tube of calyx round; peduncles unarmed. ♄. H. Cultivated in China and Cochin-china every where, and in the latter country it is called *Hoa-kôé*, and in the former *Mûi-hôa*. R. cinnamòmea, Lour. coch. 323. Leaves with hardly any scent. Flowers single, very red.

Loureiro's Rose. Shrub 3 feet.

166 R. COCHINCHINE'NSIS; stem climbing a little, very prickly; tube of calyx roundish, smooth; petioles and peduncles prickly. ♄. H. Native of Cochin-china, where it is called *Hoa hoüng tau*. R. spinosíssima, Lour. coch. p. 323. Flowers blush-coloured, scentless. Perhaps *R. Sínica*.

Cochin-china Rose. Shrub 6 feet.

167 R. ADENOPHY'LLA (Willd. enum. p. 546.) germens ovate, clothed with glandular bristles; petioles beset with glandular down, unarmed; leaflets simply serrated, glaucous beneath, with glandular margins; prickles of branches scattered. ♄. H. Native country unknown. Flowers single, large, red; petals emarginate. This plant is perhaps allied to *R. parvifòlia*.

Gland-leaved Rose. Shrub 4 to 6 feet.

168 R. TUGURIÒRUM (Willd. enum. p. 544.) germens roundish, glabrous; calyxes pilose; peduncles hispid; petioles villous, prickly; prickles on stem scattered. ♄. H. Native country unknown. Called in Germany *Tapeten Rose.* Perhaps nearly allied to *R. arvénsis*.

Cottage Rose. Shrub.

169 R. VELUTÌNA (Clairv. man. d'herb. 163.) fruit round; leaves cottony beneath, edges glandular. ♄. H. Native of Switzerland, about Winterthur. Perhaps this is a variety of *R. pimpinellifòlia*.

Velvety Rose. Shrub.

170 R. MURICA'TA (Waitz, in Link. enum. 2. p. 56.) stem muricated above; petioles almost naked; leaflets oval, obtuse, serrated, glabrous; peduncles glandular; tube of calyx oblong, naked; sepals with tomentose edges. ♄. H. Native country unknown.

Muricated-branched Rose. Shrub.

171 R. RUFICAU'LIS (Ehrh. beit. 7. p. 138.) prickles very slender, reflexed, covered with bluish bloom; branches unarmed; leaflets lanceolate, acutely serrated, glaucous beneath; tube of calyx globose; sepals undivided, length of corolla; styles shorter than the stamens. ♄. H. Native of America. R. Portlándica, Gord. cat. p. 28. R. Portlándica, Ludw. baumz. 15.

Brown-stemmed Rose. Shrub.

172 R. VERTICILLACA'NTHA (Mer. fl. par. 190.) prickles minute, rather verticillate, reflexed; leaflets oval, glandless; petioles rather glandular; fruit globose, clothed with glandular bristles; sepals undivided. ♄. H. Native about Paris. Perhaps a variety of *R. alpìna*.

Whorled-spined Rose. Shrub 3 to 4 feet.

173 R. MACROCA'RPA (Mer. fl. par. 190.) prickles nearly straight; leaflets oval, toothed, glandless; petioles hardly glandular; fruit globose, and are, as well as the peduncles, smooth; sepals undivided, glandless. ♄. H. Native of France.

Long-fruited Rose. Shrub.

174 R. STIPULA'RIS (Mer. fl. par. 192.) prickles recurved; leaflets doubly serrated, glabrous, glandless; petioles glandular and prickly; stipulas large, entire, glandular; fruit oval, and are as well as the peduncles glabrous; sepals undivided, glandless. ♄. H. Native about Paris. Flowers rose-coloured.

Stipular Rose. Shrub.

175 R. FLEXUÒSA (Rafin. prec. 37. but not of Rau.) stems twisted; prickles solitary, recurved; petioles glabrous and nearly unarmed; leaflets ovate, unequally serrated; flowers solitary; germens oblong, or globose, glabrous. ♄. H. Native of North America. R. Raffinesqueiàna, Tratt. ros. 2. p. 234. Peduncles short. Flowers large, rose-coloured.

Flexuous-stemmed Rose. Shrub.

176 R. ACUMINA'TA (Rafin. ros. amer. in ann. sc. phys. 5. p. 216.) stem and petioles prickly; leaflets 3-5, oval, acuminated, serrated, pubescent beneath; flowers subumbellate; fruit obovate, and are as well as the peduncles beset with glandular bristles. ♄. H. Native of North America, on the banks of the Wabash river.

Acuminated-leaved Rose. Shrub.

177 R. PRAIE'NSIS (Rafin. l. c. 5. p. 215.) stem flexuous; prickles stipular, straight; petioles pubescent; leaflets 5-7, oblong, attenuated at both ends, serrated, glabrous; flowers solitary; fruit ovate, hispid. ♄. H. Native of North America, in the meadows of Kentucky. Flowers white.

Var. β, geminàta (Rafin. l. c.) leaflets obovate ; flowers twin, rose-coloured.

Meadow Rose. Shrub.

178 R. ripa'ria (Rafin. l. c. 5. p. 216.) hispid and prickly ; prickles straight ; leaflets 5, unarmed, ovate, doubly serrated, ciliated, clothed with glaucous pubescence beneath ; flowers solitary ; peduncles angular ; fruit turbinate, oblong, nearly smooth. ♄. H. Native of Maryland, on the banks of the Potowmak river. Flowers purple, fragrant.

Var. β, amœ'na (Rafin. l. c.) flowers double.

River-bank Rose. Shrub.

179 R. dasyste'ma (Rafin. l. c. 5. p. 219.) stems nearly unarmed, villous ; leaflets 5-7, oval or obovate, serrated, velvety beneath ; flowers solitary ; sepals simple ; fruit oblong, hispid. ♄. H. Native of North America.

Thick-stamened Rose. Shrub.

180 R. Waitzia'na (Tratt. ros. 1. p. 57.) fruit ovate, glabrous, scarlet ; sepals appendiculate, bristly on the back ; peduncles hispid ; leaflets roundish-ovate, simply serrated ; scentless, glabrous ; floriferous branches glandular and prickly ; prickles hooked. ♄. H. Native of Saxony, near Altenburgh.

Waitz's Rose. Shrub.

181 R. rubrispi'na (Bosc. dict. ex Poir. suppl. 4. p. 615. and Tratt. ros. 2. p. 179.) fruit prickly, nearly globose ; leaflets 5-7, elliptic, obtuse, glabrous, serrated ; branches and peduncles furnished with small straight prickles ; flowers usually solitary ; sepals beset with glandular hairs on the edges. ♄. H. Native of North America.

Red-spined Rose. Shrub.

182 R. Si'cula (Tratt. ros. 2. p. 68.) fruit globose, and are as well as the peduncles glabrous and unarmed ; leaflets orbicular, sharply and doubly serrated, with the teeth all glandular at the apex ; petioles clothed with glandular villi ; stems prickly ; prickles subverticillate. ♄. H. Native of Sicily, on the tops of the Nebrodes.

Sicilian Rose. Shrub.

183 R. fraxinifòlia (Andr. ros. fasc. 33. ex Tratt. ros. 2. p. 100.) stem glabrous, nearly unarmed ; germens oblong ; peduncles glabrous ; petioles prickly ; leaflets rough, oblong, narrow, acute, serrated ; flowers white, sweet-scented ; inner petals small and flexuous. ♄. H. Native country unknown. Perhaps a variety of *R. sempervìrens.*

Ash-leaved Rose. Shrub.

184 R. Heckelia'na (Tratt. ros. 2. p. 85.) fruit globose, glabrous, muricated ; peduncles very short, tomentose ; leaflets orbicular, doubly toothed, clothed with hoary tomentum on both sides as well as the stipulas, and ciliated with glands ; very blunt at the apex ; stems prickly ; prickles somewhat verticillate. ♄. H. Native of Sicily, on the Nebrodes.

Heckel's Rose. Shrub.

185 R. erube'scens (Andr. ros. fasc. 30. ex Tratt. ros. 1. p. 119.) fruit ovate, and are as well as the peduncles clothed with glandular bristles ; sepals oblong, entire, glabrous ; petioles rather prickly ; leaflets ovate, acute, unequally serrated, discoloured ; cauline prickles scattered and solitary, some straight and setaceous, and others large, recurved, and dilated at the base, dark purple. ♄. H. Native country unknown.

Reddish Rose. Shrub.

186 R. inca'na (Kit. ex Tratt. ros. 1. p. 135.) fruit and peduncles glabrous ; cauline prickles recurved ; petioles almost unarmed, and are, as well as the leaves, villously tomentose. ♄. H. Native of Hungary.

Hoary Rose. Shrub.

187 R. Clusia'na (Waitz, ex Tratt. ros. 1. p. 119.) fruit nearly globose, glabrous ; sepals appendiculated, and are, as well as the peduncles, hispid ; petioles villous, glandular, rather prickly ; leaflets sweet-scented, ovate-lanceolate, simply serrated, pubescent beneath ; stipulas quite entire ; stem and branches unarmed. ♄. H. Native country unknown. Ròsa sine spinis, Clus. hist. 1. p. 115. f. 1. Perhaps a variety of *R. Gállica.*

Clusius's Rose. Shrub 2 to 3 feet.

188 R. gla'bra (Andr. ros. fasc. 21.) fruit ovate ; petioles and peduncles hispid ; flowers of many equal petals ; leaflets oblong, acuminated, serrated, glabrous ; stem glabrous, nearly unarmed. ♄. H. Native country unknown. Size and form of *R. centifòlia pompònia.* Leaves like those of *R. moschàta*, but the plant altogether is more nearly allied to *R. cinnamòmea* ex Tratt. ros.

Glabrous Rose. Shrub 4 to 6 feet.

189 R. Sprengelia'na (Tratt. ros. 2. p. 163.) nearly unarmed ; fruit globose, hispid ; peduncles smoothish ; petioles villous ; leaflets oblong, serrated at the apex, pubescent beneath ; branches nearly unarmed ; prickles very few and straight ; flowers sessile, aggregate. ♄. H. Native country unknown. R. Virgínica, Curt. ex Spreng. nov. prov. p. 36. no. 80.

Sprengel's Rose. Shrub.

190 R. Portenschlagia'na (Tratt. ros. 2. p. 203.) germens ovate, glabrous, coloured ; peduncles very short, and are, as well as the petioles, prickly and glandular ; sepals coloured, subulate, pinnatifid, one-half shorter than the petals ; flowers alternate, solitary, large ; stem unarmed. ♄. H. Native country unknown. Flowers rose-coloured.

Portenschlag's Rose. Shrub.

191 R. Wulfe'ni (Tratt. ros. 1. p. 200.) fruit nearly globose, coloured, glabrous ; peduncles solitary, short, clothed with glandular bristles ; leaflets elliptic, somewhat doubly serrated ; stipulas biauriculate ; branches and petioles very prickly. ♄. H. Native of Germany.

Var. β, rùbra (Tratt. ros. 1. p. 201.) leaves smaller ; leaflets ciliated with glands ; fruit ovate-oblong ; petals deep rose-coloured. ♄. H. Native of Carinthia, on mount Nanas. Leaves, branches, and calyxes red.

Wulfen's Rose. Shrub.

192 R. trichoca'rpa (Waitz, ex Tratt. ros. 2. p. 45.) fruit oblong ; sepals appendiculate, and are, as well as the peduncles, hispid ; petioles glandular and prickly ; leaflets sweet-scented, ovate-lanceolate, simply serrated, glabrous on both surfaces ; stem and branches very glabrous and prickly ; prickles hooked, equal ; stigmas sessile. ♄. H. Native country unknown. Perhaps a variety of *R. álba.*

Hairy-fruited Rose. Shrub 4 to 6 feet.

193 R. concavifòlia (Waitz, ex Tratt. ros. 2. p. 66.) fruit ovate, glabrous ; sepals appendiculate, hairy, glandless ; peduncles hispid ; petioles glandular, prickly ; leaves sweet-scented, ovate, doubly serrated, pubescent on both surfaces ; stipulas with glandular edges ; flowers subcorymbose. ♄. H. Native country unknown.

Concave-leaved Rose. Shrub.

194 R. elli'ptica (Tausch, ex Tratt. ros. 2. p. 69.) fruit ovate, and are, as well as the peduncles, glabrous ; leaflets elliptic, unequally and glandularly serrated, quite entire at the base, glaucescent, and beset with glandular pili ; prickles reflexed, stipular. ♄. H. Native of Bohemia. R. rubiginòsa, Guimpel, deutsch. Holzart. 1. p. 121. t. 91. Fruit blood-coloured.

Elliptic-leaved Rose. Shrub.

195 R. Mau'kschii (Schultes in œstr. fl. ed. 2. vol. 2. p. 69. ex Tratt. ros. 2. p. 218.) fruit nearly globose, and are, as well as the peduncles, glabrous ; petioles beset with glandular bristles ; stem prickles scattered, a little recurved ; leaflets almost

glabrous. ♄. H. Native country unknown. Nearly allied to R. rubiginòsa ex Tratt. l. c.

Mauksch's Rose. Shrub.

196 R. ANDRE'WSII (Tratt. ros. 2. p. 205.) fruit elliptic, glabrous; sepals oblong, quite entire, glabrous; peduncles and petioles hispid; stem unarmed; leaflets somewhat doubly serrated, glabrous, glaucescent beneath; flowers lateral, solitary, deep purple, drooping; fruit pendulous. ♄. H. Native country unknown. R. inérmis, Andr. ros. fasc. 2. Very nearly allied to *R. alpìna.*

Var. β, débilis (Tratt. l. c. p. 206.) stems weak, decumbent; leaflets small, nearly like those of *R. spinosissima;* flowers large, twin, very beautiful, between scarlet and blood-coloured.

Andrews's Rose. Shrub 2 to 3 feet.

197 R. SERAFI'NII (Viviani, add. fl. ital. fragm. and fl. libyc. p. 67. fl. cors. spec. nov. 8.) germens oblong, and are, as well as the peduncles, glabrous; stem and petioles prickly; prickles recurved, falcate; stipulas ovate; leaflets roundish, doubly serrated, with the teeth glandular. ♄. H. Native of Corsica, on mount Coscione.

Serafin's Rose. Shrub 4 to 6 feet.

198 R. GLABRA'TA (Vest, ex Tratt. ros. 2. p. 220.) fruit large, solitary, nearly globose; peduncles very short; leaflets roundish-elliptic, decurrent at the base, doubly serrated, quite glabrous on both surfaces, with glandular margins; prickles scattered, usually twin. ♄. H. Native of Styria. Allied to *R. pimpinellifòlia.*

Smoothish Rose. Shrub 3 to 4 feet.

199 R. SI'MPLEX (Scop. fl. carn. ed. 2. vol. 1. p. 353. ex Tratt. ros. p. 229.) fruit ovate, glabrous; leaflets glabrous beneath; sepals beset with glandular bristles. ♄. H. Native country unknown. R. Scopoliàna, Tratt. l. c. Allied to *R. alpìna* or *cinnamòmea.*

Simple Rose. Shrub 4 to 6 feet.

200 R. ORIENTA'LIS (Dupont in litt. D. C. prod. 2. p. 607.) dwarf; stem prickly, glabrous; prickles conical, slender; young branches puberulous; leaflets roundish, tomentose, serrate-crenated; fruit globose, hispid; peduncles tomentose and hispid; sepals nearly entire. ♄. H. Native of Persia.

Var. α, Oliveriàna (Ser. in D. C. prod. 2. p. 607.) leaflets very veiny and smoothish beneath; peduncles puberulous, but not glandular; fruit glabrous, hispid. ♄. H. Native of Persia.

Var. β, Balbisiàna (Ser. l. c.) leaflets hardly veiny, puberulous beneath; peduncles tomentose and hispid; tube of calyx very hispid and glandular. ♄. H.

Oriental Rose. Fl. June, July. Shrub 2 to 3 feet.

201 R. VENTENATIA'NA (Red. ros. 3. p. 83. with a figure,) cauline prickles unequal, crowded, straight; germ finger-shaped, beset with glandular bristles at the base, as well as the peduncles; flowers nearly sessile. ♄. H. Native country unknown.

Ventenat's Rose. Fl. June, July. Shrub.

202 R. CANE'SCENS (Krok. fl. siles. 2. p. 153. no. 784. ex Tratt. ros. 2. p. 226.) fruit nearly globose, and are hispid, as well as the peduncles; leaflets lanceolate, glabrous on both surfaces, discoloured, simply serrated; principal stem nearly unarmed, canescent; branches prickly and very hispid; stipulas adnate, very long. ♄. H. Native of Silesia.

Canescent Rose. Shrub 4 to 6 feet.

203 R. KROKE'RI (Tratt. ros. 2. p. 231.) fruit globose, and are, as well as the peduncles, glabrous and unarmed; leaflets usually 3, elliptic, obtuse, serrated at the apex, clothed with hoary tomentum beneath; petioles short, involucrated, stipulate; stem 1-flowered. ♄. H. Native of Silesia. R. pygmæ'a, Krok. fl. siles. 2. p. 154. in a note.

Kroker's Rose. Shrub 1 to 2 feet.

204 R. AMBI'GUA (Lejeune. rev. fl. spa. p. 98.) fruit egg-shaped, glabrous, furnished with a few stalked glands; peduncles glabrous, rarely glandular; leaflets glabrous on both surfaces, doubly serrated, acuminated; bracteas and petioles glandularly ciliated. ♄. H. Native about Verviers. Perhaps a variety of *R. canina.*

Ambiguous Rose. Shrub 5 to 6 feet.

205 R. SYLVA'TICA (Tausch, in fl. vol. 2. p. 464. ex Tratt. ros. 1. p. 58.) fruit ovate, and are, as well as the peduncles, hispid; flowers cymose; petioles beset with glandular pili and prickles; leaflets ovate, acute, unequally and deeply glandularly serrated, pilose beneath; stems bristly or prickly. ♄. H. Native of Bohemia, in shady places.

Wood Rose. Shrub 4 to 6 feet.

History.—The rose is known by every body at first sight, and has been a favourite flower from time immemorial among the civilized nations of Europe and Asia. The shrub varies in size in different species and varieties, and the colours are red, white, purple, yellow, black, striped, or in almost numberless shades and mixtures, from single to semidouble and double. Roses are cultivated in every garden, from the most humble cottage upwards. Some species, as *R. centifòlia, R. damascèna,* &c. are also cultivated on a large scale by commercial gardeners for distilling rose-water, and for making attar or essential oil of roses. Six pounds of rose petals will impregnate by distillation a gallon of water strongly with its odour; but a hundred pounds afford hardly half an ounce of attar. The *rose* is also used in medicine. Botanists are not agreed as to the number of original species of this genus, and notwithstanding the labours of many scientific men the genus still remains a chaos, from which it can never be extricated. We have endeavoured in the foregoing pages to render the species as clear as it is practicable from the present knowledge of the genus. The most scientific work which has appeared upon the subject in England is the "Rosarum Monographia," of John Lindley, 1819; and Miss Lawrence has published about ninety plates of "A Collection of Roses from Nature," 1810. In France Guillemeau has published "Histoire Naturelle de la Rose," 1800, and P. J. Redoute and C. A. Thory have published a splendid work in folio, entituled "Les Roses," containing plates of both species and varieties. C. A. Thory has published a separate tract on the culture of roses, entitled "Prodrome de la Monagraphie du genre Rosier," &c. 1820. M. A. Pronville a "Nomenclature Raisonnée", in 1818. J. Sabine has given an account of Scotch roses in Hort. trans. 4. p. 281. Many varieties of the *rose* are yearly raised from seeds in the nurseries.

Varieties are raised from seed on the continent, where the seed ripens better than in this country. A number of varieties have also been raised in this country, especially of the *R. spinosissima* or *Scotch-rose.* New varieties are raised in France and Italy annually. L. Villaresi, royal gardener at Monza, has raised upwards of 50 varieties of *R. I'ndica,* some of them are quite black, others shaped like a ranunculus, and many of them highly odoriferous. Ample lists of the varieties are given under their proper species.

Propagation.—By seed for new varieties, and chiefly by layers for continuing approved sorts. They are also increased by budding, cuttings, and suckers.

By seed.—The hips containing the seeds are obtained from semidouble and single flowers, and to increase the chance of new varieties, these should be taken from plants that have been planted among or near to the kinds of which a cross is desired. Extracting the stamens from one flower, and dusting the stigmas with the pollen of another kind, might answer in most instances. In France and Italy the usual mode is to form a plantation of double and semidouble sorts, mixed indiscriminately, and take the result of promiscuous impregnation; it is also done in some of the nurseries of this country. The hips generally ripen in October or November. The seeds do not vegetate till the second season after sowing. The first year, instead of sowing them, they may be preserved among sand, or the hips entire may be so preserved a full year, when the husks will be perfectly rotten, and the seed being separated and sown in February will come up in May or June following. The seeds should be sown in soft soil, and in a shady situation, or they may be covered with earth from a ¼ to ½ an inch, according to the size of the seeds. Early in the second spring they may be planted in rows a foot or 2 feet apart every way, according to the size of the sorts. Here they may remain till they flower, which varies in the different sorts from the third to the fifth year, but most commonly they flower the fourth summer.

By layers.—The common mode is to lay down the young shoots of the preceding summer late in autumn or early in the succeeding spring, and then, with the exception of the *moss-rose*, and one or two others, they form rooted plants by the next autumn. But it is now found, that if the same shoots are laid down when the plant is beginning to flower in July, they will, with a few exceptions, produce roots, and be fit to remove the same autumn, by which a whole year is gained. Such sorts as do not root in one year must be left on the stools till the second autumn; but layers made when the shoot is in a growing state, and furnished with healthy leaves, root much more freely than shoots of ripe wood. After the plants are removed from the stools they are planted in nursery rows, and in a year the blossom buds, having been carefully pinched off from the first laying down, they will be fit for removal to their final destination. The stools are then to be pruned, and the soil stirred and enriched.

By suckers.—Many of the commoner sorts admit of being rapidly multiplied in this way, and the plants obtained may be planted in their final destination at once.

By cuttings.—Most sorts might be propagated in this way from cuttings of young wood, cut at a joint where it is beginning to ripen, and planted in sand and vegetable mould under a hand-glass. But this mode is only adopted with such sorts as strike easily, as the Indian and Chinese kinds.

By budding.—This mode of propagating roses is adopted only with the rarer kinds, and such as are difficult to propagate by layers; for it is found that plants so originated, even though on stocks of the hardier sorts, are less durable than such as are raised by any of the other modes. But the chief use of budding in the culture of the *rose* is to produce standard-roses, or to produce several sorts from the same tree or bush. Standard-roses are a modern invention, it is generally supposed of the Dutch, first carried to Paris, and about 30 years ago to England. They are highly artificial objects of great beauty, and form magnificent ornaments to parterres and borders. The stocks are either of the tree rose, *Ròsa villòsa*, or of any sorts of wild roses, which grow to a large size. They are budded at different heights, from 3 to 7 feet, but commonly between 5 and 6 from the ground. A stock in the Paris garden, which carries several sorts, has a naked stem of nearly 15 feet high, and there are others at Malmaison and at Grand Trianon of equal height. The stocks are procured from woods and copses, and after being planted in nursery lines are often budded the same summer, sometimes in summer by the scalope mode of budding, *l'œil puissant* of the French; and never later than the succeeding spring or summer by the common mode. Generally two buds are inserted on opposite sides of the stock, but often 3-4 or a dozen in alternate positions on the upper 6 or 12 inches of the stem. Every stock is supported by a rod, which should reach a foot or eighteen inches higher than the situation of the bud; to this rod the stock is tied, and afterwards the shoots from the buds, which are otherwise liable to be blown out by high winds. The Paris nurserymen being supplied with stronger stocks than can readily be procured in England, and having a better climate and more experience in the culture of roses, excel us in this department of *rose* propagation, and their standards afford an article of commerce with other countries. Their common plants raised by layers are also in extensive demand, but in these we equal if not surpass them. Fine collections of standard roses may be seen in Lee's nursery at Hammersmith, in the Count de Vande's garden at Bayswater, in the duchess of Dorset's at Knowle, and in various other places.

Final situation.—No species of *rose*, wild or cultivated, thrives well in or near large towns, on account of the smoke or confined air. The yellow and Austrian *roses*, *R. lùtea* and *R. bícolor* are difficult to flower in any situation. Roses are generally planted in the front of shrubberies and in borders; they are also planted by themselves in rose gardens or rosaries, in groups on lawn or gravel, either with common box or other edgings, or with edgings of wire, in imitation of basket-work; these last are called baskets of roses; the ground inclosed in the basket margin is made convex, so as to present a greater surface to the eye, and increase the illusion; the shoots of the stronger sorts are layered or kept down by pegs till they strike root, so that the points of the shoots furnished with buds appear only above the soil, which is sometimes covered with moss or small shells; under this treatment the whole surface of the basket becomes in two or three years covered with rose-buds and leaves, of one or of various sorts. Where one of the larger free growing sorts is employed, as the *moss rose*, or any of the Provins' varieties, one plant may be trained so as to cover a surface of many square yards. Where different sorts are introduced in the same basket, they should be as much as possible assimilated in size of leaves and flowers and habits of growth, and as different as possible in the colours of their flowers. By mixing small-flowered with large-flowered sorts, the beauty of the former is lost without adding to the effect of the latter. In rosaries commonly but one plant of a sort is introduced, and the varieties which most resemble each other are placed together, by which their distinctive differences are better seen. Particular compartments are often devoted to one species, as the *Scotch*, *Chinese*, *yellow*, *burnet-leaved*, &c. which has an excellent effect, sometimes a piece of rock-work in the centre is covered with creeping *roses*, and on other occasions they are trained to trellis-work, which forms a fence or hedge of roses round the whole. In this hedge standard *roses* are sometimes introduced at regular distances; a grove of standards is also frequently formed in the centre of the rosary, and sometimes they are introduced here and there in the beds. Standard *roses*, however, have certainly the best effect in flower borders, or when completely detached on a lawn; their sameness of form, and that form very compact and bushy, prevents them from grouping well, either among themselves or with other objects. Their beauty consists in their singularity, as *rose* plants, and in their flowers; and therefore to display these beauties to the best advantage, they require to be seen singly, or in succession. This is the case where they occur as single objects on a lawn, or in the centre, or here and there among groups of flowers, or in lines or avenues along flower-walks.

Soil.—Most species of the *rose*, in their wild state, grow in sandy and rather poor soil, excepting such as are natives of woods, where the soil is richer and comparatively moist. But all the cultivated *roses*, and especially the double flowering kinds, require a rich loamy soil, inclining to clay rather than sand, and they require also, like most double flowers, plenty of moisture when in a growing state.

General culture.—To produce strong flowering *roses* requires some attention in pruning; old wood should be yearly cut out, and the young shoots thinned and shortened, according to their strength, and whether number or magnitude of flowers be wanted. Those sorts which throw out numerous suckers, should be taken up every three or four years, reduced, and replanted, and most sorts, excepting the standards, will be improved by the practice, provided attention be paid to remove a part of the old soil and replace it by new. The points of the shoots of the more delicate sorts of *roses* are very apt to die when pruning is performed in winter or spring; to avoid the consequences of this evil, many give a second pruning in June, or do not prune the tender sorts at all till the beginning of that month. A very good time for performing the operation is immediately after the bloom is over, cutting out old exhausted wood, shortening shoots which have flowered, to a good bud, accompanied with a healthy leaf, but leaving such shoots as are still in a growing state till October. Where very large *roses* are wanted, all the buds, except on that of the extreme point of each shoot, should be pinched off as soon as they make their appearance, and the plant liberally supplied with water. To lessen evaporation, and keep up a constant moisture at the roots of their roses, the Paris gardeners generally mulch them with half rotten stable dung or partially rotten leaves.

Forwarding and retarding roses.—The earliest flowering *rose* is the *monthly*, which in mild seasons and planted against a wall, will sometimes flower in the beginning of April; the *roses* next in succession are the *cinnamon*, which flowers in May, the *damask*, in the end of May or beginning of June; the *blush*, *York*, and *Lancaster*, *Provins'*, and *Dutch hundred-leaved*, in June, July, and August. The *Virginia* and *musk roses* are the latest European sorts; they flower in September, and in shaded situations will sometimes continue in bloom till the middle of October; but the earliest rose (the *monthly*), is also the latest, and generally continues flowering till interrupted by frost. The earliest sorts may be materially forwarded by being planted against a south wall, and if portable sashes be placed before them, and the wall is either flued or heated by fires, or a lining of dung placed behind, the plants may be brought to flower in February or March. The *monthly rose*, being protected by glass in autumn, or aided by artificial heat, may be continued in bloom till Christmas. A very common mode of obtaining late *roses*, and one of the greatest antiquity, is by cutting all the flower shoots off when the buds begin to appear, or by rubbing off all the rudiments of shoots of every kind early in the spring; a second crop is in consequence produced, which will not be in a state to bloom before the autumn.

Forcing the rose.—The best sorts for this purpose are the common and *moss Provence*. The Indian sorts force well, or rather in stoves continue in bloom all the year; but the commoner varieties not being fragrant, they are in less repute than the European *roses*. *Rose* plants should be a year in pots previously to the autumn when it is intended to force them; they should be planted in pots 6 or 8 inches in diameter, in rich loam, and plunged in an open airy situation, their flower-buds pinched off as they appear, and the plants put into a state of rest, by excluding the sun and rain, but not a free circulation of air. Abercrombie says, " There is no certainty of obtaining a fine blow of roses in the depth of winter by the most expensive artifices of forcing; and yet fine flowers may be produced early in the spring by any ordinary stove, put in operation in December. When the plants are first introduced, keep the air of the house about 55°, never letting it fluctuate to more than 2 or 3 degrees below the above. In the second week, aim at 60° as the standard; in the third week 65°. When a month has nearly elapsed, begin to increase the heat gradually to 70°, having brought it to this standard, let it afterwards exceed it from 3 to 5 degrees rather than sink below. A succession may be kept up by introducing some pots every 8 or 10 days.

Insects.—All the species of *Rósa* are very liable to the attacks of insects, especially of the aphides; some, particularly the briar and Scotch *rose*, are attacked by the cynips rósæ, which by puncturing the bark, occasions the production of rose-galls, and of those massy tufts often seen on wild *roses*, which were formerly known under the name of bedequar, and used in medicine. A great number of insects seem fond of the flowers of *roses*, from the earwig to the seemingly harmless lady-bird, which deposits its larvæ in the leaves of various species, both wild and cultivated. There seems no remedy for insects on plants in the open air so simple and effectual as gathering them by hand, or removing the leaf or that part of the shoot which is infected by them. Under cover tobacco smoke will prove an effectual remedy for the aphides; but the larvæ of many others, and especially of the tipula, and the tenthredinidæ, which occasion the wrapping up and shrivelling of the leaves, can only be removed by hand.

† *A genus allied to Rosàceæ.*

XXIII. AMOREU'XIA (this genus is dedicated by Sesse and Mocino to P. J. Amoreux, a botanist of Montpelier). Moc. et Sesse, fl. mex. icon. ined. D. C. prod. 2. p. 638. Genus nòva, Ruiz. et Pav. in herb. Lamb.

Lin. syst. *Icosándria*, *Monogýnia*. Calyx 5-parted, with a short tube, and oblong, acute lobes. Petals 5, obtuse and emarginate at the apex, larger than the calyx, and inserted in its base. Stamens about 20, disposed in one series, shorter than the petals. Ovary ovate, free, 3-celled, many-ovulate. Style filiform, acute. Capsule ovate.—A herb, with alternate, bistipulate, palmatifid leaves on long petioles, having the lobes serrated at the apex, and joined together at the base by a foliaceous membrane. Peduncles solitary, opposite the leaves, or nearly terminal, 1-flowered, inflexed at the apex. Flowers large, red. —Habit of *Neuràda* or *Dryas*, but the characters are not sufficiently known to determine which of the genera it comes nearest.

1 A. palmati'fida (Moc. et Sesse, fl. mex. icon. ined.). ♃. ? G. Native of Mexico.

Palmatifid-leaved Amoreuxia. Pl. trailing.

Cult. A mixture of loam, sand, and peat, will probably suit this plant, and cuttings will perhaps root if planted in sand or mould, with a hand-glass placed over them.

Order **LXXXIV. SANGUISO'RBEÆ** (plants agreeing with *Sanguisórba* in important characters). Lindl. introd. nat. ord. p. 80. Rosàceæ, Tribe VI. Sanguisórbeæ, Juss. gen. p. 336. exclusive of some genera. D. C. prod. 2. p. 588.

Flowers usually unisexual from abortion. Calyx with a thickened tube (f. 78. *a.*) and a 3 (f. 80. *a.*) -4 (f. 79. *b.* f. 77. *b.*) -5-lobed limb, its tube lined with the disk. Petals none. Stamens definite, sometimes fewer than the segments of the calyx, with which they are alternate, arising from the orifice of the calyx; anthers 2-celled, innate, bursting longitudinally, occasionally 1-celled, and bursting transversely. Ovary solitary, simple, with the style proceeding from the apex at the base. Ovulum solitary, always attached to that part of the ovaries which is next the base of the style. Stigma compound or simple. Nut solitary, inclosed in the often-indurated tube of the calyx. Seeds solitary, suspended, or ascending, exalbuminous. Embryo with a superior radicle, and large plano-convex cotyledons.—Herbaceous plants or under shrubs, occasionally spiny. Leaves simple, lobed, or pinnate, alternate, furnished with stipulas. Flowers small, usually capitate. This order differs from *Rosàceæ* in the apetalous flowers and indurated calyx, and the reduction of the carpella to one only. Their general character is astringency. A decoction of *Alchemílla vulgàris* is slightly tonic. *Sanguisórba* is useful as fodder.

Synopsis of the genera.

1 Cercoca'rpus. Calyx coloured, with a cylindrical permanent tube, and a sinuately 5-lobed, deciduous limb. Stamens 20, inserted in the limb of the calyx. Carpel ending in a plumose style.

2 Alchemi'lla. Calyx tubular, contracted at the throat, with an 8-parted limb (f. 77. *b.*). Stamens 1-4. Carpella 1-2. Style filiform, capitate at the apex.

3 Cephalòtus. Calyx coloured, 6-cleft (f. 78. *b.*). Stamens 12 (f. 78. *c.*). Anthers didymous (f. 78. *c.*), glandular on the back. Ovaries 6 (f. 78. *d. h.*), distinct. Styles terminal (f. 78. *i.*). Akenia 1-seeded.

4 Margyrica'rpus. Calyx with the tube contracted at the mouth, the limb 4-5-parted, each segment furnished with a tooth-formed spinula on the outside at the base. Stigma feathery. Carpel 1, drupaceous.

5 Polyle'pis. Calyx with a turbinate angular tube, and a 3-4-cleft limb, furnished with spine-formed teeth above. Stamens 5-20. Stigma pencilled. Carpel drupaceous.

6 Acæ'na. Calyx tubular, armed with glochidate prickles, and furnished with 2 scales at the base. Stamens 2-10. Carpels 1-2, dry. Stigma plumose.

7 Sanguisórba. Flowers hermaphrodite. Calyx 4-cleft, propped by 2 scales at the base. Stamens 4. Carpels 2. Stigma pencil-formed. Akenia dry.

8 Pote'rium. Flowers monoecious or polygamous. Calyx furnished with 3 scales at the base (f. 79. *a.*); the limb 4-parted (f. 79. *b.*). Stamens 20-30. Stigma pencil-formed. Akenia 2, dry.

9 Cliffórtia. Flowers dioecious. Calyx with an urceolate tube and a 3-parted (f. 80. *a.*) limb. Stamens about 30. Stigma plumose. Akenia 1-2.

I. CERCOCA'RPUS (from κερκος, *kerkos*, a shuttlecock, and καρπος, *karpos*, a fruit; in reference to the shape of the fruit). H. B. et Kunth, nov. gen. amer. 6. p. 232.—Bertolònia, Moc. et Sesse, fl. mex. icon. ined.

Lin. syst. *Icosándria, Monogýnia.* Calyx coloured, with a cylindrical permanent tube, and a sinuately 5-lobed deciduous limb, with the throat open. Petals wanting. Stamens 20, inserted in the limb of the calyx. Carpel 1, free. Fruit membranous, tailed by the plumose permanent style, 1-seeded, involved by the calyx.—A tree, with alternate, entire leaves, furnished with 2 petiolar stipulas; and axillary umbellate fascicles of flowers.

1 C. fothergilloìdes (H. B. et Kunth, l. c. t. 559.) ♄. G. Native near the town of Mexico. Bertolònia guieroìdes, Moc. et Ses. fl. mex. icon. ined. Leaves nearly elliptic, coriaceous, glabrous. Calyx clothed with silky down.

Fothergilla-like Cercocarpus. Tree 12 feet.

Cult. A mixture of peat and loam will suit this tree, and cuttings will root if planted in a pot of sand, with a hand-glass placed over them.

II. ALCHEMI'LLA (*Alkemelyeh* the Arabic name of one of the species). Tourn. inst. t. 289. D. C. prod. 2. p. 589.—Alchemílla and Aphànes, Lin. gen. no. 165. and 166. Lam. ill. t. 86. and 87.

Lin. syst. *Di-Tetrándria, Mono-Digýnia.* Calyx tubular (f. 77. *c.*), with the tube rather contracted at the apex; and with an 8-parted (f. 77. *b.*) limb, the alternate lobes or bracteoles the smallest (f. 77. *b.*), sometimes very small and tooth-formed. Petals wanting. Stamens 1-4. Styles lateral, filiform, capitate at the apex. Carpels 1-2, 1-seeded, at length becoming dry and indurated. Seed inverted. Herbs with palmate or lobed leaves. Flowers small, corymbose.

Sect. I. Alchemi'lla (see genus for derivation). Lin. gen. no. 165. Calyx 8-cleft (f. 77. *b.*), alternate lobes smallest (f. 77. *b.*). Stamens 2-4. Perennial plants.

* *Leaves palmately 7-9-cleft.*

1 A. Cape'nsis (Thunb. fl. cap. 1. p. 558.) leaves reniform, somewhat lobed, repandly crenated, and are as well as the stems hairy; racemes axillary and terminal. ♄. G. Native of the Cape of Good Hope, on the sides of hills and mountains. Lam. ill. t. 86. f. 2.

Cape Lady's-mantle. Pl. $\frac{1}{2}$ foot.

2 A. vulga'ris (Lin. spec. 178.) leaves roundish, reniform, plicate, concave, 9-lobed, serrated; stem and petioles smoothish; flowers disposed in dichotomous corymbs. ♃. H. Native of Europe and Siberia, in woods and pastures frequent; plentiful in some parts of Britain. Oed. fl. dan. 963. Smith, engl. bot. t. 597. Mill. fig. t. 18. f. 2. This plant varies much in hairiness and smoothness, as well as in size and stature. Stipulas cut. The whole plant is astringent and slightly tonic. The leaves were formerly used in medicine, and were esteemed to be vulnerary.

Var. β, *glàbra* (D. C. fl. fr. 4. p. 451.) leaves and flowers glabrous; teeth of leaves furnished with a tuft of hairs at the apex. ♃. H. Native of the Alps and the higher Pyrenees, in humid places. A. Pyrenàica, ex Dufour. ann. gen. sc. phys. 8. p. 228. A. lobàta, Pall. itin. 2. p. 569.

Common Lady's-mantle. Fl. Ju. Aug. Brit. Pl. $\frac{1}{4}$ to $\frac{1}{2}$ ft.

3 A. hy'brida (Hoffm. germ. 1. p. 79.) leaves roundish-reniform, 9-lobed, serrated, clothed with pubescence; stem and petioles downy; flowers fastigiately-glomerate. ♃. H. Native of Europe, in mountain pastures; in Scotland, on the Seedlaw hills, Angusshire. A. alpìna hýbrida, Lin. spec. 179. A. vulgàris hýbrida, Willd. spec. 1. p. 698. Mill. fig. t. 18. f. 1. A. pubéscens, Lam. ill. no. 1403. but not of Bieb. A. montàna, Willd. enum. 1. p. 190. Wallr. ann. bot. p. 26.—Pluk. phyt. 240. f. 2. Stipulas serrated.

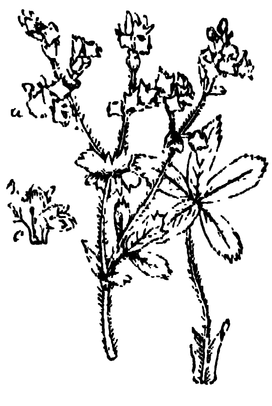
Hybrid Lady's-mantle. Fl. June, Aug. Scotl. Pl. $\frac{1}{4}$ to $\frac{1}{2}$ ft.

4 A. pube'scens (Bieb. fl. taur. 1. p. 114.) leaves roundish-reniform, 7-lobed, toothed, silky beneath; corymbs terminal, crowded, clothed with silky villi. ♃. H. Native among rocks on the higher Caucasus. Willd. hort. berl. 2. t. 79.

Pubescent Lady's-mantle. Fl. June, Jul. Clt. 1813. Pl. $\frac{1}{4}$ ft.

* * *Leaves palmate; leaflets 5-7, serrated at the apex.*

FIG. 77.



5 A. ALPÌ'NA (Lin. spec. 179. var. α.) leaves digitate; leaflets 5-7, lanceolate-cuneated, obtuse, serrated at the apex, with the serratures adpressed, clothed with white satiny down beneath. ♃. H. Native of Europe and North America, in mountain pastures; in the mountainous parts of the north of England and Scotland, common among rocks on the banks of mountain rivulets. Smith, engl. bot. t. 244. Oed. fl. dan. 49. A. argéntea, Lam, fl. fr. 3. p. 303. The satiny under side of the leaves of this and the following species has given rise to the generic English name of *Lady's-mantle*.

Alpine Lady's-mantle. Fl. Jul. Britain. Pl. $\frac{1}{4}$ foot.

6 A. SERÍCEA (Willd. enum. p. 171.) leaves digitate; leaflets 7, lanceolate-obovate, obtuse, connected at the base, serrated at the apex, clothed with satiny down beneath. ♃. H. Native of Caucasus. A. alpìna, Bieb. fl. taur. 1. p. 114. exclusive of the synonyms. Much larger in every part than *A. alpìna*.

Silky Lady's-mantle. Fl. June, Jul. Clt. 1813. Pl. $\frac{1}{4}$ to $\frac{1}{2}$ ft.

* * * *Leaves digitate; leaflets 3-5, multifid, or serrated all round.*

7 A. PENTAPHY'LLA (Lin. spec. 179.) leaflets 3-5, multifid, glabrous, and rather ciliated; stipulas foliaceous, bi or tridentate at the apex. ♃. H. Native of Europe, on the alps.—Bocc. mus. p. 18. t. 1. Stems creeping.

Five-leafletted Lady's-mantle. Fl. July. Clt. 1784. Pl. cr.

8 A. SIBBALDIÆFÒLIA (H. B. et Kunth, nov. gen. amer. 6. p. 226. t. 561.) leaves deeply 3-parted, clothed with adpressed pubescence beneath; segments deeply serrated, lateral ones bifid; stipulas 2-4-cleft; stems corymbosely many-flowered at the apex; flowers conglomerate, diandrous, and usually digynous. ♃. G. Native between Mexico and Tolucco, near Tianguillo, and on Mount Orizaba.

Sibbaldia-leaved Lady's-mantle. Fl. July. Clt. 1823. Pl. $\frac{1}{2}$ ft.

9 A. APHANOI'DES (Mutis. in Lin. fil. suppl. 122.) plant smoothish; leaves profoundly 3-parted; segments ciliated, intermediate one trifid, lateral ones bifid; stipulas 2-3-cleft; stems branched, creeping; flowers axillary and terminal, diandrous or tetrandrous and digynous. ♃. G. Native of New Granada. H. B. et Kunth, nov. gen. amer. 6. p. 225.

Aphanes-like Lady's-mantle. Pl. creeping.

10 A. VULCA'NICA (Schlecht. et Cham. in Linnæa. 5. p. 573.) pilose; stems flagelliform, trailing; cauline leaves ternate; leaflets cuneated, deeply 5-7-toothed at the apex; stipulas bifid on both sides; flowers axillary, forming small, leafy racemes at the tops of the branches; stamens 2; styles 3. ♃. G. Native of Mexico, on Mount Orizaba.

Volcanic Lady's-mantle. Pl. trailing.

11 A. HIRSU'TA (H. B. et Kunth, l. c.) leaves deeply tripartite, pilose; segments divided in a fan-like manner; stipulas 2-3-cleft; stems racemose, erect, hairy; flowers diandrous and digynous, disposed in glomerate heads. ♃. G. Native of South America.

Var. α, campéstris (Schlecht. et Cham. in Linnæa. 5. p. 572.) stems elongated; leaves canescent beneath. ♃. G. Native of Mexico, in grassy places near Jalapa.

Var. β, alpéstris (Schlecht. et Cham. l. c.) leaves the same colour on both surfaces; stem short. ♃. G. Native of Mexico, on Mount Orizaba.

Hairy Lady's-mantle. Pl. $\frac{1}{4}$ to $\frac{1}{3}$ foot.

12 A. RUPE'STRIS (H. B. et Kunth, nov. gen. amer. 6. p. 224.) leaves profoundly 3-parted, clothed with silky pili beneath; segments deeply serrated; stipulas entire; stems branched, creeping; flowers somewhat corymbose, diandrous and trigynous. ♃. G. Native of South America, on the burning mountain Ruca-Pichincha, near Quito. Habit of *A. áphanes*.

Rock Lady's-mantle. Pl. creeping.

13 A. NIVA'LIS (H. B. et Kunth, l. c. t. 560.) leaves multifid, sheathing, stem-clasping, and imbricating, clothed with silky hairs on the outside; stems tufted; flowers terminal, sessile, usually tern, diandrous, and usually tetragynous. ♃. F. Native of the province of Popayan, on the snowy top of Mount Paramo de Puraca.

Snow Lady's Mantle. Pl. tufted.

14 A. TRIPARTI'TA (Ruiz. et Pav. fl. per. 1. p. 68.) hairy; stems creeping, filiform, dichotomously branched, leafy above; leaves deeply 3-parted; segments cuneiform, 3-5-cleft; stipulas unequally bifid; petioles sheathing: peduncles dichotomously corymbose; flowers diandrous and digynous. ♃. F. Native of Peru, on the cold tops of mountains, in springs.

Tripartite-leaved Lady's-mantle. Pl. $\frac{1}{4}$ foot.

15 A. ORBICULA'TA (Ruiz et Pav. l. c.) leaves orbicularly reniform, lobed, deeply serrated, glabrous above, and clothed with silvery villi beneath; petioles terete, hairy; peduncles dichotomously corymbose; flowers 8-cleft, diandrous, digynous. ♄. F. Native of Peru, on cold mountains in humid places. A'phanes orbiculàta, Pers. ench.

Orbicular-leaved Lady's-mantle. Pl. $\frac{1}{4}$ foot.

16 A. PECTINA'TA (H. B. et Kunth, nov. gen. amer. 6. p. 226.) leaves roundish-reniform, 9-11-lobed, pectinately serrated, clothed with silvery silky down beneath; radical leaves many-lobed, on long petioles; stipulas 3-5-cleft; stems dichotomous; flowers 8-10-cleft, diandrous, usually pentagynous. ♃. F. Native of Mexico, near Jalapa, San Andres, and Cruz Blanca.

Pectinate-leaved Lady's-mantle. Pl. $\frac{1}{4}$ foot.

17 A. PINNA'TA (Ruiz et Pav. fl. per. 1. p. 69.) leaves pinnate; leaflets bifid or trifid; radical ones petiolate, cauline ones clasping the stem; stems branched, sarmentose, creeping; flowers diandrous, digynous. ♃. F. Native of Peru, on the high cold humid mountains of Tarma and Panatahuara. A'phanes pinnàta, Pers.

Pinnate-leaved Lady's-mantle. Pl. $\frac{1}{4}$ foot.

SECT. II. A'PHANES (from *a* priv. and *φαινω*, *phaino*, to appear; that is to say, a plant of no appearance, being small, and lying flat on the ground). Lin. gen. no. 166. Calyx 4-cleft, rarely 5-cleft, with small teeth between the lobes. Stamens 1-2, fertile, the rest sterile. Annual plants.

18 A. ARVE'NSIS (Scop. carn. 1. p. 115.) leaves small, hairy, petiolate, 3-parted; segments 2-3-cleft; flowers axillary, glomerate. ⊙. H. Native throughout Europe, *in* cultivated fields; plentiful in Britain, also of Iberia and Jamaica. Smith, engl. bot. 1011. A'phanes arvénsis, Lin. spec. 179. Oed. fl. dan. t. 973. A. a'phanes, Leers. herb. no. 122.

Corn Parsley-piert. Fl. April, June. Britain. Pl. prostrate.

19 A. CORNUCOPIOI'DES (Rœm. et Schult. syst. 3. p. 471.) leaves hairy, cut, stem-clasping, almost sessile, 3-parted, with the petiole dilated; segments 2-3-cleft; flowers axillary, glomerate; stipulas cut. ⊙. H. Native about Madrid, in cornfields. A'phanes cornucopioìdes, Lag. gen. et spec. nov. p. 99. no. 7.

Cornucopia-like Parsley-Piert. Pl. prostrate.

Cult. The hardy species will grow in any common soil, and are increased by dividing the plants at the root. Those species natives of South America should be grown in small pots, well drained with sherds, and filled with a mixture of peat and loam, and placed among other alpine plants. They are also to be increased by dividing the plants. The annual species are only weeds, and will grow under any circumstance.

III. CEPHALO'TUS (from κεφαλωτος, *kephalotos*, headed; because the filaments of stamens are capitate). Labill. nov. holl. 2. p. 7. t. 145. Brown, gen. rem. p. 68. t. 4. D. C. prod. 2. p. 591.

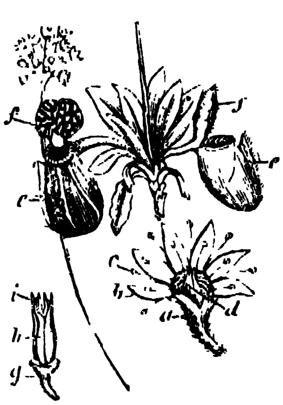
Lin. syst. *Dodecándria, Hexagýnia.* Calyx coloured, 6-cleft (f. 78. *b.*), valvate in æstivation. Petals wanting. Stamens 12 (f. 77. *c.*), inserted in the calyx. Anthers didymous (f. 77. *c.*), glandular on the back. Ovaries 6 (f. 78. *d. h.*), distinct. Styles terminal (f. 78. *i.*). Akenia 1-seeded. Seed erect.—An almost stemless herb, with the leaves all radical and stalked, some of which are elliptical and flat, and others dilated into the kind of leaves called pitchers (f. 78. *e.*), which are generally filled with air, which seems as if confined within them by a lid (f. 78. *f.*), like that of the nepenthes. Scape erect, bearing a panicle of small white flowers at the apex.

1 C. folliculа'ris (Labill. l. c.) ♃. G. Native of New Holland, on the eastern coast, in marshes. Hook. in bot. mag. vol. 5. new series, with a figure. (f. 78.)

Follicled-leaved Cephalotus or New Holland Pitcher-plant. Fl. June, July. Clt. 1823. Pl. 1 ft.

Cult. This plant grows best in turfy peat soil, either in a box or pot: it should be kept rather moist: for this purpose the pots may be kept in pans of water. If moss is allowed to grow on the surface of the mould it will tend greatly to the health of the plants, or moss may be planted on the surface of the soil around the plants. There is no known way of increasing the plant except by seed.

FIG. 78.



IV. MARGYRICA'RPUS (from μαργαρον, *margaron*, pearl, and καρπος, *karpos*, a fruit; resemblance in white fruit). Ruiz et Pav. fl. per. prod. 7. p. 33. H. B. et Kunth, nov. gen. amer. 6. p. 229.

Lin. syst. *Decándria, Monogýnia.* Calyx with the tube coarctate at the apex, and with a 4-5-parted limb, each segment furnished with a tooth-formed spine on the outside at the base. Petals wanting. Stamens 2. Stigma multifid, feathery. Carpel 1, converted into a roundish 1-seeded drupe. Seed pendulous.—A much branched shrub, with impari-pinnate leaves, subulate leaflets, and axillary sessile flowers.

1 M. setòsus (Ruiz et Pav. fl. per. 1. p. 28. t. 8. *f. d.*) ♄. G. Native of Brazil, Peru, Chili, Santa Fe de Bogota, Quito, &c. on arid hills. Empètrum pinnàtum, Lam. dict. 1. p. 567. Ancístrum barbàtum, Lam. ill. 1. p. 77. The leaves are either piliferous or naked at the apex, and therefore *M. setòsus* and *M. læ'vis* of Willd. are both referrible to this plant. The fruit is white, with a grateful acid taste. An infusion of the plant is used against hæmorrhages.

Bristly Pearl-fruit. Fl. June, July. Clt. 1829. Sh. 2 to 4 ft.

Cult. This shrub will grow very well in a mixture of sand and peat, and cuttings are easily rooted in the same kind of soil, with a bell-glass over them.

V. POLYLE'PIS (from πολυ, *poly*, many, and λεπις, *lepis*, a scale; calyx). Ruiz et Pav. fl. per. prod. p. 34. t. 15. H. B. et Kunth, nov. gen. amer. 6. p. 226. D. C. prod. 2. p. 519.

Lin. syst. *Penta-Icosándria, Monogýnia.* Calyx permanent, with a turbinate 3-4-angled tube, furnished above with spine-formed teeth; the throat contracted, and the limb 3-4-parted. Petals wanting. Stamens 5-20, inserted in the throat of the calyx. Anthers woolly. Carpel 1. Style filiform. Stigma pencil-formed. Drupe clavate, 3-4-angled, dry, inclosed within the calyx; angles unequal, alternating with the denticulations of the calyx. Seed pendulous.—Shrubs, with compound leaves, and with the stipulas adnate to the petioles. Flowers racemose.

* *Leaves trifoliate.*

1 P. inca'na (H. B. et Kunth, nov. gen. amer. 6. p. 227.) leaflets 3, crenated, clothed with hoary tomentum beneath, as well as the calyx; racemes axillary, few-flowered, about equal in length to the leaves; flowers pentandrous. ♄. S. Native of South America, on the banks of Rio Blando near Guachucal, in the province of De los Pastos.

Hoary Polylepis. Shrub 2 to 3 feet.

2 P. villòsa (H. B. et Kunth, l. c. p. 228.) leaflets 3, crenated, clothed with hoary villi beneath, and on the calyxes; racemes many-flowered, exceeding the leaves; flowers usually icosandrous. ♄. S. Native of Peru, near Caxamarca, where it is called *Quinuar.*

Villous Polylepis. Shrub 12 to 20 feet.

* * *Leaves pinnate.*

3 P. lanuginòsa (H. B. et Kunth, l. c. p. 228.) leaves of 2-4 pairs of nearly entire, rather emarginate leaflets, clothed with silky woolly down beneath, as well as the calyxes; racemes hardly exceeding the leaves. ♄. S. Native of South America, at the bottom of mount Chimborazo near Calpi. Perhaps sufficiently distinct from the following.

Woolly Polylepis. Shrub 6 to 12 feet.

4 P. racemòsa (Ruiz et Pav. syst. 1. p. 139.) leaves impari-pinnate; leaflets obovate or oblong, crenated, emarginate; flowers racemose, icosandrous. ♄. S. Native of Peru, among broken rocks towards Quinua, Caxamarquilla, and Pillao. De Candolle received a specimen from Bonpland, which he gathered near Caxamarca, and which is referrible to *P. racemòsa*, and distinct from *P. lanuginòsa* in the leaves bearing 4-6 pairs of distinctly sub-emarginate leaflets, not 2-4, as in that species.

Racemose-flowered Polylepis. Shrub.

Cult. See *Margyricárpus* for culture and propagation.

VI. ACÆ'NA (from ακαινα, *akaina*, a thorn; in reference to the calyx being armed with glochidate bristles). Vahl. enum. 1. p. 273. D. C. prod. 2. p. 592.

Lin. syst. *Di-Tetrándria, Mono-Digýnia.* Calyx furnished with 2 scales at the base, tubular, usually armed with glochidate bristles; limb 4-parted. Corolla none. Stamens 2-10. Carpels 1-2, dry, 1-seeded, inclosed within the tube of the calyx. Seed pendulous. Styles terminal. Stigma plumose.—Humble evergreen herbs or subshrubs, with impari-pinnate leaves, serrated leaflets, and spicate racemes or heads of small flowers. Anthers large, purple.

Sect. I. Eucæ'na (from *eu*, good, and *acæna*; genuine species). D. C. prod. 2. p. 592.—Acæ'na, Lin. mant. 200. Jacq. eclog. 1. p. 55. Calyx armed all around with glochidate bristles.

1 A. lappa'cea (Ruiz et Pav. fl. per. 1. p. 66. t. 103. f. a.) flowers racemose, distant, tetrandrous or pentandrous; stem erect; leaflets oblong, serrated. ♄. F. Native of Peru, on the rocks of Tarma.

Burdock Acæna. Pl. ½ foot.

2 A. AGRIMONIOÌDES (H. B. et Kunth, nov. gen. amer. 6. p. 231.) flowers alternate, spicate, lower ones remote; stem erect; leaflets oblong, coarsely serrated, glabrous, when young pubescent beneath. ♄. F. Native of Mexico, in cold places near Tianguillo. Allied to *A. Lappàcea.*

Agrimony-like Acæna. Pl. ½ foot.

3 A. ELONGA'TA (Lin. mant. 200.) flowers disposed in elongated spicate racemes; stems ascending; leaflets oblong, serrated, pubescent beneath. ♄. F. Native of Mexico. H. B. et Kunth, nov. gen. amer. 6. p. 252.

Elongated Acæna. Shrub 1 foot?

4 A. LATEBRÒSA (Ait. hort. kew. 1. p. 16.) flowers disposed in elongated spikes; peduncles scape-formed; stems procumbent; leaflets oblong, cut, hoary beneath. ♃. H. Native of the Cape of Good Hope. Agrimònia decúmbens, Lin. fil. suppl. 251. Ancístrum decúmbens, Thunb. fl. cap. 1. p. 142. Ancístrum latebròsum, Gærtn. fruct. 1. t. 32.

Dark Acæna. Fl. April, June. Clt. 1774. Pl. ½ to ¾ feet.

5 A. PINNATI'FIDA (Ruiz et Pav. fl. per. 1. p. 68. t. 104. f. 1. b.) plant silky; flowers crowded into cylindrical spikes, lower ones rather remote; stem erect; leaves of 3-5 pairs of deeply 3-5-parted leaflets, with the segments linear; flowers pentandrous or decandrous. ♃. F. Native of the hills of Chili and the Straits of Magellan. Lindl. bot. reg. t. 1271. Fruit covered with glochidate bristles.

Pinnatifid-leaved Acæna. Fl. May, June. Clt. 1822. Pl. ½ foot.

6 A. INCI'SA (Lindl. bot. reg. no. 1271.) plant erect and silky; leaves of 6-7 pairs of oblong, cuneated, deeply serrated leaflets; heads of flowers spicate, lower flowers remote. ♃. H. Native of Chili, at the baths of Collina near the limits of the snow.

Cut-leaved Acæna. Pl. ½ foot.

7 A. MYRIOPHY'LLA (Lindl. bot. reg. no. 1271.) erect, pubescent; leaves of 7-9 pairs of linear deeply pinnatifid leaflets; the segments very narrow and silky beneath; spikes cylindrical, interrupted at the base; fruit ovate, tomentose, glochidate. ♃. F. Native of Chili, about Mendoza.

Myriad-leaved Acæna. Pl. ½ foot.

8 A. SERI'CEA (Jacq. fil. eclog. 1. t. 55.) flowers collected into globose heads; stems decumbent; leaflets obovate, deeply toothed, pubescent, silky on the back. ♃. F. Native of New Spain, at Port Desire. Potèrium austràle, Sal. prod. 2. p. 360. Ancístrum acórna, Lag. nov. spec. p. 7. no. 100. ex Rœm. et Schultes.

Silky Acæna. Pl. ½ foot.

9 A. OVI'NA (Cunningh. in Fields' new south wales, p. 358.) plant covered with white hairs; leaflets deeply cut, pinnatifid; segments oblong, obtuse; spikes oblong; lower flowers remote; stem reclinate, somewhat demersed. ♃. H. Native of New Holland, frequent on the moist lands of Bathurst.

Sheep-fodder Acæna. Fl. June, July. Pl. reclinate.

SECT. II. ANCI'STRUM (from αγκιστρος, *ancistros*, a fish-hook; in reference to the bristles of the calyx, which terminate in hooked points). Forst. gen. t. 2. Lam. ill. p. 22. D. C. prod. 2. p. 592. Calyx tubular, ending at the apex in 4-5 bristles, which are glochidate at the apex.

10 A. SANGUISÓRBÆ (Vahl. enum. 1. p. 294.) spikes globose; stems decumbent; leaves remote; leaflets 7 pairs, cuneated, serrated, silky beneath. ♃. H. Native of New Zealand. Ancístrum anserinæfòlium, Forst. l. c. Ancístrum diándrum, Forst. prod. no. 52. Ancístrum decúmbens, Gært. fr. t. 32. Ancístrum Sanguisórbæ, Lin. fil. suppl. 189. Bristles of calyx 4. Stigma pencil-formed?

Burnet Acæna. Fl. June. Clt. 1796. Pl. decumbent.

11 A. OVALIFÒLIA (Ruiz et Pav. fl. per. 1. p. 67. t. 103. f. c.) spikes globose; stems creeping; leaves with 4-5 pairs of oblong and somewhat cuneated leaflets, which are villous beneath. ♄. H. Native of Peru, in humid shady places. Ancístrum rèpens, Vent. hort. cels. t. 5.

Oval-leaved Acæna. Fl. May, June. Clt. 1802. Pl. cr.

12 A. SARMENTÒSA (Carm. in Lin. trans. 11. p. 20.) spikes globose; stems creeping; leaves of 4-5 pairs of sharply serrated leaflets, which are glabrous and veiny above, but silky beneath; stipulas undivided. ♃. H. Native of the Island of Tristan d'Acugna. Ancístrum sarmentòsum, Pet. Th. fl. p. 44. Calyx 4-awned. Stamens 2.

Sarmentose Acæna. Pl. creeping.

13 A. ARGE'NTEA (Ruiz et Pav. fl. per. 1. p. 67. t. 103. f. b.) spikes globose; stems creeping; leaves of 3-4 pairs of ovate-oblong serrated leaflets, which are silky beneath. ♃. H. Native of Chili, in bogs and fields. Ancístrum argénteum, H. B. et Kunth, nov. gen. amer. 6. p. 230. Calyx villous outside.

Silvery Acæna. Fl. May, June. Clt. 1822. Pl. creeping.

14 A. ADSCE'NDENS (Vahl. enum 1. p. 297.) spikes globose; stems decumbent; leaves with 5-7 pairs of oblong and obovate serrated smoothish leaflets. ♃. H. Native of the Straits of Magellan. Ancístrum hùmile, Pers. ench. 1. p. 30. Ancístrum lævigàtum, Lag. nov. spec. p. 7.

Ascending Acæna. Fl. May, June. Clt. 1822. Pl. ½ foot.

15 A. LÆVIGA'TA (Ait. hort. kew. 1. p. 68.) terminal spikes cylindrical, lower ones globose; stems decumbent; leaflets oval, deeply crenated, glabrous above, and canescent beneath. ♃. H. Native of the Straits of Magellan.

Smooth Acæna. Fl. June, Aug. Clt. 1790. Pl. dec.

16 A. MAGELLA'NICA (Vahl. enum. 1. p. 297.) spikes of flowers globose; stems erect, glabrous; leaves with 6 pairs of obovate, deeply serrated trifid leaflets, which are canescent beneath. ♃. H. Native of the Straits of Magellan. Ancístrum Magellánicum, Lam. ill. t. 22. f. 2.

Magellan Acæna. Pl. ½ foot.

17 A. TRI'FIDA (Ruiz et Pav. fl. per. 1. p. 67. t. 104. f. c.) spikes globose; stems erect, and are, as well as the leaflets, clothed with canescent tomentum; leaflets 7-8 pairs, cuneiform, 3-5 cleft. ♃. H. Native of Chili, in pastures.

Trifid-leafletted Acæna. Pl. ½ to 1 foot.

18 A. LU'CIDA (Vahl. enum. 1. p. 296.) spikes ovate-oblong; leaflets 8-9 pairs, 3-5-parted, villous beneath, with the segments linear. ♃. H. Native of the Falkland Islands. Ancístrum lùcidum, Lam. ill. t. 22. f. 3. Calyx 4 awned, pilose outside.

Shining-leaved Acæna. Fl. May, June. Clt. 1777. Pl. ½ ft.

19 A. PU'MILA (Vahl. enum. 1. p. 298.) spikes terete; peduncles scape-formed; stems demersed; leaflets 11-12 pairs, oval, crenate-serrated, quite glabrous, shining above. ♃. H. Native of the Straits of Magellan. The fruit is said to be armed; if such be the case this species belongs to the first section, *Eucæ'na.*

Dwarf Acæna. Pl. ¼ foot.

20 A. CYLINDRISTA'CHIA (Ruiz et Pav. fl. per. 1. p. 68. t. 104. f. 2.) spikes cylindrical; peduncles scape-formed; stems demersed; leaflets 10-11 pairs, oblong, serrated, silky beneath. ♃. H. Native of Peru, on the cold hills of Tarma. Calyx 4-awned.

Cylindrical-spiked Acæna. Pl. ½ foot.

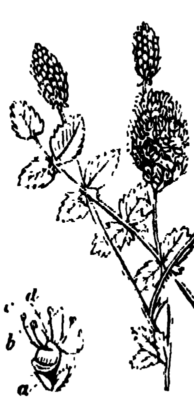
Cult. The species are of easy culture, and are increased by dividing or by seed. A dry situation and sandy soil suit them best.

VII. SANGUISO'RBA (from *sanguis*, blood, and *sorbeo*, to absorb; the *S. officinàlis* was formerly supposed to be a powerful vulnerary). Lin. gen. no. 146. Lam. ill. t. 85.—Pimpinélla species of Tourn. inst. t. 68. Gærtn. fruct. 1. p. 161. t. 32.

Lin. syst. *Tetrándria, Monogýnia.* Flowers hermaphrodite. Calyx 4-cleft (f. 79. *b.*), furnished with two scales on the outside at the base (f. 79. *a.*). Petals wanting. Stamens 4 (f. 79. *c.*). Carpels 2, inclosed within the tube of the calyx. Style pencil-formed at the apex. Seed inverted.—Perennial herbs, with impari-pinnate leaves and small flowers, crowded into very dense, globose, ovate or cylindrical spikes, the flowers expanding from the top.

* *Stamens equal in length to the calyx, or shorter.*

FIG. 79.



1 S. officina'lis (Lin. spec. 169.) spikes ovate; stamens equal in length to the calyx; calyxes and leaves glabrous; leaflets ovate, rather cordate. ♃. H. Native of Europe, in meadows and woods. In Britain in moist meadows, particularly in a chalky and limestone soil: in marly soil about Stafford; in Cambridgeshire at King's-hedges, Whitwell, Ditton, &c.; in Bedfordshire at Bromham, Fenlake, and Cow Meadows; in Oxfordshire at Isley, Cowley, and Binsey. In Scotland in low moist meadows near Dumfries, but by no means common. Smith, engl. bot. 1312. Oed. fl. dan. t. 97. Mart. fl. rust. t. 142. Flowers dark purple. The plant makes good fodder when young.

Var. β, auriculàta (All. ped. no. 292.) leaflets each furnished with a foliaceous stipel, and hence auriculated. ♃. H. Native of Savoy, Switzerland, Piedmont, &c. S. Sabáuda, Mill. dict. no. 2.—Bocc. mus. 19. t. 9. Spikes cylindrical.

Var. γ, Hispánica (Mill. dict. no. 3.) leaflets 4 pairs, pale green above and hairy beneath; spikes of flowers reddish. Miller regards both these varieties as specifically distinct.

Officinal Burnet. Fl. June, Aug. Britain. Pl. 3 to 4 feet.

2 S. ca'rnea (Fisch. hort. gor. ex Link. enum. 1. p. 144.) spikes nearly globose; stamens shorter than the calyx; bracteas ciliated; calyx pubescent; leaves glabrous; leaflets oblong-lanceolate, cordate at the base, crenate-toothed. ♃. H. Native of Siberia in many places. S. rùbra, Schrank, fl. mon. p. 144. t. 69. Leaflets 2 inches long; flowers dark red.

Flesh-coloured-flowered Burnet. Fl. June, Aug. Clt. 1821. Pl. 3 to 4 feet.

3 S. Andersònii; spikes cylindrical; stamens about equal in length to the calyx or a little shorter; bracteas ciliated; calyx glabrous; leaves glabrous; leaflets ovate-lanceolate, cordate, deeply serrated, those of the upper leaves nearly sessile, and those of the lower ones petiolulate and stipulate. ♃. H. Native of Siberia? Grown in the Chelsea botanic garden.

Anderson's Burnet. Fl. July, Aug. Clt ? Pl. 3 to 4 feet.

* * *Stamens exserted.*

4 S. Maurita'nica (Desf. atl. 1. p. 142.) spikes ovate-cylindrical; stamens exserted; calyxes wrinkled; leaflets lanceolate, profoundly serrated, villous beneath, as well as the stem. ♃. H. Native of Algiers, in hedges.—Moris. oxon. sect. 8. t. 18. f. 4. Spikes greenish.

Mauritanian Burnet. Fl. July, Aug. Clt. 1810. Pl. 3 to 4 ft.

5 S. tenuifòlia (Fisch. hort. gor. ex Link. enum. 1. p. 144.) spikes cylindrical; stamens exserted; bracteas ciliated; leaflets glabrous, oblong-lanceolate, nearly sessile, and serrated. ♃. H. Native of Dahuria and China. Spikes of flowers red. Leaflets of the lower leaves petiolulate and stipulate.

Thin-leaved Burnet. Fl. June, Aug. Clt. 1820. Pl. 3 to 4 ft.

6 S. me'dia (Lin. spec. 169.) spikes ovate-cylindrical; stamens but little exserted; bracteas and leaves glabrous; leaflets ovate, rather cordate, toothed. ♃. H. Native of North America from Canada to Carolina, and of Siberia.—Moris. oxon. sect. 8. t. 18. f. 8. Spikes red, not so round as those of *S. officinàlis.*

Middle Burnet. Fl. July, Sept. Clt. 1785. Pl. 3 to 4 ft.

7 S. alpi'na (Bunge in Led. fl. ros. alt. ill. t. 90. fl. alt. 1. p. 142.) spikes elongated, cylindrical, drooping; stamens much exserted: bracteas and calyxes hairy; leaves glabrous; leaflets cordate-oblong, petiolulate, coarsely serrated. ♃. H. Native of Siberia, about fountains. Spikes yellowish.

Alpine Burnet. Fl. July, Sept. Pl. 3 to 4 feet.

8 S. neglе'cta (G. Don, in Loud. hort. brit. p. 42.) spikes cylindrical; stamens much exserted; calyx glabrous; bracteas ciliated; leaflets glabrous, lanceolate, serrated. ♃. H. Native of Siberia? Spikes of flowers white. Anthers dark.

Neglected Burnet. Fl. July, Sept. Clt. 1800. Pl. 3 to 4 ft.

9 S. Canade'nsis (Lin. spec. 169.) spikes long, cylindrical; stamens much exserted; bracteas and leaves glabrous; leaflets ovate-oblong, rather cordate at the base, coarsely serrated. ♃. H. Native of North America from Canada to New York, in humid places.—Corn. can. p. 175. t. 174.—Barrel. icon. rar. 18. t. 739.—Morris. oxon. sect. 8. t. 18. f. 12. Spikes long, slender, white. There is besides this white kind, a long, red, spiked, American Burnet, having the spikes 3 or 4 inches long, while those of the present plant are not above 2 inches long. It is probably a species of which we know nothing.

Canadian Burnet. Fl. July, Sep. Clt. 1633. Pl. 2 to 3 ft.

Cult. All the species of *Sanguisórba* are of the easiest culture; they grow in any common soil, and are readily increased by dividing the plants at the root.

VIII. POTE'RIUM (from *poterium*, a cup; the *P. sanguisórba* is infused in drinks). Lin. gen. no. 1069. Lam. ill. t. 777. D. C. prod. 2. p. 594.—Pimpinélla species, Tourn. Gærtn.—Pimpinélla, Adans. fam. 2. p. 293.

Lin. syst. *Monœ'cia, Polyándria* or *Polygàmia, Monœ'cia.* Flowers monœcious or polygamous. Calyx furnished with 3 scales at the base, having the tube contracted at the apex, and the limb 4-parted. Petals wanting. Stamens 20-30. Ovaries 2, terminated each by a filiform style, crowned by a pencil-formed stigma. Akenia dry, 1-seeded, inclosed in the indurated calyx. Seed inverted.—Herbs or subshrubs, with impari-pinnate leaves and serrated leaflets. Flowers collected into dense globose or cylindrical spikes.

Sect. I. Leiopote'rium (from λειος, *leios*, smooth, and *poterium*; in reference to the smooth fruit of the species contained in this section). D. C. prod. 2. p. 594. Fruit (tube of calyx) smooth, somewhat baccate. Spikes cylindrical. Stems shrubby.

1 P. spinòsum (Lin. spec. 1411.) shrubby; branches rather villous, ultimate ones terminating in spines; leaflets smoothish, serrated; spikes oblong. ♄. G. Native of the islands of the Archipelago, about Constantinople, on Mount Lebanon, Natolia, &c.—Moris. oxon. sect. 8. t. 18. f. 5.—Sab. hort. 2. t. 73. Leaves small. Flowers greenish. Fruit baccate, nearly as in the rose.

Var. β, crispum (D.C. prod. 2. p. 594.) leaflets smaller, nearly entire, rather tomentose beneath, with revolute curled margins. ♄. G. Native of sterile places.

Var. γ, *inérme* (D. C. l. c.) branches elongated, unarmed, beset with spreading hairs; leaflets flat, serrated, glabrous above and rather villous beneath. ♄. H. This variety is probably occasioned by culture.

Spiny Burnet. Fl. April, Aug. Clt. 1595. Sh. 2 to 3 ft.

2 P. caudа'tum (Ait. hort. kew. 3. p. 354.) shrubby; branches unarmed; petioles, peduncles, and under surface of leaves villous; spikes elongated, cylindrical. ♄. G. Native of the Canary Islands. Sims, bot. mag. 2341. Coll. hort. rip. 112. t. 40. Flowers dioecious, sometimes 6-cleft and trigynous, greenish.

Tailed Burnet. Fl. Jan. April. Clt. 1779. Shrub 2 to 3 ft.

Sect. II. Rutidopote'rium (from ρυτις, *rutis*, a wrinkle, and *poterium;* in reference to the wrinkled or warted fruit of the species contained in the section). D. C. prod. 2. p. 594. Fruit (tube of calyx) wrinkled or tuberculated. Spikes globose. Stems herbaceous or frutescent at the very base.

3 P. ancistroi'des (Desf. atl. 2. p. 346. t. 251.) suffruticose at the base; branches angular, decumbent; leaflets 4-5 pairs, ovate-roundish, villous on the nerves beneath. ♄. F. Native of the north of Africa, in the fissures of rocks near Tlemsen, and at the foot of Mount Lebanon. Fruit wrinkled.

Ancistrum-like Burnet. Shrub procumbent.

4 P. sanguisórba (Lin. spec. 1411.) herbaceous; stems and leaves glabrous; leaflets ovate-roundish; lower flowers of the head male, upper ones female. ♃. H. Native of Europe, in high dry pastures on a calcareous soil; plentiful in the chalky counties of England. Smith, engl. bot. 860. Cam. epit. 777. Curt. lond. 2. t. 64. Mart. fl. rust. t. 69. Pimpinélla Sanguisórba, Gærtn. fruct. 1. p. 162. t. 32. Pimpinélla polystèmon, Hall. helv. no. 706. Flowers greenish or purplish. Stipulas cut. Root fusiform. The *burnet* was originally brought into notice by Rocque, a commercial gardener at Walham Green, near London, who found means to procure the patronage of the Dublin and other societies to this plant, which being a novelty, attracted the attention, and called forth the eulogies of Arthur Young, and other leading agriculturists of the day. Miller, however, at the time observed, that whoever will give themselves the trouble to examine the grounds where it naturally grows, will find the plants left uneaten by the cattle when the grass about them has been cropped to the roots; besides, in wet winters and on strong land, the plants are of short duration, and therefore very unfit for the purpose of pasture or hay; nor is the produce sufficient to tempt any persons of skill to engage in its culture. Mr. Curtis says of *burnet,* that it is one of those plants which has for some years past been attempted to be introduced into agriculture, but not answering the farmer's expectation, is now in a great degree laid aside. Cattle are said not to be fond of it; nor is its produce sufficient to answer the expence attending its culture.

Var. β, *pubérulum* (D. C. prod. 2. p. 594.) stems and leaves puberulous. ♃. H. Native of the south of France.

Common *Burnet.* Fl. June, July. Britain. Pl. 1 to 2 feet.

5 P. poly'gamum (Waldst. et Kit. pl. rar. hung. 2. p. 198.) herbaceous; stems angular, and are, as well as the leaves, glabrous; leaflets ovate-oblong; lower flowers of the heads male, middle ones hermaphrodite, upper ones female. ♃. H. Native of Hungary, in dry situations. Heads greenish or purplish.

Polygamous Burnet. Fl. July. Clt. 1803. Pl. 1 to 2 feet.

6 P. agrimonifólium (Cav. elench. hort. madr. 1803.) herbaceous; stems nearly terete, covered with glandular down; leaflets oblong, with smaller ones sometimes intermixed. ♃. H. Native of Spain, in Granada.

Var. β, *hýbridum* (Lin. spec. 1411.) leaflets oval or ovate. ♃. H. Native of the south of France.—Barrel. icon. 632. Pimpinélla agrimonioìdes, Mor. oxon. sect. 8. t. 18. f. 9. Leaves like those of agrimony, sweet-scented.

Agrimony-leaved Burnet. Fl. July, Aug. Clt. 1822. Pl. 2 ft.

7 P. villòsum (Sibth. et Smith, fl. græc. t. 942. ex prod. 2. p. 238.) herbaceous; stems angular from furrows, hairy; leaflets oblong, deeply toothed. ♃. H. Native about Constantinople. Pimpinélla orientàlis villosíssimus, Tourn. cor. 8.

Villous Burnet. Pl. 1 to 2 feet.

8 P. verrucòsum (Link. in litt.) very like *P. sanguisórba,* and differs only in the warted fruit. ♃. H. Native of? Flowers greenish.

Warted-fruited Burnet. Fl. July. Clt. 1828. Pl. 1 to 2 ft.

9 P. a'nnuum (Nutt. mss. in Hook. fl. bor. amer. p. 198.) herbaceous, annual, glabrous; stem erect, dichotomous; leaves with 4-5 pairs of ovate, deeply pectinately pinnate leaflets, having the segments very narrow-linear; heads oval, unisexual? ⊙. H. Native of North America, on the grand rapids of the Columbia river, and on the plains of the Multnomak, and of Louisiana on the Red river.

Annual Burnet. Pl. 1 to 2 feet.

Cult. The hardy herbaceous kinds of *burnet* will grow in any common soil, and are best increased by seeds, as most of them are little better than biennial plants. The shrubby species, or those belonging to the first section, thrive best in a light rich soil, and young cuttings root readily in the same kind of soil under a hand-glass.

IX. CLIFFO'RTIA (this name was given by Eichrodt in honour of George Clifford, the first patron of Linnæus, a merchant of Amsterdam; a catalogue of whose garden at Hartecamp was published by Linnæus under the title of Hortus Cliffortiànus, Amst. 1737. fol.) Lin. gen. no. 1133. Lam. ill. t. 827. D. C. prod. 2. p. 595.—Cliffórtia and Morilándia, Neck. elem. no. 765 and 766. Nènax, Gærtn. fruct. 1. t. 132.

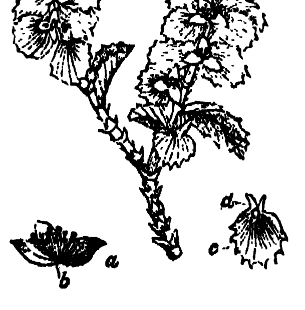
Lin. syst. *Diœ'cia, Polyándria.* Flowers dioecious. Tube of calyx urceolate; limb 3-parted (f. 80. *a.*). Petals wanting. Stamens about 30 in the male flowers (f. 80. *b.*). Ovaries 2 in the female flowers. Styles 2. Stigmas elongated, feathery, bearded. Akenia 1-2, covered by the calyx, dry, indehiscent, 1-seeded. Seed erect. Cotyledons oblong, foliaceous.—Shrubs, all natives of the Cape of Good Hope. The leaves are truly trifoliate, but the form is variable. Stipulas (f. 80. *d.*) adhering to the petioles, which are exceedingly short. Flowers insignificant, axillary, almost sessile.

§ 1. *Multinérvæ* (*multus,* many, and *nervus,* a nerve; leaves with many nerves). *D. C. prod. 2. p. 595. Leaflets solitary, many-nerved at the base. Stipulas simple, but the leaves, although said to be solitary, are probably composed of 3-joined leaflets, furnished with a stipula on each side* (f. 80. *d.*).

1 C. illicifòlia (Lin. spec. 1469.) leaves roundish-elliptic, stem-clasping, glabrous, stiff, somewhat 3-lobed, and spiny-toothed at the apex. ♄. G. Native of the Cape of Good Hope, as are also all the following.—Dill. hort. elth. t. 31. f. 35. Lin. hort. cliff. t. 30. Filaments white; anthers yellow. (f. 80.)

Holly-leaved Cliffortia. Fl. May, Sept. Clt. 1714. Shrub 2 to 3 ft.

FIG. 80.



2 C. CORDIFÒLIA (Lam. dict. 2. p. 47.) leaves ovate, ending in a spine, half stem-clasping, glabrous, stiff, quite entire, or furnished with a spine-like tooth towards the apex. ♄. G. Burch. cat. afr. austr. no. 792.

Heart-leaved Cliffortia. Fl. June, July. Clt. 1820. Shrub 2 to 3 feet.

3 C. TRIDENTA'TA (Willd. spec. 4. p. 838.) leaves oblong-cuneiform, entire, and tridentate, nerved, pubescent beneath. ♄. G. C. ruscifòlia, Thunb. prod. 93? Berg. cap. 354.

Tridentate-leaved Cliffortia. Fl. May, Sept. Shrub.

4 C. RUSCIFÒLIA (Lin. spec. 1469.) leaves lanceolate, glabrous, nerved, ending in a spine, entire or furnished with a spine-like tooth on each side. ♄. G. Lin. hort. cliff. t. 31. C. arachnoìdea, Lodd. bot. cab. t. 260.—Pluk. alm. 297. f. 2. There are varieties of this species with glabrous and pubescent branches.

Butcher's-broom-leaved Cliffortia. Fl. June, July. Clt. 1752. Shrub 2 to 3 feet.

5 C. GRAMI'NEA (Lin. fil. suppl. 429.) leaves linear, acuminated, 3-nerved, glabrous, quite entire or remotely setaceously serrated; stipulas large, 3-nerved, adnate to the broad petiole, and drawn out in 2 lobes. ♄. G. Sieb. pl. exsic. cap. no. 86.

Grass-leaved Cliffortia. Shrub 2 feet.

§ 2. *Dichópteræ* (from διχα, *dicha*, double, and πτερον, *pteron*, a wing; in reference to bifid stipulas). *D. C. prod. 2. p. 595. Leaflets* 1-*nerved, solitary at first sight. Stipulas bifid; or the leaves perhaps trifoliate, bistipulate, the lateral leaflets small and tooth-formed.*

6 C. ODORA'TA (Lin. fil. suppl. 431.) leaves ovate, obtuse, serrated, plicately veined, villous beneath. ♄. G. Willd. spec. 4. p. 837.

Sweet-scented Cliffortia. Shrub 2 to 3 feet.

7 C. SERRA'TA (Reichb. ex Spreng. syst. add. p. 209.) leaves spatulate-lanceolate, cuspidately serrated, glabrous; stipulas permanent, imbricated, ovate; branches flexuous, twiggy. ♄. G. C. serràta, Thunb. prod. 2. p. 93. is perhaps the same.

Serrated-leaved Cliffortia. Shrub 2 feet.

8 C. SPICA'TA (Reichb. ex Spreng. syst. add. p. 209.) stem simple, hairy; leaves lanceolate, subverticillate, erect; spikes dense, terminal, leafy. ♄. G.

Spicate Cliffortia. Shrub.

9 C. FERRUGI'NEA (Lin. fil. suppl. 429.) leaves lanceolate, tapering to the base, setaceously serrated, striated, glabrous. ♄. G. C. berberifòlia, Lam. dict. 1. p. 48. Stipulas setaceous, bifid, ferruginous ex Willd. but villous ex Lam.

Rusty Cliffortia. Shrub prostrate.

10 C. FILICAU'LIS (Schlecht. et Cham. in Linnæa. 2. p. 33.) trailing; leaves cuneate-obovate, tridentate, with villously ciliated edges, veinless above; flowers monœcious. ♄. G. Stems rooting.

Thread-stemmed Cliffortia. Shrub creeping.

11 C. CUNEA'TA (Ait. hort. kew. 3. p. 413.) leaves cuneiform, truncate, 3-5-toothed at the apex, striately veined, glabrous on both surfaces. ♄. G.

Cuneate-leaved Cliffortia. Fl. April, May. Clt. 1787. Sh. 2 to 3 feet.

§ 3. *Tenuifòliæ* (from *tenuis*, thin, and *folium*, a leaf; leaves all fine and filiform). *D. C. prod. 2. p. 596. Leaflets 3, subulate, linear or oblong, lateral ones sometimes the shortest, but much like the middle ones, cauline ones usually all abortive, the young or new ones disposed in fascicles in the axils of the stipulas.*

12 C. STROBILI'FERA (Lin. syst. 749.) leaflets linear, acute, glabrous, with scabrous margins, in fascicles in the axils of the stipulas. ♄. G. Pluk. alm. t. 275. f. 2. Stipulas connate in one, bifid. Sometimes there are strobile-formed galls on the branches, whence the specific name.

Strobile-bearing Cliffortia. Fl. May, June. Clt. 1818. Sh. 2 to 3 feet.

13 C. ERICÆFÒLIA (Lin. fil. suppl. 430.) leaflets terete, sulcate, glabrous, in fascicles. ♄. G.

Heath-leaved Cliffortia. Shrub 2 to 3 feet.

14 C. SERPYLLIFÒLIA (Schlecht. et Cham. in Linnæa. 2. p. 34.) leaves cuneated-spatulate, awnless, quite glabrous; flowers monœcious. ♄. G.

Wild-thyme-leaved Cliffortia. Shrub 1½ foot.

15 C. TERETIFÒLIA (Thunb. prod. p. 93.) leaflets terete, subulate, incurved, glabrous, in fascicles. ♄. G.

Terete-leaved Cliffortia. Shrub 1 to 2 feet.

16 C. FILIFÒLIA (Lin. fil. suppl. 430.) leaflets filiform, trigonal, glabrous, in fascicles. ♄. G. Nenax aceròsa, Gærtn. fruct. 1. p. 165. t. 32. f. 7.

Thread-leaved Cliffortia. Shrub 1 to 2 feet.

17 C. JUNIPE'RINA (Lin. fil. suppl. 430.) leaflets subulate, glabrous, mucronate, in fascicles. ♄. G. A much branched shrub. Flowers axillary, sessile. The three leaflets are equal among themselves.

Juniper-like Cliffortia. Shrub 3 feet.

18 S. SARMENTÒSA (Lin. mant. 299.) leaflets linear, villous, in fascicles; branches clothed with velvety pubescence. ♄. G.

Sarmentose Cliffortia. Clt. 1793. Shrub straggling.

19 C. FALCA'TA (Lin. fil. suppl. 431.) leaflets linear, mucronate, nearly falcate, in fascicles, and are, as well as the branches, glabrous. ♄. G. This species is usually confounded with the last, but differs from it in being glabrous.

Falcate-leaved Cliffortia. Fl. June, July. Clt. 1818. Shrub 1 to 2 feet.

§ 4. *Latifòliæ* (from *latus*, broad, and *folium*, a leaf; leaflets broad). *D. C. prod. 2. p. 596. Leaflets 3, oval or obcordate, usually dissimilar in shape, lateral leaflets stipule-formed. Stipulas small.*

20 C. TERNA'TA (Lin. fil. suppl. 430.) leaflets oval-oblong, acute, all nearly equal in size and shape, and are, as well as the branchlets, pilose. ♄. G. C. polygonifòlia, Lin. spec. 1470. hort. cliff. 501. t. 32. Young leaves in fascicles.

Ternate-leaved Cliffortia. Fl. June, July, Clt. 1818. Shrub 2 to 3 feet.

21 C. TRIFOLIA'TA (Lin. spec. 1470.) leaflets in fascicles, veiny, pilose, lateral ones lanceolate, quite entire, middle one obovate, tridentate. ♄. G. Pluk. alm. t. 319. f. 4.

Trifoliate Cliffortia. Fl. April, July. Clt. 1752. Shrub proc.

22 C. OBCORDA'TA (Lin. fil. suppl. 429.) leaflets veinless, glabrous, lateral ones roundish-elliptic, middle one obcordate; branches pubescent. ♄. G. Willd. spec. 2. p. 842.

Obcordate-leafletted Cliffortia. Fl. June, Aug. Clt. 1790. Shrub 2 to 3 feet.

23 C. OBLÌQUA (Spreng. neue. entd. 2. p. 174.) leaflets veiny, quite glabrous, crenulated, lateral ones roundish, obliquely cordate, middle one obcordate; branches glabrous. ♄. G.

Oblique-leaved Cliffortia. Fl. June, July. Clt. 1816. Sh. 2 to 3 feet.

24 C. DENTA'TA (Willd. spec. 4. p. 842.) leaflets obovate, glabrous, veiny, a little toothed at the apex, middle one tridentate; branches pubescent. ♄. G. Allied to *C. obcordàta.*

Toothed-leaved Cliffortia. Fl. June, July. Shrub 2 to 3 ft.

§ 5. *Bifoliolæ* (*bis*, two, *foliola*, leaflets; leaves composed of two opposite leaflets without any middle one). *D. C. prod.* 2. p. 596. *Stipulas small. Leaves of 2 opposite leaflets from the middle one being abortive, lateral ones large. Petiole wanting.*

25 C. CRENA'TA (Lin. fil. suppl. 430.) leaflets 2-3, orbicular, adpressed, denticulated, 7-nerved, glabrous. ♄. G. Perhaps belonging to the preceding section.
Crenate-leaved Cliffórtia. Fl. July, Aug. Clt 1791. Sh. 2 to 3 feet.

26 C. PULCHE'LLA (Lin. fil. suppl. 430.) leaflets 2, orbicular, adpressed, many-nerved, entire, with somewhat erose margins. ♄. G. Willd. spec. 4. p. 839.
Neat Cliffórtia. Fl. April, May. Clt. 1795. Shrub 1½ ft.

27 C. CINE'REA (Thunb. prod. p. 93.) leaflets connate, ovate, trigonal, hoary-tomentose. ♄. G. Perhaps belonging to a different section.
Grey Cliffórtia. Fl. June, July. Clt. 1800. Pl. 2 feet.

Cult. The species of *Cliffórtia* are plants of singular habit, and only deserve to be cultivated on that account. They thrive well in an equal mixture of loam and peat. Cuttings of young wood root freely in sand, under a bell-glass.

ORDER LXXXV. POMA'CEÆ (this order contains trees agreeing in important characters with the *apple* and *pear*). Juss. gen. p. 334. Rich. anal. fr. p. 33. Lindl. Lin. trans. 13. p. 93. introd. nat. ord. p. 83.—Rosàceæ, Tribe VIII. Pomàceæ, D. C. prod. 2. p. 626.

Calyx superior, 5-toothed (f. 83. *a.* f. 81. *a.*), the odd segment posterior. Petals 5 (f. 83. *b.* f. 84. *f.*), unguiculate, inserted in the throat of the calyx, the odd one anterior. Stamens indefinite, inserted in a ring in the throat of the calyx (f. 83. *e.* f. 84. *b.*). Ovaries from 1-5 (f. 82. *e.* f. 83. *c.*), adhering more or less to the sides of the calyx (f. 83. *c.*) and to each other. Ovula usually 2, collateral, ascending, very rarely solitary. Styles from 1-5 (f. 82. *d.*), having simple stigmas. Fruit a pome, 1-5-celled (f. 81. *a.* f. 82. *d.* f. 84. *g.*), seldom spuriously 10-celled, with the endocarp either cartilaginous, spongy, or bony. Seeds ascending, solitary. Albumen none. Embryo erect, with flat cotyledons or convolute ones as in *Chamæmèlis*, and a short, conical radicle. This order is composed of trees or shrubs, with alternate, stipulate, simple, or compound leaves, and terminal cymes of white or pink flowers. *Pomàceæ* is closely allied to *Rosàceæ*, from which it differs in the adhesion of the ovarium to the sides of the calyx, and more or less with each other. Their fruit is always a pome, that is, it is made up of a fleshy calyx, adhering to fleshy or bony ovaria, containing a definite number of seeds. *Pomàceæ* is peculiarly distinguished by their ovula being in pairs and side by side, while *Rosaceæ*, when they have 2 or more ascending ovula, always have them placed one above another. Cultivated plants of this order are apt to produce monstrous flowers, which sometimes depart in a remarkable degree from their normal group. Prussic acid exists in *Cotoneáster microphýlla*, a plant of this order. The fruit as an article of food, and the flowers for their beauty, are the chief peculiarities of this order. The *apple*, the *pear*, the *medlar*, the *quince*, the *service*, the *rowan-tree*, the *mountain-ash*, are all well known, either for their beauty or their use. The wood of the *pear*-tree is almost as hard as box, for which it is even substituted by wood engravers. The timber of the *bean-tree* (*Pỳrus A'ria*) is invaluable for axle-trees. The bark of *Photínia dùbia* is used for dyeing scarlet in Nipaul. Malic acid is contained in considerable quantities in *apples*; it is also almost the sole acidifying principle of the berries of the *mountain-ash*, the *rowan* or *rhodon*-tree (*Pỳrus Aucupària*).

Synopsis of the genera.

1 CRATÆ'GUS. Calyx urceolate, 5-cleft. Petals orbicular. Ovarium 2-5-celled. Styles 2-5, glabrous. Pome fleshy, ovate, containing a bony putamen.

2 RAPHIO'LEPIS. Limb of calyx funnel-shaped, deciduous. Ovary 2-celled, 2-styled. Pome with a thickened closed disk and a chartaceous putamen, containing 2 gibbous seeds.

3 CHAMÆME'LIS. Calyx truncate, with 5 little teeth. Petals small, erose. Stamens 10-15. Ovary 1-celled. Style 1. Ovula 2, erect.

4 PHOTI'NIA. Calyx 5-toothed. Petals reflexed. Ovary villous, 2-celled. Styles 2, glabrous. Pericarp 2-celled, inclosed in the fleshy calyx.

5 ERIOBO'TRYA. Calyx woolly, 5-toothed. Petals bearded. Styles 5, pilose, inclosed. Pome closed, 3-5-celled (f. 81. *a.*).

6 COTONEA'STER. Flowers polygamous. Calyx turbinate, bluntly 5-toothed. Petals short. Stamens length of the calycine teeth. Styles glabrous, shorter than the stamens. Carpels 2-3, parietal, biovulate, inclosed in the calyx.

7 AMELA'NCHIER. Calyx 5-cleft (f. 82. *c.*). Petals lanceolate (f. 82. *a.*). Stamens rather shorter than the calyx. Ovary of 10 cells or of 5 bipartite ones (f. 82. *c.*), with a solitary ovulum in each partition. Styles 5 (f. 82. *d.*), joined at the base. Mature pome 3-5-celled (f. 82. *d.*). Seeds 3-5; endocarp cartilaginous.

8 ME'SPILUS. Calyx 5-cleft (f. 83. *a.*); the segments foliaceous. Petals nearly orbicular (f. 83. *b.*). Disk large, filled with honey. Styles 2-5, glabrous. Pome turbinate, open at the apex, 5-celled; endocarp bony.

9 OSTEOME'LIS. Calyx 5-cleft. Petals oblong. Styles exserted, length of stamens, bearded below. Ovary 5-celled; cells 1-seeded. Pome closed, woolly; endocarp bony.

10 PY'RUS. Calyx urceolate, 5-lobed. Petals roundish. Styles usually 5, rarely 2-3. Pome closed, 5-celled; cells cartilaginous. Seeds 2 in each cell.

11 CYDÒNIA. Calyx 5-cleft (f. 84. *a.*). Petals orbicular (f. 84. *f.*). Styles 5. Pome closed, 5-celled (f. 84. *g.*). Cells cartilaginous, many-seeded. Seeds covered with pulp.

† *Genera doubtful whether they belong to the present order.*

12 DICA'LYX. Flowers superior, 2-3-bracteate. Calyx 5-cleft. Corolla 4-parted. Stamens inserted in the base of the corolla. Styles 2. Drupe baccate, containing a 1-3-celled putamen.

13 PYRENA'RIA. Calyx inferior, 5-sepalled. Stamens numerous, free, hypogynous and somewhat adnate to the base of the

petals. Styles 5. Pome globose, 5-celled; cells covered with papery membranes, containing 2 bony, 1-seeded nuts each.

I. CRATÆ'GUS (from κρατος, *cratos*, strength; in reference to the hardness and strength of the wood). Lindl. in Lin. trans. 13. p. 105. D. C. prod. 2. p. 626.—Cratæ'gus and Mespilus species of other authors.

LIN. SYST. *Icosándria, Di-Pentagýnia.* Calyx with an urceolate tube and a 5-cleft limb. Petals orbicular, spreading. Ovarium 2-5-celled. Styles 2-5, glabrous. Pome fleshy, ovate, closed by the calycine teeth or the thickened disk, containing a bony putamen.—Thorny shrubs or trees, with angular or toothed leaves and terminal corymbs of usually white flowers. Bracteas subulate, deciduous.

§ 1. *Leaves toothed or nearly entire, never angularly lobed.*

1 C. PYRACA′NTHA (Pers. ench. 2. p. 37.) leaves glabrous, evergreen, ovate-lanceolate; lobes of calyx blunt; styles 5. ♄. H. Native of the south of Europe, in uncultivated places and in hedges. Méspilus pyracántha, Lin. spec. 685. Pall. fl. ross. 1. p. 29. t. 13. f. 2.- -Duham. arb. 2. t. 20. no. 2.--Lob. icon. 2. p. 182. f. 1. Flowers white. Fruit about the size of a pea, disposed in cymes, of a beautiful scarlet colour, remaining on the tree nearly all the winter, whence it is called *Buisson ardent* by the French, as also its Greek name *Pyracantha*, which signifies *fire-thorn*. The shrub being evergreen is well adapted for planting against walls or houses, where the green leaves and red fruit have a fine appearance all the winter.

Pyracantha or Evergreen Thorn. Fl. May. Clt. 1629. Sh. 10 to 20 feet.

2 C. CRENULA′TA (Roxb. mss. Lindl. in Lin. trans. 13. p. 106.) leaves ovate-oblong, crenulated, glabrous, shining, retuse at the apex and mucronulate; peduncles lateral, aggregate, elongated, 1 or many-flowered; styles 5. ♄. H. Native of Nipaul. Méspilus crenulàta, D. Don, prod. p. 238. Allied to *C. pyracántha*. Styles glabrous. Fruit 5-celled, 5-seeded. Leaves probably permanent.

Crenulated Evergreen Thorn. Fl. May, Ju. Clt. 1822. Tr.

3 C. CRU′S-GA′LLI (Lin. spec. 632.) leaves obovate-cuneiform, nearly sessile, shining, glabrous, falling off late in the autumn; lobes of calyx lanceolate, subserrated; styles 2. ♄. H. Native of North America. Wats. dend. brit. t. 56. Méspilus crús-gálli, Poir. dict. 4. p. 441. Hort. angl. t. 13. Mill. fig. 178. f. 2. C. lùcida, Wangh. amer. t. 17. f. 42. Méspilus lùcida, Ehrh. Flowers white tinged with red; anthers red. Fruit scarlet, eatable. Stipulas linear. Spines very long.

Var. α, spléndens (D. C. prod. 2. p. 626.) leaves obovate-cuneiform. Ait. hort. kew. 2. p. 170.—Pluk. alm. t. 46. f. 1.

Var. β, pyracanthifòlia; leaves oblong-lanceolate, somewhat cuneiform. Ait. l. c. Méspilus lùcida, Dum. Cours. bot. cult. ed. 2. vol. 5. p. 448.

Var. γ, salicifòlia (D. C. prod. l. c.) leaves oblong-lanceolate, rather cuneiform. Ait. l. c.

Var. δ, lineàris (D. C. prod. 2. p. 626.) leaves linear-lanceolate; spines few, shortish. ♄. H. Méspilus lineàris, Desf. arbr. 2. p. 156. Poir. suppl. 4. p. 70. Styles 1-2. Fruit yellow?

Var. ε, nàna (D. C. prod. 2. p. 626.) leaves oval-lanceolate, paler beneath. ♄. H. Méspilus nàna, Dum. Cours. suppl. p. 386. Branches rather tomentose. Perhaps this is a proper species.

Cockspur Thorn. Fl. May, Ju. Clt. 1691. Tr. 10 to 30 ft.

4 C. SUBSPINÒSA (D. C. prod. 2. p. 626.) leaves oval, ovate, or obovate, crenate-toothed, glabrous, coriaceous, on short petioles; racemes ovate, terminal; calyx glabrous, with the lobes acute. ♄. H. Native of Chili. Méspilus subspinòsa, herb. Vent. Branches unarmed, obviously so in the specimen examined. Fruit one half the size of a pea, nearly dry.

Subspinose Hawthorn. Tree.

5 C. PUNCTA′TA (Ait. hort. kew. 2. p. 169.) leaves obovate-cuneiform, glabrous, serrated; calyxes rather villous, with the lobes subulate and entire. ♄. H. Native of North America. Jacq. hort. vind. 1. and 28. Wats. dend. brit. t. 57. Méspilus cuneifòlia, Ehrh. beit. 3. t. 21. Flowers white. There are varieties of this species with either yellow or red fruit, which are usually dotted. The Indians of the west coast of America make wedges of the wood for splitting trees.

Dotted-fruited Hawthorn. Fl. May, June. Clt. 1746. Tr. 15 to 20 feet.

6 C. ELLI′PTICA (Ait. hort. kew. 2. p. 168.) leaves elliptic, unequally serrated, glabrous; petioles and calyxes glandular; pome globose, 5-seeded. ♄. H. Native of North America. Flowers white. Fruit red.

Elliptic leaved Hawthorn. Fl. May, June. Clt. 1765. Tr. 15 to 20 feet.

7 C. PRUNIFÒLIA (Bosc. ined. D. C. prod. 2. p. 627.) leaves broad-ovate, unequally serrated, glabrous; petioles rather glandular; lobes of calyx glandularly serrated; peduncles and calyxes rather villous. ♄. H. Native of North America. Méspilus prunifòlia, Poir. dict. 4. p. 443. Flowers white. Fruit 2-seeded.

Plum-leaved Hawthorn. Fl. May, June. Clt. 1818. Tree 15 to 20 feet.

8 C. PRUNELLIFÒLIA (Bosc, ined. ex D. C. prod. 2. p. 627.) leaves oval-elliptic, attenuated at both ends, serrated, glabrous; branches rather villous. ♄. H. Native country as well as flowers unknown. Habit referrible to *Prùnus spinòsa.*

Prunella-leaved Hawthorn. Fl. May, June. Tree.

9 C. LATIFÒLIA (Pers. ench. 2. p. 37.) leaves obovate, unequally serrated, rather plicate, and rather villous on the nerves beneath; stipulas and lobes of calyx linear and slightly toothed; corymbs villous. ♄. H. Native of North America. Fruit oval, red.

Broad-leaved Hawthorn. Fl. May, Ju. Clt. 1820. Tr. 20 ft.

10 C. PARVIFÒLIA (Ait. hort. kew. 2. p. 169.) leaves obovate-cuneiform, deeply serrated, pubescent; flowers usually solitary; branches and calyxes villous; stipulas setaceous; lobes of calyx serrated; fruit rather turbinate, 5-seeded. ♄. H. Native of North America. Wats. dendr. brit. 65. Méspilus axillàris, Pers. l. c. Méspilus tomentòsa, Poir. l. c. Méspilus xanthocárpos, Lin. fil. suppl. 254. C. tomentòsa, Lin. spec. 682. Trew. ehrh. t. 17. Flowers small, white. Fruit yellow.

Small-leaved or Gooseberry-leaved Hawthorn. Fl. May, June. Clt. 1704. Shrub 6 feet.

11 C. OVALIFÒLIA (Horn. hort. hafn. suppl. p. 52.) leaves oval, serrated, rather pilose on both surfaces, shining above; stipulas half cordate, deeply serrated, glandular. ♄. H. Native of North America. Allied to *C. crús-gálli*, according to the author.

Oval-leaved Hawthorn. Fl. May, June. Clt. 1810. Tree 10 to 20 feet.

12 C. GLAU′CA (Wall. cat. 673.) leaves elliptic, tapering to both ends, acute, serrulated at the apex, downy and glaucous beneath, but glabrous above; corymbs terminal, many-flowered; calyx woolly. ♄. H. Native of Nipaul and Kamaon. Flowers white.

Glaucous Hawthorn. Tree 20 feet.

13 C. FLEXUÒSA (Poir. suppl. 4. p. 73.) leaves obovate, sharply toothed, pubescent on both surfaces; corymbs small, tomentose; branches flexuous. ♄. H. Native of Carolina. Fruit of a reddish yellow colour. Spines very long, blackish.

Flexuous Hawthorn. Shrub 6 to 10 feet.

14 C. LU'TEA (Poir. suppl. 4. p. 72.) leaves ovate, pubescent, acute at both ends, glandularly serrated; corymbs tomentose. ♄. H. Native country unknown. Spines long and strong. Fruit yellow.

Yellow-fruited Hawthorn. Shrub 6 to 10 feet.

† *Species belonging to the above division but are not sufficiently known.*

15 C. ALPI'NA (Mill. dict. no. 3.) leaves oblong-ovate, serrated, green on both surfaces, on short petioles. ♄. H. Native on Mount Baldo and other Italian mountains. Fruit of an obscure brown colour.

Alpine Hawthorn. Fl. May, June. Clt.? Tr. 20 to 30 ft.

16 C. LU'CIDA (Mill. dict. no. 6.) leaves lanceolate, serrated, shining, paler beneath; spines very long. ♄. H. Native of North America. Flowers corymbose, of a pale red.

Shining-leaved Hawthorn. Fl. May, Ju. Clt.? Sh. 8 to 10 ft.

17 C. PAUCIFLÒRA (Pers. ench. 2. p. 37.) leaves ovate-lanceolate, crenated, pubescent; flowers solitary. ♄. H. Native of Switzerland, about Lausanne. Méspilus pauciflòra, Poir. dict. 4. p. 441.

Few-flowered Hawthorn. Tree.

18 C. UNILATERA'LIS (Pers. ench. 2. p. 37.) leaves cuneated, or oblong-lanceolate, obtuse, crenated; corymbs unilateral. ♄. H. Native of Carolina. (ex herb. Lamb.)

Unilateral-flowered Hawthorn. Tree.

19 C. MAU'RA (Lin. fil. suppl. 253.) leaves oblong, toothed at the apex; corymbs branched; stipulas wanting. ♄. H. Native of Mauritania. Spines none. Stature and appearance of the common *hawthorn;* also the flowers are like it.

Var. β, diversifòlia (Pers. ench. 2. p. 37.) leaves lanceolate, obtuse, quite entire and cuneately trifid, serrated, glabrous, on long petioles; corymbs lateral. ♄. H. Native of the north of Africa.

Moors' Hawthorn. Tree 10 to 14 feet.

§ 2. *Leaves variously lobed or cut.*

20 C. APIIFÒLIA (Mich. fl. bor. amer. 1. p. 287. but not of Med.) leaves deltoid, deeply lobed; lobes acute, deeply toothed; pedicels of corymb usually simple, and are as well as the oblong tube of the calyx villous; calycine lobes rather serrated. ♄. H. Native of Virginia and Carolina, in humid woods. C. oxycántha, Walt. car. p. 147. ex Willd. Flowers white. Fruit scarlet. This shrub is admirably adapted for hedges, and is used for that purpose in some parts of North America.

Parsley-leaved Hawthorn. Fl. May, June. Clt. 1812. Sh. 8 to 10 feet.

21 C. PYRIFÒLIA (Ait. hort. kew. 2. p. 168.) leaves ovate-elliptic, deeply serrated, rather plicate and somewhat hairy; calyxes rather villous, with the lobes linear-lanceolate, and serrated; flowers trigynous. ♄. H. Native of North America, from Pennsylvania to Carolina, in woods and among rocks. Wats. dend. brit. 61. C. leucophæ'os, Mœnch. Weis. p. 31. t. 2. ex Willd. C. edùlis, Hort. The tree is either thorny or unarmed.

Pear-leaved Hawthorn. Fl. June. Clt. 1765. Sh. 6 to 10 ft.

22 C. GLANDULÒSA (Willd. spec. 2. p. 1002. but not of Michx.) leaves obovate-cuneiform, angular, glabrous, shining; petioles, stipulas, and calyxes glandular; fruit oval, 5-seeded. ♄. H. Native of North America. Lodd. bot. cab. 1012. Wats. dend. 58. Méspilus rotundifòlia, Ehrh. beitr. 3. p. 20. Fruit scarlet. Flowers white.

Glandular Hawthorn. Fl. May, Ju. Clt. 1750. Tr. 12 to 20 ft.

23 C. SPATULA'TA (Michx. fl. bor. amer. 1. p. 288.) leaves small, in fascicles, narrowed a long way at the base, somewhat spatulate and trifid; corymbs few-flowered; pedicels short; calyxes tomentose. ♄. H. Native of Virginia and Carolina, in woods. Lodd. bot. cab. 1261. Spines strong.

Spatulate-leaved Hawthorn. Fl. May, June. Clt. 1806. Tree 8 to 12 feet.

24 C. TURBINA'TA (Pursh, fl. amer. sept. suppl. 735.) unarmed, glabrous; leaves obovate-cuneated, deeply serrated; corymbs few-flowered; pedicels short; fruit turbinate. ♄. H. Native of Carolina and Virginia. Said by the author to be allied to *C. spatulàta*, but is omitted by Nuttall.

Turbinate-fruited Hawthorn. Fl. May, Ju. Tree.

25 C. COCCI'NEA (Lin. spec. 682.) leaves ovate, cordate, deeply angled, glabrous, acutely serrated; petioles and calyxes pubescent and glandular; petals orbicular; flowers pentagynous. ♄. H. Native of North America, from Canada to Carolina, in hedges and woods. Wats. dend. brit. t. 62.—Pluk. alm. t. 46. f. 4. Hort. ang. t. 13. f. 1.? Flowers white. Fruit pear-shaped, red, and eatable.

Scarlet-fruited Hawthorn. Fl. May, June. Clt. 1683. Tr. 20 to 30 feet.

26 C. CORDA'TA (Mill. fig. t. 179.) leaves ovate, cordate, deeply angled, glabrous; petioles and calyxes glandless; flowers pentagynous. ♄. H. Native of North America, from Canada to Virginia, in hedges and among rocks. Wats. dend. brit. t. 63. Lindl. bot. reg. 1151. C. populifòlia, Walt. car. 147. Méspilus acerifòlia, Poir. dict. 4. p. 442. Méspilus phænopyrum, Lin. fil. suppl. 254. Flowers white. Fruit round, red, containing 2 seeds.

Cordate-leaved Hawthorn. Fl. May, June. Clt. 1738. Sh. 6 to 10 feet.

27 C. SANGUI'NEA (Pall. fl. ross. 1. p. 25. t. 11.) spinose; leaves obovate, cuneated at the base, somewhat 7-lobed, opaque and pubescent on both surfaces; stipulas serrated; petioles and calyxes glandless; fruit 2-4-seeded. ♄. H. Native of Siberia, about the edges of rivulets. C. oxycántha, Pall. itin. 2. p. 499. Cratæ'gus, Gmel. fl. sib. 3. p. 176. no. 12. exclusive of the synonymes. Flowers rather large, white. Fruit globose, scarlet, or yellow, for the most part 4-seeded.

Bloody-fruited Hawthorn. Fl. May, June. Tr. 12 to 20 ft.

28 C. LOBA'TA (Bosc. ined. ex D. C. prod. 2. p. 628.) leaves ovate, on short petioles, unequally serrated or lobed, rather pubescent beneath; stipulas cut; branches rather villous; flowers in loose corymbs. ♄. H. Native country unknown. Méspilus lobàta, Poir. suppl. 4. p. 71. Flowers white.

Lobed-leaved Hawthorn. Fl. May, Ju. Clt.? Tr. 10 to 20 ft.

29 C. PURPU'REA (Bosc. ined. ex D. C. prod. 2. p. 628.) leaves broadly lobed, ovate, cuneated at the base, serrated, glabrous or pubescent beneath; stipulas rather circinnate; serratures glandular. ♄. H. Native country unknown. Wats. dend. brit. 60. Branches dark purple. Flowers white.

Purple-branched Hawthorn. Fl. May, June. Clt. 1822. Tree 20 to 30 feet.

30 C. FLORENTI'NA (Zucc. obs. 1. no. 72.) leaves ovate-oblong, cordate at the base, deeply serrated, tomentose beneath as well as on the calyxes; fruit ovate-globose, 5-seeded, smooth; lobes of calyx deciduous. ♄. H. Native about Florence. Méspilus Florentìna, Bert. amœn. 29. Pyrus cratægifòlia, Sav. alb. tosc. 1. p. 169. Flowers white.

Florentine Hawthorn. Fl. May, Ju. Clt. 1800. Tr. 20 to 30 ft.

31 C. NI'GRA (Waldst. et Kit. pl. rar. hung. 1. t. 61.) leaves lobately sinuated, serrated, truncate and somewhat cuneated at the base, clothed with hoary villi beneath; stipulas oblong, deeply serrated; calyxes villous, with the segments a little toothed. ♄. H. Native of Hungary. Wats. dend. 64. Méspilus nigra, Willd. enum. 524. Flowers white, pentagynous. Fruit black.

Black-fruited Hawthorn. Fl. My. Ju. Clt. 1819. Tr. 10 to 20 ft.

32 C. PENTA'GYNA (Waldst. et Kit. in Willd. spec. 2. p. 1006.) leaves ovate, usually trifid, serrated, villous in the axils of the

veins beneath; peduncles and calyxes pubescent; lobes of calyx rounded. ♄. H. Native of Hungary. Flowers white, pentagynous. Allied to *C. oxycántha.*

Pentagynous Hawthorn. Fl. May, June. Clt. 1820. Tree 10 to 20 feet.

33 C. fla'va (Ait. hort. kew. 2. p. 169.) leaves obovate-cuneiform, somewhat lobate, crenate-serrated; petioles short; stipulas cordate, and are as well as the calyxes glandular; flowers usually solitary; berries turbinate, 4-seeded. ♄. H. Native from Virginia to Carolina and the island of Orleans, in the St. Lawrence. Wats. dend. brit. t. 59. C. glandulósa, Mich. fl. bor. amer. 1. p. 288. C. Caroliniàna, Poir. dict. 4. p. 442. Méspilus Michaùxii, Pers. ench. 2. p. 38. Petioles winged from the decurrent base of the leaves. Fruit yellow, edible.

Yellow-fruited Hawthorn. Fl. May, June. Clt. 1724. Tr. 12 to 20 feet.

34 C. fi'ssa (Bosc. ined. ex D. C. prod. 2. p. 628.) leaves broadly ovate, deeply lobed, serrated, glabrous on both surfaces, decurrent down the petioles, which are glandless. ♄. H. Native country unknown. Méspilus físsa, Poir. suppl. 4. p. 72.

Cleft-leaved Hawthorn. Fl. May, June. Clt. 1810. Tree 12 to 20 feet.

35 C. Morocca'na (Pers. ench. 2. p. 37.) leaves cuneated, 3-lobed and pinnatifid, glabrous and glandless; stipulas subpalmately cut; corymbs terminal, glabrous; pedicels elongated; lobes of calyx blunt; flowers digynous. ♄. H. Native of Mauritania. Perhaps distinct from *C. Maùra.*

Morocco Hawthorn. Fl. May, Ju. Clt. 1822. Tr. 15 to 20 ft.

36 C. oxyca'ntha (Lin. spec. 683.) leaves obovate-cuneiform, trifid or pinnatifid, glabrous and shining; flowers corymbose, monogynous, digynous and trigynous; calyxes glandless, acute. ♄. H. Native of Europe, in thickets, hedges, copses, and in high open fields; plentiful in Britain. Fl. dan. 634. Jacq. austr. t. 292. f. 2. Méspilus oxycántha, Gærtn. fruct. 2. p. 24. t. 87. Sórbus aculeàta, Cord. hist. 176. Flowers [illegible] occasionally pink, sweet-scented. Fruit mealy, [illegible] red, occasionally yellow; its cells as [illegible] insipid, dark red, permanent. [illegible] as the styles. The May or Common Hawthorn is a very variable plant.

Var. α, obtusàta (D. C. prod. 2. p. 628.) leaves somewhat obovate, 3-lobed, serrated, the same colour on both surfaces; flowers with 1, 2, or 3 styles. Méspilus oxycántha integrifòlia, Wallr. sched. 219. C. oxyacanthoides, Thuill. fl. par. 245. Lindl. bot. reg. 1128. D. C. fl. fr. 4. p. 433. C. oxyacántha, Oed. fl. dan. 634.

Var. β, vulgàris (D. C. l. c.) leaves ovate, cuneated at the base, deeply trifid or pinnatifid, the same colour on both surfaces; lobes acute, diverging, a little serrated; flowers with 1-2-3 styles. Méspilus oxyacántha of most authors.

Var. γ, laciniàta (Wallr. sched. 219.). C. oxyacántha, D. C. fl. fr. 4. p. 433. C. monógyna of most authors, Blackw. herb. 149. Bull. herb. t. 333. f. B. E. F. C. élegans, Poir. C. ròsea, Hort. Méspilus intermèdia, Poir. C. laciniàta, Besser.

Var. δ, monóstyla (D. C. prod. 2. p. 628.) leaves obovate-cuneiform, trifid or jagged, discoloured beneath, at length coriaceous; flowers constantly monogynous; stigma peltate. Méspilus monógyna, Wallr. sched. 221. C. monógyna, Jacq. aust. t. 229. f. 1. Méspilus apiifòlia, Med. gesch. 82. C. Méspilus oxycántha, Smith, engl. bot. 2504.—Fl. dan. 1162. var. α, flòre-plèno. Flowers double white.

The *hawthorn* is also called *white thorn* and *may;* in France *Aubepine;* in Germany, *hagedorn;* in Italy *branco spino.* It is a native shrub of great importance, and is also introduced into narrow plantations as an undergrowth. It will not grow, however, under the drip of trees, and therefore, in a profitable point of view, is only to be considered as affording impenetrable, close, durable, and easily raised fences, called quickset hedges, and it bears clipping to any extent. The timber of such plants as grow singly and attain a tolerable size, is valued by the millwright and turner, and the roots by the cabinet maker. It is often spoiled, Sang observes, through inattention after cutting; if it be allowed to lie in entire logs or trunks, it soon heats and becomes quite brittle and worthless; it therefore ought to be cut up instantly into planks and laid to dry. The *thorn* will not thrive in a wet soil, nor one very hard and poor, much elevated or much shaded; a free deep loam in an airy situation suits it best. The seeds or haws of the *thorn* do not vegetate until the second year after sowing, unless they have been laid up in a heap mixed with earth immediately after gathering, and turned several times, and sown in a bed the next spring; under such treatment many of them will vegetate the same year. The plants should remain in the seed-bed for two years, and afterwards planted out in nursery rows, where they may remain for two or three years before they are planted for hedges. The best quickset hedges are formed by planting them in two rows, about a foot or a foot and a half apart. The hedges two or three years after planting ought to be clipped once or twice every year, in order to keep them in shape and thicken them, and they should be kept perfectly clear of weeds, at least for the few first years.

Sharp-spined or Common Hawthorn, White-thorn, or May. Fl. May, June. Britain. Shrub 10 to 20 feet.

37 C. kyrtóstyla (Fing. in Schlecht. Linnæa. 4. p. 379. t. 3. f. 1.) thorny; leaves 3-lobed, toothed, glabrous on both surfaces or ciliated on the nerves beneath; flowers corymbose, monogynous; style deflexed; calyx hairy, with the segments oblong, acuminated, spreading and obtuse at the apex; fruit oblong, foveolate at the base, containing a 1-seeded, ovate-oblong, brownish nut, which is convex on the back, and 3-4-furrowed. ♄. H. Native [illegible] Europe.

Curved-styled Hawthorn. Fl. May. Tree 10 to 20 feet.

38 C. monógyna (Fing. in Schlecht. Linnæa. 2. p. 380. t. 3. f. 2.) thorny; leaves 3-parted, toothed, ciliated at the base on the petioles and nerves beneath; flowers corymbose, for the most part monogynous; style straight; calyx glabrous, or a little ciliated, with oblong, acuminated, reflexed, obtuse segments; fruit globose, containing 1 or 2 oblong-ovate brown nuts, with 2 furrows on the back of each. ♄. H. Native of Europe.

Monogynous Hawthorn. Fl. May. Tree 10 to 20 feet.

39 C. heterophy'lla (Flugg. ann. mus. 12. p. 423. t. 38.) leaves glabrous, falling off very late in the season, cuneiform-lanceolate, somewhat 3-lobed or pinnatifid at the apex; lobes subserrated, acute; corymbs many-flowered, glabrous; lobes of calyx acuminated; flowers monogynous. ♄. H. Native probably of North America. Lindl. bot. reg. 1161. Flowers white.

Variable-leaved Hawthorn. Fl. May, June. Clt. 1816. Tree 10 to 20 feet.

40 C. Azaro'lis (Lin. spec. 683.) leaves pubescent, cuneated at the base, trifid; lobes obtuse, coarsely few-toothed; branches, corymbs, and calyxes pubescent; lobes of calyx obtuse; flowers with 1-2-3 styles. ♄. H. Native of the south of France and Italy. Andr. bot. rep. 579. Pýrus Azoràlis, Scop. carn. no. 597. Mespilus Azaròlis, All. pedem. 1809.—J. Bauh. hist. 1. p. 67. Flowers white, sweet-scented. Fruit globose, red, usually 2-seeded; hence the common name of the tree at Montpelier *Pommettes de deux closes.* The fruit when fully ripe has an agreeable taste, for which it is esteemed in Italy and the Levant, where it is served up in the dessert.

Azarole Hawthorn. Fl. May, Ju. Clt. 1640. Tr. 15 to 20 ft.

41 C. orienta'lis (Bosc. ined. ex D. C. prod. 2. p. 629.) leaves 3-lobed, pubescent beneath; lobes ovate, deeply toothed at the apex, the middle one trifid; stipulas broad, cut; branches

clothed with hoary tomentum. ♄. H. Native of the Levant. Méspilus orientàlis, Poir. suppl. 4. p. 72.

Oriental Azarole. Fl. May, Ju. Clt. 1810. Tr. 12 to 20 ft.

42 C. ARÒNIA (Bosc. ined. ex D. C. l. c.) leaves pubescent beneath, cuneated at the base, trifid; lobes obtuse, entire or 3-toothed; teeth obtuse, mucronate; branches pubescent. ♄. H. Native of the Levant. Méspilus Arònia, Willd. enum. suppl. C. Azaròlus β, Willd. spec.—Pocock. cr. t. 85. The fruit is said to be yellow.

Aronia Azarole. Fl. May, Ju. Clt. 1810. Tr. 12 to 20 ft.

C. TANACETIFÒLIA (Pers. ench. 2. p. 38.) leaves deeply pinnatifid, downy; lobes oblong, acute, few-toothed; flowers pentagynous; calycine lobes acutish, reflexed, hairy; fruit globose. H. Native of the Levant. Andr. bot. rep. t. 591. Méspilus tanacetifòlia, Poir. dict. 4. p. 440. Smith, exot. bot. 85. Flowers white. Fruit greenish yellow.

Var. β, *Taúrica* (D. C. prod. 2. p. 629.) fruit brick-coloured. . H. Native of Tauria, on hills. C. orientàlis, Bieb. fl. taur. 1. 389. Perhaps Méspilus Celsiàna, Dum. Cours. suppl. p. 286.

Tanzy-leaved Azarole. Fl. May, June. Clt. 1789. Tree 2 to 20 feet.

44 C. ODORATI'SSIMA; leaves deeply pinnatifid, pubescent; lobes lanceolate, acute, serrated; flowers pentagynous, corymbose; calycine segments ovate; fruit globular. ♄. H. Native of the Crimea. Méspilus tanacetifòlia, Andr. bot. rep. 590. Flowers white, very sweet-scented. Fruit yellow, large.

Sweet-scented Azarole. Fl. May, June. Tree 10 to 20 feet.

45 C. LACINIA'TA (Ucria ex herb. Moricand, D. C. prod. 2. p. 629.) leaves deeply pinnatifid, downy; lobes oblong, acute, few-toothed at the apex; calycine lobes acutish, reflexed, hairy; fruit elliptic. ♄. H. Native of Sicily, on mountains. Flowers white.

Jagged-leaved Azarole. Fl. May, June. Clt. 1816. Shrub 6 to 10 feet.

46 C. MELANOCA'RPA (Bieb. fl. taur. 1. p. 386.) leaves usually trifid, serrated in front, acutish at the base; flowers usually pentagynous; calycine lobes acute, reflexed, villous. ♄. H. Native of Tauria, in mountain woods. Flowers white. Fruit black. Allied to *C. oxyacántha*.

Black-fruited Hawthorn. Fl. May, June. Clt. 1820. Tree 10 to 20 feet.

† *Species belonging to the last division of the genus, but are not sufficiently known.*

47 C. MEXICA'NA (Moc. et Sesse, fl. mex. icon. ined. D. C. prod. 2. p. 629.) leaves oval, acute, serrated or cut at the apex, ciliated at the base; flowers corymbose; lobes of calyx acute; fruit obovate, 5-seeded. ♄. H. Native of Mexico. Fruit yellowish, 12-15 lines long. Branches spiny.

Mexican Hawthorn. Fl. May, June. Clt. 1823. Tree.

48 C. LÆVIGA'TA (D. C. prod. 2. p. 630.) leaves cuneated, toothed, 3-lobed at the apex, quite glabrous on both surfaces; corymbs subumbellate; lobes of calyx obtuse, reflexed; fruit glabrous, 2-seeded. ♄. H. Native of the Vosges. Méspilus lævigàta, Poir. l. c.

Smooth Hawthorn. Fl. May, June. Tree.

49 C. VI'RIDIS (Lin. spec. 683.) leaves ovate-lanceolate, somewhat 3-lobed, serrated, glabrous; stipulas semicordate; stem unarmed. ♄. H. Native of Carolina. Perhaps a variety of *C. coccinea*.

Green Hawthorn. Fl. May, Ju. Clt. 1810. Tree 10 to 20 ft.

50 C. TRI'LOBA (Pers. ench. 2. p. 37.) leaves cuneiform, villous, tridentate at the apex; calyxes acute, and are, as well as the peduncles, tomentose; fruit 2-seeded. ♄. H. Native of Barbary.

Three-lobed-leaved Hawthorn. Tree.

51 C. OLIVERIA'NA (Bosc. ined. ex D. C. prod. 2. p. 630.) glabrous? leaves cuneiform at the base, and deeply lobed at the apex; lobes obtuse, almost entire; spines subulate, straight. ♄. H. Native of Asia Minor. Branches dark brown. Flowers white.

Oliver's Hawthorn. Fl. May, Ju. Clt. 1820. Tree 10 to 20 ft.

52 C. POIRETIA'NA (D. C. prod. 2. p. 630.) leaves ovate, rather coriaceous, cut, and somewhat lobed, glabrous: stipulas linear-subulate; spines strong, and very long. ♄. H. Native country unknown. Méspilus lineàris, Poir. suppl. 4. p. 72. Flowers white.

Poiret's Hawthorn. Fl. May, Ju. Clt. 1810. Tree 20 ft.

53 C. DISSE'CTA (D. C. prod. 2. p. 630.) leaves sessile, glabrous, green, trifid; lateral lobes deeply toothed, middle one 3-lobed; lobules toothed; branches unarmed, rather tomentose. ♄. H. Native of Persia. Méspilus dissécta, Dum. Cours. bot. cult. ed. 2. vol. 5. p. 456. Flowers white.

Dissected-leaved Hawthorn. Fl. May, June. Tree.

54 C. PECTINA'TA (Bosc. ined. D. C. prod. 2. p. 630.) leaves pinnatifid, running along the petiole, green; lobes 5, deeply toothed. ♄. H. Native of Persia. Allied to *C. tanacetifòlia* and *C. Oliveriàna*.

Pectinate-leaved Hawthorn. Fl. May, July. Tree 20 feet.

N.B.—There are numerous other garden species, but all remain undescribed.

1 *C. trifoliàta*, Bosc. 2 *C. quinquelobàta*, Bosc. 3 *C. odoràta*, Bosc. 4 *C. obovàta*, Bosc. 5 *C. flavéscens*, Bosc. 6 *C. flabellàta*, Bosc. 7 *C. Carpática*, Lodd. cat. 8 *C. flórida*, Lodd. cat.

Cult. The species of *hawthorn* are well fitted for shrubberies or plantations. They are easily propagated by budding or grafting on the common hawthorn. They are all very ornamental when in blossom. The seeds do not vegetate till the second spring after sowing.

II. RHAPHIO'LEPIS (from ῥαφις, *rhaphis*, a needle, and λεπις, *lepis*, a scale; in reference to the narrow subulate bracteas). Lindl. in bot. reg. t. 468. and Lin. trans. 13. p. 105. D. C. prod. 2. p. 630.

LIN. SYST. *Icosándria, Digýnia* Limb of calyx funnel-shaped, deciduous. Filiments filiform. Ovary 2-celled, 2-styled. Pome closed by a thickened disk, containing a chartaceous putamen. Seeds 2, gibbous; the testa very thick and coriaceous.—Trees, natives of China, with evergreen, crenulated, coriaceous, reticulated leaves. Racemes terminal, usually beset with permanent scale-like bracteas. Petals white, but with the filaments usually red.

1 R. I'NDICA (Lindl. in Lin. trans. 13. p. 105.) leaves ovate, acuminated at both ends; petals ovate, acute; stamens shorter than the calyx. ♄. F. Native of India and China. Cratæ'gus I'ndica, Lin. spec. 683. Sims, bot. mag. 1726. Schrank, hort. mon. t. 66. Leaves broad. Bracteas subulate, deciduous. Petals white. Filaments red.

Indian Hawthorn. Fl. Feb. Aug. Clt. 1806. Tree.

2 R. LOUREI'RI (Spreng. syst. 2. p. 508.) leaves lanceolate, unequally serrated, glabrous; flowers corymbose; petals roundish. ♄. F. Native of Cochin-china. Cratæ'gus I'ndica, Lour. coch. p. 319. Fruit eatable.

Loureiro's Indian Hawthorn. Tree 30 feet.

3 R. PHEOSTE'MON (Lindl. coll. no. 3. in a note,) leaves lanceolate, acuminated at both ends; petals roundish; stamens spreading, longer than the calyx. ♄. F. Native of China. R. I'ndica, Ker. bot. reg. 468. Petals white. Filaments brown.

Brown-stamened Indian-hawthorn. Fl. Feb. May. Clt. 1820. Shrub 3 to 6 feet.

4 R. RU'BRA (Lindl. coll. no. 3. t. 3.) leaves ovate-lanceolate, acuminated at both ends; petals lanceolate; stamens straight, longer than the calyx. ♄. F. Native of Cochin-china and China. Cratæ'gus rùbra, Lour. coch. p. 320. Méspilus Sinénsis, Poir. Flowers reddish.

Red Indian Hawthorn. Fl. Feb. May. Clt. 1820. Tree 30 feet.

5 R. SALICIFÒLIA (Lindl. coll. p. 3. in a note, bot. reg. 652.) leaves long, lanceolate; petals lanceolate, about equal in length to the teeth of the calyx; stamens coarctate, shorter than the calyx. ♄. F. Native of China. Racemes panicled. Petals and filaments white.

Willow-leaved Indian Hawthorn. Fl. Feb. May. Clt. 1821. Shrub 3 to 6 feet.

6 R. SPIRA'LIS; leaves cuneate-oblong, acute, serrated, coriaceous, smooth; racemes terminal, simple, and the pedicels furnished with twisted bracteas; flowers digynous; calyx villous at the base. ♄. F. Native of China. Méspilus spiràlis, Blum. bijdr. p. 1102.

Spiral-bracted Indian Hawthorn. Tree.

† *Names of species which occur in the gardens, but are most probably identical with some of the above.*

1 *R. latifòlia*, Lodd. cat. 2 *R. læ'vis*, Lodd. cat.

Cult. The species of *Raphiólepis* grow freely in a mixture of loam, peat, and sand. Ripened cuttings strike root readily if planted in sand, with a hand-glass placed over them. Some of the species stand our winters very well against a south wall, in the open air, when covered by mats in severe weather.

III. CHAMÆME'LIS (from χαμαι, *chamai*, on the ground, and μηλον, *melon*, an apple; in reference to the dwarfness of the shrub, and with a fruit resembling the apple). Lindl. in Lin. trans. 13. p. 164. t. 11. D. C. prod. 2. p. 631.

LIN. SYST. *Icosándria, Monogýnia.* Calyx truncate, 5-toothed. Petals 5, small, erect, erose. Filaments filiform, 10-15. Ovary inferior, 1-celled. Style 1. Pome closed, baccate, containing a 1-celled, 1-seeded, bony nut, having a distinct suture.—A shrub, with simple, coriaceous, shining, obsoletely crenated, evergreen leaves, axillary deciduous stipulas, and racemes of flowers, which are leafy at the base.

1 C. CORIA'CEA (Lindl. l. c.) ♄. G. Native of Madeira, on the sea cliffs to the eastward of Funchall, about a mile out of the town, along the Canico road.

Coriaceous-leaved Chamæmelis. Shrub 3 to 4 feet.

Cult. See *Raphiolèpis* for culture and propagation.

IV. PHOTI'NIA (from φωτεινος, *photeinos*, shining; in reference to the leaves). Lindl. in Lin. trans. 13. p. 103. D. C. prod. 2. p. 631.

LIN. SYST. *Icosándria, Digýnia.* Calyx 5-toothed. Petals reflexed. Ovarium semi-adherent, villous, 2-celled. Styles 2, glabrous. Pericarp 2-celled, inclosed in the fleshy calyx; testa cartilaginous.—Trees, with simple, coriaceous, evergreen, serrated or quite entire leaves. Flowers white, disposed in terminal corymbose panicles. Fruit small, smooth.

1 P. SERRULA'TA (Lindl. l. c.) leaves oblong, acute, serrulated; pedicels longer than the calyx. ♄. F. Native of Japan and China. Cratæ'gus glàbra, Thunb. jap. 205. Sims, bot. mag. 2105. Lodd. bot. cab. 248. Colla, hort. rip. t. 36. Leaf-buds large, red.

Serrulated-leaved Photinia. Fl. April, July. Clt. 1804. Tree 10 to 20 feet.

2 P. ARBUTIFÒLIA (Lindl. l. c.) leaves oblong-lanceolate, acute, distantly serrated; pedicels longer than the calyx. ♄. F. Native of California. Petioles red, six times shorter than the leaf. Lindl. bot. reg. 491. Cratæ'gus arbutifòlia, Ait. hort. kew. ed. 2. vol. 3. p. 202.

Arbutus-leaved Photinia. Fl. July, Aug. Clt. 1796. Tree 10 to 20 feet.

3 P. INTEGRIFÒLIA (Lindl. l. c.) leaves elliptic, acuminated, quite entire; panicle diffuse. ♄. F. Native of Nipaul. Pyrus integérrima, Wall. ex D. Don, prod. fl. nep. 237. Pedicels bractless. Ovary 3-celled; cells biovulate.

Entire-leaved Photinia. Clt. 1820. Tree 20 feet.

4 P. DU'BIA (Lindl. l. c. p. 104. t. 10.) leaves lanceolate tantly serrated; panicle corymbose, pilose. ♄. F. Nati Nipaul. Méspilus Bengalénsis, Roxb. Méspilus tinctòria Don, prod. fl. nep. 238. Cratæ'gus Shicòla, Hamilt. r Fruit 2-celled. Seed one, large, clothed with a loose te Fruit 1-celled from abortion, and 2-seeded; hence it is ne allied to *Raphiólepis* ex D. Don, l. c. The bark of this tree used in Nipaul to dye cotton red. Hamilt.

Doubtful Photinia. Clt. 1821. Tree 20 feet.

5 P. BENGALE'NSIS (Wall. mss. in Lin. soc. herb.) leaves broad, elliptic-lanceolate, glabrous, distantly toothed, tapering to both ends; panicle thyrsoid, terminal; calyx downy. ♄. F. Native of Bengal. Flowers white.

Bengal Photinia. Tree.

6 P. SIEBÓLDI; leaves cuneate-oblong, obtuse, serrated from the middle to the apex, coriaceous, smooth above, but when in a young state tomentose beneath, as well as the corymbs and calyxes; flowers semidigynous. ♄. F. Native of China. Méspilus Siebóldi, Blum. bijdr. 1102.

Siebold's Photinia. Tree.

7 P. LÆ'VIS (D. C. prod. 2. p. 631.) leaves ovate, acuminated, serrated; umbel of flowers nearly simple. ♄. F. Native of Japan. Cratæ'gus læ'vis, Thunb. fl. jap. 204.

Smooth Photinia. Tree 20 feet.

8 P. VILLÒSA (D. C. prod. 2. p. 631.) leaves oblong, acuminated, serrated, villous; umbel of flowers compound; pedicels villous; fruit villous. ♄. F. Native of Japan. Cratæ'gus villòsa, Thunb. jap. 204. Fruit villous.

Villous Photinia. Tree.

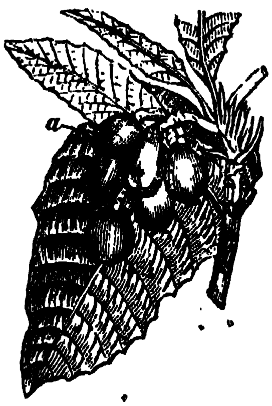
Cult. Trees with fine large shining leaves, and corymbs of whitish flowers, worthy of a place in any garden. For their culture and propagation see *Raphiólepis.*

V. ERIOBO'TRYA (from εριον, *erion*, wool, and βοτρυς, *botrys*, a bunch of grapes; in reference to the bunch of fruit and flowers, which are woolly). Lindl. in Lin. trans. 13. p. 102. D. C. prod. 2. p. 631.

LIN. SYST. *Icosándria, Pentagýnia.* Calyx woolly, bluntly 5-toothed. Petals bearded. Stamens erect, length of the calycine teeth. Styles 5, filiform, inclosed, pilose. Pome (f. 81. *a.*) closed, 3-5-celled. Chalaza none. Radicle inclosed between base of the cotyledons.—Small trees, with tomentose branches, broad simply serrated leaves, which are woolly beneath; woolly compound terminal racemes of flowers, and subulate deciduous bracteas. Flowers small, white.

1 E. JAPÓNICA (Lindl. l. c.) leaves broad, rather wrinkled, elliptic, serrated, tapering at the base, tomentose beneath; lobes of calyx rounded. ♄. F. Native of Japan and China. Méspilus Japónica, Thunb. jap. 206. Vent. malm. t. 19. Ker. bot. reg. 365. Hort. trans. 3. t. 11. Dekin, ann. gen. sc. ph. 2. p. 368. t. 32. Cratæ'gus Bibas, Lour. coch. p. 319.—Pluk. alm. t. 371. f. 2. Fruit middle-sized, pear-shaped, yellow, downy, disposed in large pendulous bunches; their taste approaches that of the apple. The loquat when it is intended to produce fruit is grafted on the *Méspilus vulgàris.* It is considered a frame or half hardy tree, but to ripen its fruit with flavour it should have the temperature of the stove; in which, if planted

FIG. 81.



in a border of rich soil, it will add to the variety of the dessert. Sir Joseph Banks (Hort. trans. vol. 1.) considers it as equally good with that of the mango. Lord Bagot, who has fruited the plant in a very superior manner for several years, at Blithfield, gives the following outline of his practice. "The plan I have usually followed has been to give it a winter (out of doors) during the months of July, August, and September, and about the middle of October, to replace it in a very warm situation in the tan. This summer, however, I was obliged to alter my mode; for just at the moment when I was going to put it out for its winter, it became covered with at least twenty bunches of the finest flowers possible. I was therefore obliged to let it remain where it was. The present year's treatment, therefore, is an exception to the former practice; under that, it usually breaks into flower about the end of December, and the fruit becomes ripe in March or April. The last time my plant was in fruit, Sir William Coke, who had resided many years in Ceylon, says, that he was in the constant habit of eating very large quantities of the fruit daily in that island, but that he had never tasted any so good, and with so much flavour, as those produced in my garden."

Japan or Common Loquat. Fl. Oct. Clt. 1787. Tree 10 to 20 feet.

2 E. ELLI'PTICA (Lindl. l. c.) leaves flat, elliptic, obscurely toothed, naked above, and clothed with deciduous tomentum beneath, rounded at the base; thyrse compound, terminal, clothed with fulvous tomentum; calycine lobes oblong. ♄. F. Native of Nipaul. Méspilus Cuíla, Hamilt. mss. in D. Don, prod. fl. nep. p. 238. Flowers white. Fruit downy, yellow.

Elliptic-leaved Loquat. Clt. 1823. Tree 30 feet.

3 E. CORDA'TA (Lindl. l. c.) leaves cordate, obtuse, serrated. ♄. F. Native of Peru. Méspilus lanuginòsa, Ruiz et Pav. fl. per. t. 425. f. 1. Cratæ'gus ferrugínea, Pers. ench. 2. p. 372. Leaves clothed with rusty villi beneath. Fruit round, glabrous.

Cordate-leaved Loquat. Tree.

4 E. OBTUSIFÒLIA (D. C. prod. 2. p. 632.) leaves ovate, obtuse, serrated, glabrous, glaucous beneath; flowers corymbose, pubescent. ♄. F. Native of Peru. Cratæ'gus obtusifòlia, Pers. ench. 2. p. 37.

Obtuse-leaved Loquat. Tree.

5 E.? CHINE'NSIS; leaves ovate-oblong, acute, serrulated, rather villous on the middle nerve beneath; peduncles axillary, crowded, villous; calyxes villous; flowers pentagynous. ♄. F. Native of China. Méspilus Chinénsis, Blum. bijdr. 1102.

China Loquat. Tree.

Cult. See *Raphiólepis* for culture and propagation.

VI. COTONEA'STER (from *Cotoneum*, the Quince-tree, and *aster*, an affixed signification, like; similar downy leaves). Medik. gesch. bot. 1793. Lindl. in Lin. trans. 13. p. 101. D. C. prod. 2. p. 632.

LIN. SYST. *Icosándria, Di-Trigýnia*. Flowers polygamous from abortion. Calyx turbinate, bluntly 5-toothed. Petals short, erect. Stamens length of the teeth of the calyx. Styles glabrous, shorter than the stamens. Carpels 2-3, parietal, biovulate, inclosed in the calyx.—Shrubs, with simple quite entire leaves, which are generally woolly beneath. Corymbs lateral, spreading, furnished with deciduous subulate bracteas. Petals small, permanent.

* *Leaves deciduous.*

1 C. VULGA'RIS (Lindl. l. c.) leaves oval, rounded at the base, tomentose beneath; calyxes and peduncles glabrous; peduncles dichotomous, few-flowered. ♄. H. Native of Europe and Siberia, on hills. In North Wales, upon the cliffs of Llandudno, at Ormeshead. Hook. in engl. bot. suppl. t. 2713. Méspilus Cotoneáster, Lin. spec. 686. Fl. dan. 112. Pall. fl. ross. 1. t. 14. Flowers reddish. Fruit first green, then yellow, then red, and finally black.

Var. α, *erythrocárpa* (Led. fl. alt. 2. p. 219.) fruit red when mature.

Var. β, *melanocárpa* (Led. l. c.) fruit black when ripe. Méspilus Cotoneáster, Pall. fl. ross. 1. p. 30. t. 14. Méspilus melanocárpa, Fisch. in litt.

Var. γ, *depréssa* (Fries. nov. succ. p. 9.) shrub rather thorny; leaves lanceolate, acutish; fruit of 4 carpels. ♄. H. Native of Sweden, on rocks near Warberg.

Common Cotoneaster. Fl. April, May. Clt. 1656. Shrub 3 to 5 feet.

2 C. UNIFLÒRA (Bunge in Led. fl. ross. alt. ill. t. 269.) leaves oblong, attenuated at both ends, glabrous above, and pubescent beneath; peduncles very short, 1-flowered, and are, as well as the calyxes, glabrous. ♄. H. Native of Siberia, in subalpine places. Uva-ursi. Pall. itin. 2. p. 568. Petals greenish white. Styles 3. Pome globose, red.

One-flowered Cotoneaster. Fl. June. Shrub 2 to 3 feet.

3 C. MULTIFLÒRA (Bunge in Led. fl. ross. alt. ill. t. 274.) leaves roundish-oval, attenuated at the base, rounded at the apex, emarginate or with a mucrone, rather puberulous beneath, quite glabrous above; peduncles dichotomous, many-flowered, longer than the leaves, and are, as well as the calyxes, glabrous. ♄. H. Native of Siberia, in the Soongarian desert, among rocks on the mountains of Tschingis-tau and Dschigilen. Pome oblong, purple, 2-3-seeded.

Many-flowered Cotoneaster. Shrub 3 to 5 feet.

4 C. TOMENTÒSA (Lindl. l. c.) leaves elliptic, obtuse at both ends, tomentose beneath; calyx and peduncles woolly. ♄. H. Native of the south of Europe, on the Alps. Méspilus tomentòsa, Willd. spec. 2. p. 1012. but not of Lam. Méspilus eriocárpa, D. C. fl. fr. synop. and suppl. no. 3691.

Tomentose Cotoneaster. Fl. April, May. Clt. 1759. Shrub 3 to 6 feet.

5 C. AFFÌNIS (Lindl. l. c.) leaves ovate or obovate, mucronulate, attenuated at the base, woolly beneath, as well as the petioles, peduncles, and calyxes; peduncles lateral, corymbose, twice-forked, many-flowered. ♄. H. Native of Nipaul, about Chitlong. Méspilus integérrima, Hamilt. mss. Méspilus affìnis, D. Don, prod. fl. nep. p. 238.

Allied Cotoneaster. Fl. Ap. May. Clt. 1828. Sh. 3 to 4 feet.

6 C. ACUMINA'TA (Lindl. l. c. t. 9.) leaves ovate, acuminated, pubescent on both surfaces; calyxes and peduncles pubescent; peduncles usually 3-flowered. ♄. H. Native of Nipaul. Peduncles shorter than those of the preceding species, 1-2, somewhat reflexed. Méspilus acuminàta, Lodd. bot. cab. 919.

Acuminated-leaved Cotoneaster. Fl. April, May. Clt. 1820. Shrub 3 to 5 feet.

7 C. BACILLA'RIS (Wall. ined. Lindl. bot. reg. no. 1229.) leaves obovate, drawn down into the petiole, glabrous; cymes many-flowered, divaricate, and are, as well as the branches, pilose. ♄. F. Native of Kamaon.

Rod Cotoneaster. Shrub.

8 C. OBTU'SA (Wall. ined. ex Lindl. bot. reg. no. 1229.) leaves ovate or obovate, glabrous beneath; cymes crowded, many-

flowered, and are, as well as the branches, glabrous. ♄. H. Native of the mountains of Nipaul and Kamaon.

Obtuse-leaved Cotoneaster. Shrub.

9 C. LAXIFLÒRA (Jacq. ex Lindl. bot. reg. 1305.) leaves oblong, obtuse at both ends, woolly beneath; cymes panicled, pilose; calyxes quite smooth. ♄. H. Native country unknown. Flowers pink.

Loose-flowered Cotoneaster. Fl. April. Clt. 1826. Shrub 3 to 5 feet.

10 C. FRI'GIDA (Wall. ex Lindl. bot. reg. 1229.) leaves oval-lanceolate, tomentose beneath; cymes woolly, many-flowered. ♄. H. Native of Gosaingsthan. Flowers white. Fruit spherical, red.

Frigid Cotoneaster. Fl. April, May. Clt. 1824. Shrub 10 ft.

* * *Leaves evergreen.*

11 C. ROTUNDIFÒLIA (Wall. cat. Lindl. bot. reg. no. 1229.) leaves roundish, pilose beneath, evergreen; peduncles 1-flowered. ♄. H. Native of Gosaingsthan. Cot. microphýlla β, U'va-úrsi, Lindl. bot. reg. 1187. C. U'va-úrsi, Hort. ex Loud. hort. brit. p. 480. Flowers white.

Round-leaved Cotoneaster. Fl. April, May. Clt. 1825. Shrub 3 to 4 feet.

12 C. MICROPHY'LLA (Wall. ex Lindl. bot. reg. 1114.) leaves oblong-cuneated, pubescent beneath, evergreen; peduncles usually 1-flowered. ♄. H. Native of Gosaingsthan. Flowers white.

Small-leaved Cotoneaster. Fl. April, May. Clt. 1824. Shrub 3 to 4 feet.

13 C. BUXIFÒLIA (Wall. cat. ex Lindl. bot. reg. 1229.) leaves ovate, woolly beneath, evergreen; peduncles 3-flowered, woolly. ♄. H. Native of Neelgherry. Flowers white.

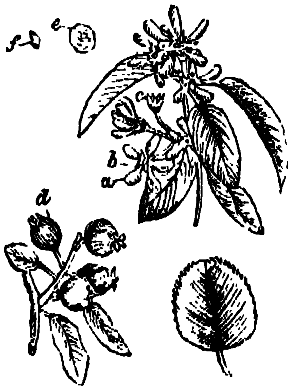
Box-leaved Cotoneaster. Fl. Ap. May. Clt. 1824. Sh. 3 to 4 ft.

Cult. All the species of *Cotoneáster* are well fitted for shrubberies; they are easily increased by laying down the branches or by cuttings, which should be planted in a sheltered situation, with a hand-glass placed over them; they are also propagated by separating the suckers from the roots or by seeds.

VII. AMELA'NCHIER (the Savoy name of the *medlar*). Medik. gesch. 1792. Lindl. in Lin. trans. 13. p. 100. D. C. prod. 2. p. 632.

LIN. SYST. *Icosándria*, *Pentagýnia*. Calyx 5-cleft (f. 82. *c.*). Petals lanceolate (f. 82. *a.*). Stamens rather shorter than the calyx. Ovarium of 10 cells, or of 5 bipartite ones (f. 82. *e.*). Ovula 10, solitary in the partitions of the cells. Styles 5 (f. 82. *d.*), joined together a little at the base. Pome (f. 82. *d.*), when mature 3-5-celled. Seeds 3-5; endocarp cartilaginous.—Small trees, with simple, serrated, deciduous leaves, and racemes of white flowers. Bracteas linear-lanceolate, deciduous.

FIG. 82.



1 A. VULGA'RIS (Mœnch. meth. 682.) leaves roundish-oval, bluntish, pubescent beneath, at length glabrous. ♄. H. Native of Europe, in rugged places. Méspilus Amelánchier, Lin. spec. 685. Jacq. fl. aust. t. 300. Sims, bot. mag. t. 2430. Mill. fig. 178. f. 1. Pýrus Amelánchier, Willd. spec. 2. p. 1015. Arònia rotundifòlia, Pers. ench. 2. p. 39. Cratæ'gus rotundifòlia, Lam. Sórbus Amelánchier, Crantz. Pome dark purple.

Common Amelanchier. Fl. Apr. May. Clt. 1596. Sh. 3 to 4 ft.

2 A. BOTRYA'PIUM (D. C. prod. 2. p. 632.) leaves oblong-elliptic, cuspidate, when young rather villous, but at length glabrous. ♄. H. Native throughout Canada, Newfoundland, and Virginia; plentiful in the higher parts of the Columbia. A. grandiflòra, Dougl. mss. Méspilus Canadénsis, Lin. spec. 185. Cratæ'gus racemòsa, Lam. dict. 1. p. 84. Pýrus botryápium, Lin. fil. suppl. 255. Arònia botryàpium, Pers. ench. 2. p. 39. Méspilus arbòrea, Michx. arb. fr. ed. gall. vol. 2. p. 70. t. 66. Pome purple.

Grape-pear or Canadian Medlar. Fl. April, May. Clt. 1746. Shrub 6 to 8 feet.

3 A. OVA'LIS (D. C. prod. 2. p. 632.) leaves roundish-elliptic, acute, when young rather velvety beneath, but when in an adult state glabrous; racemes coarctate; petals obovate; calyx pubescent. ♄. H. Native of North America, throughout Canada, from Lake Huron to the Saskatchawan and Mackenzie rivers, and as far as the Rocky Mountains. Cratæ'gus spicàta, Lam. dict. 1. p. 84. Pýrus ovàlis, Willd. spec. 2. p. 1014. Arònia ovàlis, Pers. ench. 2. p. 40. Méspilus Amelánchier, Walt. car. p. 184.?

Var. β, *semi-integrifòlia* (Hook, fl. bor. amer. p. 201.) leaves for the most part serrated at the apex. ♄. H. Native about the Grand Rapids and at Fort Vancouver, on the Columbia, and on the high grounds of the Multnomak river.

Var. γ, *subcordàta* (D. C. prod. 2. p. 632.) leaves rather cordate at the base. ♄. H. Native on the mountains of New York. Arònia subcordàta, Rafin. in litt. Màlus microcárpa, Rafin. dec.

Dr. Richardson observes that the *A. ovàlis* " abounds on the sandy plains of the Saskatchawan. Its wood, named by the Crees *Meesassquat-ahtick*, is prized for making arrows and pipe-stems, and is thence termed by the Canadian voyagers *Bois de flèche*. Its berries, about the size of a pea, are the finest fruit in the country, and are used by the Crees under the name of *Meesasscootoom-meena*, both in a fresh and dried state. They make a pleasant addition to pemmican, and make excellent puddings, very little inferior to plum-pudding."

Oval-leaved Amelanchier. Fl. Ap. May. Clt. 1800. Sh. 6 to 8 ft.

4 A. SANGUI'NEA (D. C. prod. 2. p. 633.) leaves oblong, rounded at both ends, sharply serrated, always naked; bracteas and stipulas feathery; racemes capitate; calyx glabrous on the outside. ♄. H. Native of North America, in Canada, Hudson's Bay, Columbia, Lake Huron, Newfoundland, plains of the Saskatchawan. Lindl. bot. reg. 1171. Pýrus sanguínea, Pursh, fl. amer. sept. 1. p. 240. Arònia sanguínea, Nutt. Méspilus Canadénsis γ, rotundifòlia, Michx. fl. bor. amer. 1. p. 391. Fruit blackish purple, eatable. The leaves are hairy when young. It differs principally from *A. botryàpium* in the fewer flowers, much shorter raceme, and shorter, broader, and more ovate petals.

Bloody-fruited Amelanchier. Fl. April, May. Clt. 1800. Shrub 4 to 8 feet.

Cult. See *Cotoneáster* for culture and propagation.

VIII. ME'SPILUS (from μεσος, *mesos*, the half, and πιλος, *pilos*, a bullet; fruit resembling half a bullet). Lindl. in Lin. trans. 13. p. 99. D. C. prod. 2. p. 633.—Méspilus species of Lin. and others.—Mespilóphora species of Neck.

LIN. SYST. *Icosándria*, *Di-Pentagýnia*. Calyx 5-cleft (f. 83. *a.*), the segments foliaceous (f. 83. *a.*). Petals nearly orbicular (f. 83. *b. g.*). Disk large, full of honey. Styles 2-5 (f. 83. *f.*), glabrous. Pome turbinate, open, 5-celled. Endocarp bony. In a wild state the trees are furnished with spines, but in the cultivated state they are unarmed. Leaves lanceolate, serrulated, deciduous. Flowers large, nearly sessile, usually solitary, white. Bracteas permanent.

1 M. Germa'nica (Lin. spec. 684.) leaves lanceolate, undivided, a little downy, but most so beneath; flowers solitary. ♄. H. Native of Europe and Siberia, in woods and among bushes; in England, in all the hedges about Minshill, Cheshire; about Ashburnham, Sussex, truly wild. Smith, engl. bot. 1523. Gærtn. fr. 2. p. 43. t. 87. Duham. arbr. 2. t. 4. Pall. fl. ross. t. 13. f. 1.

Var. α, sylvéstris (Mill. dict. no. 1.) thorny; fruit small.—Wild Medlar, *Neflier du bois*. Fruit obovate, middle-sized, dry, and worthless.

Var. β, stricta (D. C. prod. 2. p. 633.) unarmed; leaves doubly serrated. Ait. hort. kew. 2. p. 172.

Var. γ, diffùsa (D. C. prod. 2. p. 633.) unarmed; leaves almost entire. Ait. l. c. Duham. arb. fr. 1. t. 3. Seeds usually abortive. The following garden *medlars* belong to this variety:

1 *Blake's large medlar.*

2 *Dutch medlar, common, large Dutch, broad-leaved Dutch, large-fruited, large German, neflier à gros fruit, neflier de Hollande à gros fruit.* Fruit large, oblate. The largest of any, but not so good as the following.

3 *Nottingham medlar, common, small-fruited, narrow-leaved Dutch.* Fruit obovate, middle-sized. This is the best of all the *medlars*.

4 *Stoneless medlar, neflier sans noyeau, neflier sans pepins, French medlar.* Fruit small, obovate, of little merit.

Use.—The *medlar* is eaten raw in a state of incipient decay; its taste and flavour are peculiar, and by some much esteemed.

Propagation.—By seeds, by layers, or by grafting on seedlings of their own species, or on any kind of plant of *Pomàceæ*. Miller observes that if the stones are taken out of the fruit as soon as it is ripe, and immediately planted, they will come up the following spring and make good plants in two years. He prefers raising from seed to grafting on the *Cratæ'gus*. Forsyth says, "those who wish to keep the sorts true, should propagate them by grafting on their own stocks."

Soil.—The soil in which the *medlar* thrives best is a loamy rich earth, rather moist than dry, but not on a wet bottom.

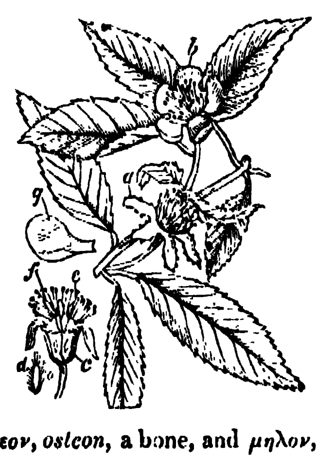
Final planting.—The *medlar*, like the *quince*, is usually grown as standards or espaliers; the former may be planted from 20 to 30, and the latter from 15 to 20 feet apart.

Mode of bearing.—On small spurs at the ends and sides of the branches.

Pruning.—Forsyth recommends the same sort of treatment as for the quince. Cut out all the dead and cankery wood, and keep the tree thin of branches, when it is desired to have large fruit. Care is requisite to train standards with tall stems. Espaliers will require a summer and winter pruning, as in the apple tree.

German or Common Medlar. Fl. May, July. Britain. Tree 10 to 20 feet.

FIG. 83.



2 M. Smi'thii (D. C. prod. 2. p. 633.) leaves oblong, elliptic, serrated, pubescent on the nerves beneath; flowers usually solitary. ♄. H. Native country unknown. M. grandiflòra, Smith, exot. bot. 1. p. 33. t. 18. Flowers white, one half smaller than those of the common *medlar*. Stipulas of the sterile branches large and foliaceous.

Smith's Medlar. Fl. May, Ju. Clt.? Tree 20 feet.

Cult. For culture and propagation see *common medlar*.

IX. OSTEOME'LIS (from οστεον, osteon, a bone, and μηλον, *melon*, an apple; in reference to the bony endocarp). Lindl. in Lin. trans. 13. p. 98. t. 8. D. C. prod. 2. p. 633.

Lin. syst. *Icosándria, Pentagýnia.* Calyx 5-cleft. Petals oblong, flat, spreading. Stamens erect. Styles 5, exserted, length of stamens, bearded below, permanent. Ovary 5-celled; cells 1-seeded. Pome closed, woolly; endocarp bony.—A shrub with pinnate leaves, entire leaflets, and opposite subulate bracteas under the calyxes.

1 O. anthyllidifòlia (Lindl. l. c.). ♄. G. Native of the Sandwich Islands. Pyrus anthyllidifòlia, Smith, in Rees' cycl. no. 29. Flowers subcorymbose. Fruit small, crowned by the styles and calyx.

Kidney-vetch-leaved Osteomelis. Shrub 4 to 6 feet.

Cult. A mixture of loam and peat will suit this shrub, and ripened cuttings will probably root if planted in a pot of sand, with a hand-glass placed over them. But the best and surest method of increasing it, when it shall be introduced to the gardens, would be to graft it on the *Cydònia Japónica*.

X. PY'RUS (*peren*, Celtic for the pear). Lindl. in Lin. trans. 13. p. 97. D. C. prod. 2. p. 633.—Pyrus, Màlus and Sórbus, Tourn.—Pyrus and Sórbus, Lin.—Pyróphorum and Apyróphorum, Neck.

Lin. syst. *Icosándria, Pentagýnia.* Calyx with an urceolate tube, and a 5-lobed limb. Petals roundish. Styles usually 5, rarely 2 or 3. Pome closed, 5-celled; putamen cartilaginous. Seeds 2 in each cell; testa cartilaginous.—Trees or shrubs, with simple or pinnate leaves, and terminal, many-flowered cymes. Bracteas subulate, deciduous.

Sect. I. Pyro'phorum (from *pyrus*, a pear, and φορεω, *phoreo*, to bear; the trees contained in this section bear pears). D. C. prod. 2. p. 633. Petals flat, spreading. Styles 5, free. Pome more or less turbinate or nearly globose, never umbilicate at the base, as in the apple section. Pedicels simple, umbellate. Leaves simple, glandless.

1 P. commu'nis (Lin. spec. 686.) leaves ovate, serrated, glabrous on both surfaces, as well as the buds and branches; peduncles umbellate. ♄. H. Native of Europe, in woods and hedges; plentiful in some parts of Britain. Smith, engl. bot. 1784. P. A'chras, Gærtn. fruct. 2. p. 44. t. 87. P. sylvéstris, Dod. pempt. 800. Pyráster, Ray, syn. 452. The tree is thorny in a wild state, but unarmed in the cultivated state.

Var. α, A'chras (Wallr. sched. 213.) thorny; leaves ovate, acuminated, quite entire, on long petioles, when young woolly as well as the calyx, but at length becoming smooth; pome drawn out at the base. ♄. H. *Wild pear* or *iron pear*.

Var. β, pyráster (Wallr. sched. p. 214.) thorny; leaves roundish, acute, sharply serrated, when young glabrous as well as the calyxes; pome rounded at the base. ♄. H. Gærtn. fruct. 2. t. 87. f. 2.

The *pear* tree is called *poirier* in French, *birnbaum* in German, and *pero* in Italian. In its wild state, the *pear* is a thorny tree, with upright branches, tending to a pyramidal form, in which it differs materially from the apple tree. The twigs or spray hang down; the flowers in terminal villous corymbs, produced from wood of the preceding year, or from buds gradually formed on that of several years' growth, on the extremities of very short protruding shoots, technically spurs. It is found in a wild state in Britain, and abundantly in France and Germany, as well as other parts of Europe, not excepting Russia, as far as latitude 51°. It grows in almost any soil. The cultivated tree differs from the apple, not only in having a tendency to the pyramidal form, but also in being more apt to send out tap roots, in being as a seeding plant much longer in coming into bearing, and when on its own root, or grafted on a wild *pear* stock, of being much longer lived. In a dry soil it will exist for centuries, and still keep its health, productiveness, and vigour. "The period at which the *Teinton squash pear* first sprang from seed," Mr. Knight observes, "probably now cannot at all be ascertained; but I suspect from its present diseased and worn-out state, that it existed at least as early as the beginning of the sixteenth century; for another kind, the *barland*, which was much cultivated in the early part of the seventeenth century, still retains a large share of health and vigour; and the identical trees which supplied the inhabitants of Herefordshire in the 17th century with liquor, are likely to do the same good to those of the 19th." The remarks on the history of the apple will apply, almost without exception, to the *pear*. The Romans in Pliny's time possessed 32 sorts, and the fruit is still more valued than the apple, both in Italy and France.

Use.—As a dessert fruit, the *pear* is much esteemed, and generally preferred to the apple. It is also used for baking, compôts, marmalade, &c. Dried in an oven, the fruit will keep upwards of a year, either with or without syrup. This mode of preparing the *pear* is about as common in France as the making of apple pies in this country. Bosc (Nouveau Cours d'Agric. in loco.) describes two methods of drying *pears* for preservation, and adds that he has tried them after 3 years' keeping, and found them still very good. Perry, the *poiré* of the French, is made from the fermented juice, in the manner of cider, and the best sorts are said by Withering to be little inferior to wine. The wood of the *pear* tree is light, smooth, and compact, and is used by turners and to make joiners' tools, and picture frames to be dyed black. The leaves will produce a yellow dye, and may be used to give a green to blue cloths.

Criterion of a good pear.—Dessert *pears* are characterised by a sugary aromatic juice, with the pulp soft and sub-liquid, or melting, as in the *beurrés* or *butter pears*. Kitchen *pears* should be large of size, with the flesh firm, neither breaking nor melting, and rather austere than sweet, as the *wardens*. Perry *pears* may be either large or small, but the more austere the taste the better will be the liquor. Excellent perry was made from the wild *pear*.

Varieties.—Tusser, in 1573, in his list of fruits, mentions "peeres of all sortes." Parkinson enumerates 64 sorts; Mortimer, 1708, has many sorts, and Miller has selected 80 sorts, and describes them from Tournefort. In France, the varieties of the *pear* are much more numerous than even the varieties of the apple. The Catalogue of the Luxembourg contains 189 select sorts. The catalogue published by the Horticultural Society in the present year contains 677, which, until it appeared, the nomenclature of *pears* was in a very imperfect state; this list we insert without any variation.—"The new and superior sorts which have of late been added to this important class of fruits, are found to be most valuable. The greater part of them have been obtained from Belgium, and some of them have far exceeded the expectations generally formed of them on their first introduction, especially as regards their adaptation to this climate, in which many, instead of requiring the assistance of walls, as all the best old sorts do, produce abundantly and in great perfection on standards. A knowledge of the excellence of these new kinds has occasioned a great number of the old sorts, formerly reckoned very good, to be now marked as only second-rate in the following table. The sorts distinguished as being of the first-rate quality are still too numerous for any collection; the character of first-rate, as relates merely to quality, could not, however, be withheld from many which nevertheless will be found to deserve only secondary estimation, when their properties, as exhibited in the other columns, are attended to. In a collection so rich in good sorts, possessing also hardiness and abundant bearing, none ought to be cultivated for the table except those of the first excellence. Where kinds of secondary or inferior quality are marked as table fruit in the following enumeration, it may be understood as only indicating their having been used as such, and being of a nature rather adapted for that than for perry or kitchen use. In regard to situation, it may be necessary to state, that those marked as succeeding as standards, are calculated to do so in the southern and middle parts of the kingdom, or even considerably more to the northward, in particularly well-sheltered places." Hort. cat. 106. The abbreviations are as follow:

Prevailing colour,—p. pale; d. dark; b. brown; y. yellow; r. red; g. green; rus. russet.

Form.—pyr. pyriform; o. pyr. obtuse pyriform; obo. obovate; ro. roundish; obl. oblong; irr. pyr. irregularly pyriform; turb. turbinate; obt. ell. obtuse-elliptic; ob. oblate; rou. round.

Size.—1, large; 2, middle-sized; 3, small.

Use.—K. kitchen; T. table; P. perry.

Texture.—C. crisp; B. buttery; J. juicy; T. tender, such as are softer than the crisp yet not so fine as the buttery.

Quality.—1, first-rate; 2, second-rate; 3, indifferent or bad.

Season.—The months of ripening are placed in numbers, 1 for Jan., 2 for Feb., and so forth.

Situation.—W. wall; S. standard.

Name.	Colour.	Form.	Size.	Use.	Texture.	Quality.	Season.	Situation.	Remarks.
d'abondance, see d'amour.									
1 Adam - -	b. g.	pyr.	2	T	C	2		S	
2 Achan, black - *black Auchan.* *Achan.* *grey Achan.* *red Achan.* *winter Achan.* *black Bess of Castle Menzies.* *winter beurré* (of some).	d.g. b.r.	obo.	2	T	B	2	11, 12	W S	Bad from standards in many parts of England, and does not merit a wall.
3 Achan, green -				P			9, 10	S	
4 aechte bratbirne.									
ah mon dieu, see d'amour.									
5 aigrette - -				P					
6 Alexandre de Russie - -	rus.	obo.	2	K			10	S	
7 alpha - -	p. b.	obo.	2	T	B	2	10	S	
8 Althorp.									
9 d'amande - -	rus.	pyr.	2	T	B	2	10, 11	S	
10 d'amande d'été -	g. y.	pyr.	1	T	J	2	9	S	
11 Anadotte.									
d'ambre, see muscat Robert.									
12 ambrette d'été - *crapaudine.* *rude epée.*	g. y.	pyr.	3	T	C	2	9	S	
13 ambrette d'hiver *ambrette.* *ambrette grise.* *ambre gris.*	g. b.	ro. obo.	2	T	B	2	11, 1	S	
14 ambrosia - - *early beurré.*	g. y.	ro. obo.	2	T	B	1	9	S	Delicious, but does not keep long.
15 amiral. *amiral musqué.*									
16 amire Joannet - *Jeannette.* *Saint Jean.* *archiduc d'été.*	y.	pyr.	3	T	J	2	7	S	
amoselle, see bergamotte de Hollande.									
d'Ananas, see passe Colmar.									
17 d'amour - - *ah mon dieu.*	g. y. r.	obo.	3	T	J	2	9	S	Great bearer.

Name.	Colour.	Form.	Size.	Use.	Texture.	Quality.	Season.	Situation.	Remarks.
mondieu.									
d'abondance.									
18 ananas d'été	b. r.	o. pyr.	1	T	B	2	9	S	
19 ange.									
20 angélique de Bordeaux	y. r.	o. pyr.	2	T	B	2	1, 4	W	
Saint Martial.									
franc-réal gros.									
cristalline.									
21 angélique de Rome	y. g. b.	obo.	2	T	C	2	10	S	A good bearer as a standard: quality inferior to brown beurré.
22 Angleterre	b. r.	pyr.	2	T	B	2	10	S	
beurré d'Angleterre.									
23 Angleterre des Chartreux.									
24 Angleterre d'hiver	y. b.	pyr.	2	K	C		11, 3	S	Although this and the two preceding bear the name of this country, they have only been met with in French collections.
angoisse (poir d'), see winter bon chrétien.									
apothekerbirne, sommer, see summer bon chrétien.									
archiduc d'été, see amiré Joannet.									
Arménie, see double fleur.									
25 Aschrapai armudi.									
26 Aston Town	y. g. b.	ro.	3	T	B	1	10, 11	S	A good standard pear.
d'auch, see Colmar.									
Auchan, black, see black Achan.									
27 auch chisel.									
28 augustbirne	y. r.	obo.	2	T	C	2	9	S	
aurate, see muscat de Nancy.									
d'Austrasie, see Sabine.									
29 autumn king.									
autumn new, see verte longue.									
30 avant fleur.									
Badham's, see brown beurré.									
31 de Baloche	rus.	obl.	2	T	J	2	10	S	
beauchamps, see beurré beauchamps.									
beau présent, see jargonelle.									
bein armudi, see béza de la motte.									
32 Barland	g. rus.	obo.	3	P		1		S	An old and extensively cultivated perry pear: juice of high specific gravity.
33 beaudelet.									
34 belotte.									
bell, see catillac.									
35 belle Audibert.									
belle d'août, see belle de Bruxelles.									
36 belle de Bruxelles.									
belle d'août.									
belle de Flandres, see Flemish beauty.									
37 belle et bonne	y. g.	ro.	1	T	B	1	9	S	Abundant bearer: requires a good season to bring it to full perfection.
gracieuse.									
38 belle de Jersey.									
39 belle lucrative	p. y. r.	ro.	2	T	C	2	10	S	
belle Noisette, see belissime d'hiver.									
40 bellissime d'Automne	y. r.	pyr.	2	T	C	2	10	S	
vermillion.									
petit certeau.									
bellissime d'été, see									

Name.	Colour.	Form.	Size.	Use.	Texture.	Quality.	Season.	Situation.	Remarks.
jargonelle, (of the French).									
bellissime suprême, see ibid.									
41 bellissime d'hiver	b. r.	ro.	1	K	C	1	11, 4	S	A good stewing pear: bears well.
téton de Vénus.									
de bur.									
belle Noisette.									
bellissime jargonelle, see jargonelle (of the French).									
42 Belmont	p. y. b.	obo.	1	K	J	1	11	S	Great bearer.
43 Benvie, autumn	y. g.	obo.	3			3	10	S	Bad.
44 Benvie, summer	y.	obo.	3	T	B	2	8, 9	S	
common Benvie.									
yellow Benvie.									
bequène, see Donville.									
45 bequène musqué	y.	obl.	2	K	C	1	11, 1	S	Excellent for [stewing.
46 bergamot, autumn	g. b. r.	rou.	3	T	J	1	9	S	Flavour peculiar and rich.
common bergamot.									
York bergamot.									
English bergamot.									
47 bergamot, Boughton	p. y. g.	obo.	1	T	C	2	9	S	Good bearer.
Norman.									
48 bergamot, early	g.	rou.	2	T	J	2	8, 9	S	
49 bergamot, Easter	p. g.	obo.	2	K T	C	2	3, 4	S W	Crisp, juicy, and keeps well without shrivelling; the Easter beurré and beurré rance are superior to it.
bergamotte de pâques.									
bergamotte d'hiver.									
bergamotte de Bugi.									
bergamotte de Toulouse.									
Robert's keeping tarling.									
royal tairlon.									
Paddington.									
50 bergamot, Gansel's	y. b.	fl. obo.	2	T	B	1	10, 11	W	Excellent; originated in this country from the autumn bergamot; superior to it, but less hardy.
brocas bergamot.									
Ive's bergamot.									
Staunton.									
Gurle's beurré.									
bonne rouge.									
diamant.									
51 bergamot, Hampden's	g.	ro.	1	T	B	2	8	S	
bergamotte d'Angleterre.									
52 bergamot, orange	g.	ro.	3	T	J	2	8	S	Musky.
53 bergamot, Ormskirk	y.	ro.	2	T	C	3	10	S	
54 bergamot, Powderham.									
55 bergamot, Roche's									
56 bergamot, Scotch.									
57 bergamot, Searle's									
58 bergamot, sea-side									
59 bergamot, Sir Leonard's seedling wilding.									
60 bergamot, summer									
bergamot, York, see autumn bergamot.									
bergamot, Warwick, see white doyenné.									
61 bergamot, Welbeck									
62 bergamot, winter.									

Name.	Colour.	Form.	Size.	Use.	Texture.	Quality.	Season.	Situation.	Remarks.
63 bergamot, Wormsley.									
bergamotte d'Alençon, see bergamotte de Hollande.									
64 bergamotte d'Automne.									
bergamotte de Bugi, see easter bergamot.									
65 bergamotte cadette	p. g.	obo.	2	T	B	2	10	S	Tender for this climate.
de cadet.									
bergamotte crassane, see crassane.									
bergamotte d'Angleterre, see Hampden's bergamot.									
66 bergamotte de Cave.									
67 bergamotte de deux ans.									
68 bergamotte Dertrycker - -	p. b.	obo.	2				9		
bergamotte de Bussy, see Lansac.									
69 bergamotte d'Espagne.									
bergamotte d'Espagne, see Spanish bon chrétien.									
70 bergamotte de fougere.									
bergamotte d'hiver, see Easter bergamotte.									
71 bergamotte de Hollande.	b. g.	ro.	2	T	C	2	3, 6	W	Chiefly valuable for its late keeping.
bergamotte d'Alençon.									
beurre d'Alençon.									
amoselle.									
Lord Cheney's.									
72 bergamotte de Heems.									
73 bergamotte mignonne - -	b. g.	ro.	3	T	J	2	9	S	
bergamotte de Pâques, see easter bergamot.									
bergamotte de la pentecote, see easter beurre.									
74 bergamotte du roi									
75 bergamotte du roi extra.									
76 bergamotte rouge.									
77 bergamotte de Soulers - -	y. g.	obo.	1	T	C	2	11	W S	
bonne de Soulers.									
78 bergamotte Suisse	g. y.	ro.	2	P	B	1	10	W	Striped with green and yellow.
bergamotte sylvange, see Sylvange.									
bergamotte de Toulouse, see easter bergamot.									
79 Bergler - - -				P			10		
80 Berlin - - -	y.	rou.	2	P			10		
beurre d'Alencon, see bergamotte de Hollande.									
81 beurré d'Amalis	g. b.	obo.	1	T	B	1	9	S	
82 beurré Anglaise.									
beurré d'Angleterre, see Angleterre.									
83 beurré d'Angleterre d'hiver.									
84 beurré d'Aremberg	p. b.	obo.	2	T	B	1	12, 1	W S	Very excellent: has been confused with glout morceau, leaves more deeply serrated than those of the latter.
duc d'Aremberg.									
deschamps.									
l'Orpoline.									
beurré d'Aremberg (of many), see glout morceau.									
85 beurré d'Argenson	y. b.	pyr.	1	T	B	1	11, 12	S	
86 beurré d'Audesson									
beurré d'Austrasie, see Sabine.									
87 beurré d'Automne									
88 beurre d'Auvernly									
89 beurré beauchamps - -	b. r.	ro.	2	T	B	1	11	S	
beauchamps.									
beurré blanc, see white doyenné.									
beurré blanc de Jersey, see bezi de la motte.									
90 beurre de Bollwiller - -	g.	obo.	2	T	B	2	12, 1	S	
91 beurré Bosc -	rus.	pyr.	1	T	B	1	10, 11	W S	Excellent.
calebasse Bosc.									
beurré d'Yelle (of some).									
92 beurré Braddick.									
93 beurré, brown.	b.	obo.	1	T	1	1	10	W	Varies much according to the soil, climate, and situation.
beurré rouge.									
beurré gris.									
beurré doré.									
beurré vert.									
beurré.									
golden beurré.									
red beurré (of some).									
beurré du roi.									
Badham's.									
beurré d'Anjou.									
beurré d'Ambleuse.									
beurré d'Amboise.									
Isambert.									
Isambert le bon.									
94 beurré, Buchanan's new spring	d. b.	obo.	1	T	B	2	1, 3	W S	
95 beurré de Capiaumont - -	b. r.	obo.	2	T	B	1	10	S	A great bearer, withstands late spring frosts better than most others.
Capiaumont.									
beurré Spence (of some collections).									
96 beurré, Catharine	y. b.	pyr.	2	T	C	2	10	S	
beurré Colmar gris dit précel, see passe Colmar.									
97 beurré crapaud -	p. g.	obo.	2	T	B	1	10, 11	S	
98 beurré duquesne	p. y.	pyr.	2	T	J	2	10, 11	S	
duquesne.									
99 beurré Diel - -	y. b.	obo. or o. pyr.	1	T	B	1	10, 11	W S	Hardy; great bearer; excellent: deserves extensive cultivation; requires the branches to be well thinned in pruning, to admit sufficient air
Diel.									
Diel's butterbirne.									
Dorothée royale.									
beurré royal.									
des trois tours.									
beurré d'Yelle (of some).									
gros Dillen.									
Dillen.									

Name.	Colour.	Form.	Size.	Use.	Texture.	Quality.	Season.	Situation	Remarks.
de melon.									amongst its abundant foliage.
double Phillips.									
100 beurré dupuis.									
101 beurré Duval.	p. g.	o. pyr.	2	T	B	1	11	S	
beurré, early, see ambrosia.									
beurré epine, see beurré rance.									
102 beurré, Easter	g. b.	obo.	1	T	B	1	1, 3	W S	Hardy, and a good bearer; one of the most valuable spring pears yet known; compared with it, the early pears, of short duration, deserve not a wall; its extensive cultivation for a long and late supply is, without hesitation, strongly recommended.
bergamotte de la pentecote.									
beurré de la pentecôte.									
beurré d'hiver de Bruxelles.									
bezi chaumontel très gros.									
chaumontel très gros.									
doyenné d'hiver.									
doyenné du printemps.									
Canning.									
seigneur d'hiver									
Philippe de pâques.									
du pâtre.									
103 beurré gris d'hiver.									
beurré, Gurle's, see Gansel's bergamot.									
beurre d'Hardenpont, see glout morceau.									
beurré d'hiver de Bruxelles, see Easter beurre.									
beurre d'hiver, see Chaumontel.									of little value.
104 beurre Kirke -	p. g. r.	pyr.	2	T	T	2	8	S	Soon decays;
105 beurre Knox -	p. g.	obo.	1	T	T	2	10	S	Abundant bearer, large, and handsome; good, though not first rate.
106 beurré de Mons	p. g. r.	ro.	2	T	C	2	9	S	
107 beurre noire graine.									
noire graine.									
108 beurré Noisette.									
109 beurre de pâques									
110 beurré parlaque.									
beurré de Payence, see calebasse.									
beurré de la pentecôte, see easter beurré.									
111 beurré rance.	b. g.	o. pyr.	2	T	B	1	3, 5	W S	The best very late sort yet known; bears well as a standard, but is highly deserving of a wall; its intrinsic excellence as a melting pear, and its late keeping, render it truly valuable.
beurré epine.									
Hardenpont du printemps.									
beurré, red, see brown beurré, and gray doyenné.									
beurre du roi, see brown beurré, and white doyenné.									
112 beurré du roi extra.									
113 beurré romain.									
114 beurré-roupé.									
beurré rouge, see brown beurré, and gray doyenné.									
beurré royal, see beurré Diel.									
beurré sieulle, see sieulle.									
115 beurré Saint Montel.									
116 beurré Spence.									Not fruited, but said to be excellent.
Spence.									
beurré Spence, see beurre de Capiaumont.									
beurre vert, see brown beurre.									
beurré, white autumn, see white doyenne.									
beurre, white, see ibid.									
beurré, winter, see black Achan & Chaumontel.									
117 beurre Van Mons	rus.	pyr	2	T	B	1	11	S	
beurre d'Yelle, see beurre Diel, & beurre Bosc.									
118 beurre, yellow.									
119 bezi de Caissoy	rus.	ro.	3	T	B	2	11, 3	S	Peculiar pleasant flavour, esteemed by some.
bezi de Quessoy.									
rousette d'Anjou.									
wilding of Caissoy									
petit beurre d'hiver.									
small winter beurre.									
Terreneuvaise.									
nutmeg (of some)									
winter poplin.									
bezi de Chaumontel, see Chaumontel.									
bezi Chaumontel tres gros, see Easter beurre.									
bezi d'échasserie, see d'échasserie - -									
120 bezi d'Heri -	g. y.	ro.	2	K	C	1	10, 12	S	Excellent stewed.
bezi royal.									
de Bordeaux.									
121 bezi de Montigny	p. g.	obo.	2	T	B	2	10	S	
trouve de Montigny.									
122 bezi de la motte	b. g.	ro.	2	T	B	1	10, 11	W S	
bein armudi.									
beurré blanc de Jersey.									
bezi de Quessoy, see bezi de Caissoy.									
123 bezi Vaet - -	y. b.	obo.	2	T	B	1	12, 1	W S	Resembles the chaumontel in flavour.
124 Bishop's thimble									
125 Bishop's thumb.	b. r.	obl.	1	T	J	1	10	S	
Rousseline (of some).									
126 black.									
black Bess of Castle Menzies, see black Achan.									
127 black Worcester	b rus.	obo.	1	K	C	2	11, 2	S	Rather gritty even when stewed.
black pear of Worcester.									
Parkinson's warden.									
pound pear (of some).									
128 blanquet gros -	p. g.	o. pyr.	2	T	C	2	8	S	
blanquet gros d'été.									
roi Louis.									

Name.	Colour	Form.	Size	Use	Texture	Quality	Season.	Situation.	Remarks
129 blanquet gros rond.									
130 blanquet a longue queue	p. g.	pyr.	3	T	J	2	7	S	
long stalked blanquet.									
131 blanquet petit -	p. y	pyr.	3	T	J	2	8	S	
blanquette.									
poir a la perle.									
bon chrétien d'Auch, see winter bon chretien.									
132 blatzbirne - -				P			10		
133 bloody baker -				K					
134 bon carmelite									
135 bon chrétien de Bruxelles.									
136 bon chretien doré	y.	pyr.	1	K	C	2	11, 12	S	
137 bon chretien d'ete musque.									
138 bon chretien faux									
139 bon chretien fondant - - -	g. b.	obl.	1	T	J	1	10, 11	S	Has a cool refreshing juice like the St. Germain: tree hardier, and a good bearer; a very excellent pear.
140 bon chretien, Langley's summer.									
141 bon chrétien, Spanish - -	y. r.	pyr.	1	K	C	1	11, 12	S W	
142 bon chretien, summer - -	y.	pyr.	1	T	C	2	9	W	
bon chretien d'ete									
sommer apotheker birne									
gratioli.									
gratioli d'eté									
gratioli di Roma									
sommer gute christenbirne.									
143 bon chretien du Rhin.									
144 bon chretien, Rushmore's.									
145 bon chretien turc	b. y.	obo.	1	K T	C	2	11, 3	S	Hardy: fruit large: a great bearer.
bon chretien de Vernoi.									
bon chretien nouvelle.									
Flemish bon chretien.									
146 bon chretien, William's -	g. y.	o. pyr. irr.	1	T	B	2	8. 9	S	Soon decays.
147 bon chretien, winter - -	b. y.	pyr.	1	K T	C	2	12. 3	W	Sugary and rich, but generally gritty.
bon chretien d'hiver.									
bon chrétien d'Auch.									
bon chretien de Tours.									
bon chrétien de Vernon.									
d'Angoisse.									
bonne-ente, see white doyenné.									
bonne de Malines, see winter nelis - - -									
la bonne Malinaise, see ib.									
bonne de Kienzheim, see vallee franche.									
bonne rouge, see Gansel's bergamot.									
bonne de Soulers, see bergamotte de Soulers.									
Bosch, see Flemish beauty.									
148 bossurgan armudi									
bouche nouvelle, see Flemish beauty.									
de Bourdeaux, see bezi d'Heri.									
149 Bourbon musqué	y.	ro.	3	T		3	8	S	Soon decays.
150 bourdon du roi									
151 bouvier d'automne.									
152 Boyle farm wilding.									
153 braas Hardwick.									
154 Braddick - -	b.	obo.	2	T	C	2	11, 12	S	
Braddick's field standard, see Marie Louise.									
155 Braddick d'hiver.									
156 bratbirne à feuilles luisantes				P			9, 10		
157 Bretagne.									
158 briery bush.									
brilliant, see Flemish beauty									
brule bonne, see de forêt.									
159 Bryan Edwards's	g.	obo.	2	T	J	2	11	S	
bujaleuf, see virgouleuse.									
160 Buffam's - -	p. y.	obo.	2	T	B		9	S	
161 de buisson -	y. b.	ro.	3	P					
162 burgermeester	b. rus.	pyr.	2	T	B	1	11	S	
163 Burghill.									
164 butterbirne, gelbe sommer -	y.	ro.	2	T	B	2	8, 9	S	
butterbirne weisse herbst, see white doyenne.									
cadillac, see catillac.									
caillot rosat d'eté, see summer rose.									
caillot rosat d'hiver, see Malte.									
165 caillot rosat, English - -	g. b. r.	o. pyr.	1	T	J	1	8	S	A good bearer.
166 calebasse - -	y. rus.	obl.	2	T	C	2	10	S	Abundant bearer; crisp with sugary juice.
calebasse double extra.									
beurré de Payence.									
calebasse Bosc, see beurré Bosc.									
calebasse vass, see beurré de Capiamont.									
cadet, see bergamotte cadet.									
167 cadet de vaux	g. y.	o. pyr.	1	T P	B	2	9, 10	S	
168 campanelle -									
Capiamont, see beurré Capiaumont.									
169 capucin - -	b. g.	obl.	1	T	C	2	1, 2	S	
170 carels d'hiver.									
Carlisle, see white doyenné.									
carmélite musquée, see grosse Romaine.									
cassante de Brest.									

Name.	Colour.	Form.	Size.	Use.	Texture.	Quality.	Season.	Situation.	Remarks.
see inconnue cheneau.									
171 cassolette - -	y. g.	pyr.	3	T	T	3	9		Musky.
muscat vert.									
friolet.									
lèche friande.									
172 Catharine.									
173 Catharine, early									
certeau, petit, see bellissime d'automne.									
174 catillac - -	b. y. r.	br. tur.	1	K	C		12, 4	S	Succeeds well as a dwarf or quenouille.
cadillac.									
bell pear.									
grand monarque									
groote mogul.									
de livre (of some)									
pound pear, ib.									
Katzenkopf.									
175 chair a dame -	rus.	obo.	2	T	C	2	8	S	Perfumed.
chere Adame.									
chambrette, see virgouleuse.									
176 champ riche d'Italie.									
Chapman's, see passe colmar.									
177 Chaptal - -	b.	obo.	1	K	C	1	12, 4	S	Good bearer.
178 Charles d'Autriche.									
Charles d'Autriche, see Napoleon.									
179 Charlotte petite	y.	pyr.	3	P			9	S	
180 Charnock.									
early Charnock.									
Scotch Charnock.									
Drummond.									
181 chat-brule -	rus.	pyr.	3		C	3	11, 12	S	Worthless.
pucelle de saintonge.									
182 chaumontel -	y. b.	obl.	1	T	B	1	11, 3	W S	Succeeds well trained as a pyramid or quenouille.
bezi de chaumontel.									
beurré d'hiver.									
winter beurré.									
Oxford chaumontel.									
chaumontel très gros, see Easter beurré.									
183 chaumontel new.									
184 chefrain.									
cheneau, see inconnue cheneau									
185 cheminette.									
186 cholwell.									
187 chomel - -	p. g.	pyr.	1		C	3	10	S	Large, but worthless.
188 chretien rouge.									
189 chuchamps.									
chypre (poir de), see rousselette hâtive.									
190 citron des carmes	y. g.	obo.	2	T	J	1	7	S	A good bearer, and one of the best early pears.
Madeleine.									
rose angle early.									
citron de Septembre, see white doyenné.									
191 citron de Sierenz	y. r.	obo.	2	T	C	2	7, 8	S	Resembles the citron des carmes, but is inferior.
192 citron des carmes panaché.									
193 citronelle.									
194 cluster - - -	y. g.	obo.	3		C	3	8	S	
195 de cochon - -	b. y.	ro.	3	P			10		
196 colmar - - -	g. y. b.	o. pyr.	2	T	B	1	11, 2	W	One of the old pears, which requires and well deserves a wall
d'Auch.									
de manne.									
colmar dore.									
incomparable.									
Clydesdale, see Kilwinning.									
197 colmar, autumn	p. g.	o. pyr.	1	T	B	1	10	S	Bears well as a standard.
198 colmar Bose									
199 colmar chassens									
colmar épineux, see passe colmar.									
colmar hardenpont, see passe colmar.									
200 colmar, early									
201 colmar d'hiver.									
colmar jaminette, see Sabine.									
202 colmar, large.									
colmar Josephine, see Josephine.									
203 colmar Neill -	p. y.	obo.	1	T	B	2	10	S	A good bearer. fruit large.
204 colmar régénére.									
205 colmar Sabine.									
Sabine (of the Flemings).									
colmar souverain, see passe colmar.									
206 coloma nouvelle.									
207 coloma tardif.									
208 comte d'Egmont.									
209 comte de Lamy.	p. y. r.	ol o.	2	T	B	1	10	S	Excellent.
210 comtesse de Frenol.									
de vigne pelone.									
211 Conde.									
212 conquête de coloma - - -	y. r.	pyr.	1	K	C		12, 1	S	
courte queue, see white doyenné									
coquillarde, see sapin.									
213 coreless.									
214 courel - - -	b.	rou.	3	P			11		
215 Cragg's favourite									
216 cramoisine -	y. r.	obl.	2	T	T	3	10	S	
crapaudine, see ambrette d'ete.									
217 crassane - -	g. b.	ro.	1	T	J	1	11, 12	W	
bergamotte crassane.									
cresane.									
218 crassane, Althorp	g. b.	ro.	2	T	B	1	10, 11	S	
219 crassane, brown Stroudhouse.									
220 crassane, green Stroudhouse.									
221 crassane, little.									
222 crassane, new.									
223 crassane, summer									
224 crassane, winter.	g. y. b.	tur.	1	T	B	1	1	S	A good bearer.
225 Crawford - -	y. b.	obo.	2	T	B	2	8	S	hardy.
crésane, see crassane.									
cristalline, see angelique de Bordeaux.									
226 cuisse madame	p. y. r.	pyr.	2		C	3	8	S	Worthless.
cuisse madame, see Windsor.									
cuisse madame grosse, see jargonelle (English).									
culotte de Suisse,									

Name.	Colour.	Form	Size.	Use	Texture	Quality	Season.	Situation	Remarks.
pot luc de Cambron, see glout moreceau.									
gracieuse, see belle et bonne.									
317 golden knap, bog miln.									
318 golden knap, Gourdie Hill.	y.	rou.	3	T	C	2	10	S	Has little merit.
319 governor Stuyvesant's.									
graciole, see summer bon chretien.									
320 grande Bretagne d'automne.									
321 grande Bretagne doree d'hiver.	r. rus.	pyr.	2	T	B	1	10, 12	S	
grande Bretagne doree fondante.									
322 grande Bretagne mansuette.									
323 grand dauphin	b. rus.	ro.	2	P	C		10		
grand monarque, see catillac.									
gratiole d'eté, see summer bon chretien									
gratiole di Roma, see summer bon chretien.									
324 Grange.									
325 green chisel -	g	rou.	3	T	J	2	8	S	
sugar.									
green sugar.									
326 green honey.									
327 green juneating.									
328 green pear of Laxton.	g.	pyr.	2	T	J	2	10	S	
329 green pear of Yair	g.	obo.	2	T	J	2	9	S	Good bearer. fruit juicy, almost first-rate.
green Yair.									
330 green Pinkie.									
green sugar, see sucré vert and green chisel.									
331 green sweeter.									
332 grey goodwife.									
grise bonne, see poire de fôret									
groote mogul, see catillac.									
gros Dillen, see beurré Diel.									
gros gobet, see Gilogil.									
333 gros anglois.									
334 gros carisi blanc.				P					
335 grosse poire à cuire - -				K					
336 grosse Marguérite.									
gros miret d'eté, see summer franc real.									
337 grosse sauge -	b.	ro.	2	P			10		*Pyrus salviafòlia*, extremely austere.
338 gros vert.	g.	rou.	2	P			12	S	
339 grune mostbirne				P					
340 grumkower winterbirne -	g.	pyr.	2	T	B	2	11, 12	S W	
341 guerre (poire de)	b r.	pyr.	3		C	3	12, 1	S	Worthless.
petit kryggs.									
gute christenbirne, see summer bon chrétien.									
342 Guillaume de Nassau.									
343 Haegens d'hiver									

Name.	Colour.	Form.	Size.	Use.	Texture	Quality	Season.	Situation.	Remarks.
344 Hampton Court.									
345 Hampton rough.				P					
346 hanging leaf.									
Hardenpont du printemps, see beurré rance.									
Hardenpont d'hiver, see glout moreceau.									
347 Harrison's large fall.									
348 hâtivau.									
349 hâtivau de la forêt	y.	rou.	3	T	J	2	8	S	Better than the *poire de fôret*.
hazel, see hessel.									
350 Henri Quatre	y. g.	pyr.	2	T	T	1	9, 10	S	Good bearer.
351 henkel d'hiver.									
352 hepworth - -	y. r.	ro.	2	T	C	2	10	S	
353 hessel - - -	b.	obo.	2	T	J	1	9	S	Great bearer.
hazel.									
354 hennenbirne -				P					
355 Highbury.									
356 highlander.									
357 hochheimer butterbirne -	g.	obo	3	T	B	2	11	S	
358 Holland green.	g.	obo.	2		C	3	11	S	Quite worthless.
359 Holmer.									
360 honey.									
361 house.									
362 de huchet - -				P					
363 huffcap, brown				P					Good perry pear.
364 huffcap, green				P					
365 huffcap, red -				P					
366 huffcap, yellow				P					
367 Huntingdon, early.									
368 hussein armudi.									
369 husthwaite -	y. b.	ro.	3		C	3	10	S	
370 Ickworth.									
371 imperiale à feuilles de chêne.	g.	o. pyr.	2	T	C	3	4, 5		Would require a wall, but does not deserve it.
kaiserbirne mit eichen blatt.									
372 imperatrice d'ete	p. g.	pyr.	2		C	3	8, 9	S	
impératrice de France, see Flemish beauty									
373 imperial, Rickerby.									
374 incommunicable.									
375 incomparable, Hacon's -	b g.	ro.	1	T	B	1	10, 11	S	Hardy; good bearer: excellent.
Downham seedling.									
incomparable, see colmar.									
376 inconnue Angoulême.									
377 inconnue argentine.									
378 inconnue cheneau - -	p. g. r.	pyr.	2	T	C	2	9	S	
cheneau.									
cassante de Brest									
fondante de Brest									
379 inconnue cramoisine - -	p. y. r.	obo.	1	T	C	2	9, 10	S	A large sort, but of moderate quality.
inconnue la fare, see St. Germain									
380 inconnue lillie.									
jsambert, see brown beurré.									
jsambert le bon, see ditto.									
381 de Jacop -				P					
Italie, poire d', see sanguine.									
382 Jacquin.									

Name.	Colour.	Form.	Size.	Use.	Texture	Quality	Season.	Situation.	Remarks.
jagdbirne. see échasserie.									
jagt, see do.									
383 jallai ballarde.									
384 jalousie - -	b. r.	obo.	2	T	C	2	10	S	Soon decays.
385 julvé, poire de.									
386 James - - -		obo.				3	8	S	Worthless.
Jaminette, see Sabine.									
387 Janet, red -				P					
388 jargonelle (of the English) -	y. b.	pyr.	1	T	J	1	8	W S	The best of its season.
épargne.									
grosse cuisse madame.									
beau présent.									
Saint Lambert.									
Saint Sampson.									
poire des tables des princes.									
frauenschenkel.									
sweet summer.									
389 jargonelle (of the French) - -	p. g. r.	obo.	2	T	C	2	8	S	Handsome, but inferior to the English *jargonelle*.
bellissime d'eté.									
suprême.									
bellissime suprême.									
bellissime jargonelle.									
vermilion d'été.									
390 Jean de Witte.									
391 Jefferson.									
392 Jennet, green				P					
393 jeschil armudi	g. r.	pyr.	2		C	3	9	S	
Jilogil, see gilogil.									
Joanette, see amire Joannet.									
394 John.									
395 Joséphine.									
colmar Josephine									
396 Julienne.									
Katzenkopf, see catillac.									
397 kaiser.									
kaiser d'automne, see white doyenné.									
kaiserbirne mit eichen blatt, see impériale à feuilles de chêne.									
398 kanneel.									
399 ket-herd - -	p. g.	o. pyr.	2	T	C	2	8	S	
de kienzheim, see vallee franche.									
400 Kilwinning -	d. g.	obl.	2	T	T	2	10	S	
elsenhaft.									
Goodman pear.									
Clydesdale.									
401 king.									
402 king Edward's.	b. r.	pyr.	1	T	T	2	9	S	Tree vigorous.
403 Knight d'hiver.									
404 Knight nouvelle.									
kronprinz Ferdinand, see glout morceau.									
kronprinz Ferdinand von Oestreich, see do.									
kronbirne, see de livre.									
405 konge.									
406 Kops.									
Krygs, see double de guerre.									
kryks, petit, see de guerre.									
407 lady Lemon -	y.	ro.	3		C	3	8	S	Worthless.
408 lammas.									
409 lansac - - -	y. g.	ob.	2	T	C	2	11, 1	S	
satin.									
dauphine.									
bergamotte de Bussy.									
410 lansac, grand.									
411 Laurence - -	g.	tur.	2			3	8	S	Musky · worthless.
lèche friande, see cassolette.									
limon (poire de), see white doyenne.									
linden d'automne, see glout morceau.									
412 de livre.	rus.	obo.	1	K	C		11, 2	S	Differs very little from the *black Worcester*.
gros rateau gris									
rateau gris.									
kronbirne.									
present royal de Naples.									
de livre, see catillac.									
413 Longacre.									
414 Longland, red				P					
415 Longland, summer - - -	b. r.	obo.	2	P			9		
416 Longland, white				P					
417 Longueville -	g. rus.	obo.	2	T	B	1	9	S	
lord Cheney's, see bergamotte de Holland.									
418 Louise bonne -	p. g.	pyr.	1	T	B	2	11, 12	W S	
Saint Germain blanc.									
419 Louise bonne (of Jersey) - -	g. b. r.	pyr.	1	T	B	1	10	S W	Much superior to the preceding: very handsome and good.
420 de Louvain.									
421 Lowell's.									
422 de Lyon - -				P					
423 mabille - - -	y.	obo.	2	P			12	S	
424 madame.									
Madeleine, see citron des carmes									
425 de Malte.									
caillot rosat d'hiver.									
de manne, see colmar.									
426 manne nouvelle.									
427 mansuette.									
solitaire.									
mansuette, see Spanish bon chretien.									
428 marceaux - -	g. y.	obo.	2	T	J	2	8	S	
429 de marcenay -	p. g.	pyr.	2	T	J	2	9	S	
430 maréchal d'hiver									
431 margot - - -	rus.	ro.	3	P			9		
432 Margaerite, la grosse.									
433 Marianne nouvelle.									
434 Marie Louise	b. y.	obl.	1	T	B	1	10, 11	S	One of the very finest even as a standard, on which it bears abundantly: succeeds also well on a north wall.
forme de Marie Louise.									
Marie Chrétienne									
Braddick's field standard.									
435 marjolle - -	y. b. r.	obo.	3	P			10		
marotte sucré jaune, see passe colmar.									

Name.	Colour.	Form.	Size	Use	Texture.	Quality.	Season.	Situation.	Remarks.
436 Martin sec	b. r.	pyr.	2		C	3	11, 1	S	
rousselette d'hiver									
437 Martin sec de Provence	y. r.	pyr.	3			3	10		
438 Martin sire	y. g.	pyr.	2		C	3	12, 1		
Rouville.									
439 marquise	b. g.	pyr.	1	T	C	2	11, 12	W	Scarcely deserves a wall.
marquise d'hiver									
440 marquise d'autome.									
441 la Mai.									
medaille, see Napoleon.									
melon, see beurré Diel.									
442 Maule's bush.									
443 marveille d'hiver	g.	rou.	3	T	B	2	11		Too inferior for a wall.
petite oie.									
merveille de la nature, see Fourcroy.									
444 messire Jean	y. rus.	tur.	2	T	C	2	11, 12	S	Very sugary, but gritty.
monsieur John.									
messire Jean gris									
messire Jean blanc.									
messire Jean dore									
445 meuris d'hiver.									
446 Milanaise cuvelier.									
447 Milan d'ete.									
448 monarch, Knight's	y. b.	obo.	2	T	B	1	1	S	Hardy: good bearer.
monarch, see Windsor.									
449 monk				P					
450 de Mons.									
monsieur le curé, see Saint Lezin									
monsieur, see white doyenné									
mon dieu, see d'amour.									
451 monsieur le comte de Fresnel	g. y.	ro.	2	T	C	3	8, 9	S	
452 de Montagne.									
453 Monteith, John	b. g.	obo.	2	T	B	2	10, 11	S	Tree vigorous, great bearer, flavour peculiar, and esteemed by many.
454 monstruense.									
455 morelle blanche.									
456 Moredun.									
457 moorcroft	y.	ro.	2	P			8		
458 moor-fowl egg	g. b. r.	ro.	2	T	J	2	10	S	
Knevett's new swan's egg.									
459 moor-fowl egg, Galston	y. b.	ro.	2	T	J	2	10, 11	W S	Better than the preceding.
mouches (poire aux), see orange tulipee.									
mouille bouche, see verte longue.									
460 mouton				P					
461 muscat d'Allemagne.									
462 muscat d'automne.									
463 muscat, early.									
muscat fleuré, see verte longue.									
464 muscat, little	y.	tur.	3	T	B	2	7	S	Earliness comprises its merit.
muscat petit.									
sept-en-gueule.									
465 muscat de Nancy									
aurate.									
466 muscat Robert	g. y.	tur.	3	T	T	1	7	S	A very good early pear, but lasts only a few days.
poire à la reine.									
d'ambre.									
Saint Jean musqué gros.									
early queen.									
467 muscat royal	g. y.	tur.	3	T	T	2	9	S	
muscat vert, see cassolette.									
musette d'autômne see pastorale.									
468 de Naples	g. y.	rou.	3	T	J	2	1, 3	S	
469 Napoleon	p. g.	o. pyr.	1	T	J	1	11, 12	W S	Tree vigorous, good bearer: fruit excellent, very juicy; should not be used till it changes to a pale colour.
medaille.									
sucré doré (of some).									
Charles d'Autriche (of some).									
Wurtemberg.									
roi de Rome.									
470 nelis, winter	y. b.	obo.	2	T	B	1	12, 1	W S	Excellent: merits a wall to bring it to perfection.
nélis d'hiver.									
bonne de Malines.									
la bonne Malinoise.									
471 ne plus meuris	b. rus.	ro.	2	T	B	1	11, 3	S	One of the best late pears, although not so handsome as some.
472 new bridge	y. g. r.	obo.	2		C	3	10		
neige (poire), see white doyenne.									
473 Neill	p. y.	obo.	1	T	B	2	9, 10	S	Great bearer.
New York red cheek, see seckle									
474 noire chair.									
noire graine, see beurré noire graine.									
Norman, see Boughton bergamot.									
475 Nonholm seedling	b. y.	ro.	2		C	3	10	S	
476 nouvelle de M. Van Noten.									
477 nouvelle doree.									
nutmeg, see bezi de Caissoy.									
478 d'œuf	p. b.	obo.	3	T	T	2	8	S	Resembles the *swan's egg*, but is much earlier.
ognon, see summer rose.									
479 ognonet.									
480 Oldfield				P					
481 olive.									
482 orange.									
483 orange d'hiver.	y.	rou.	2	T	C	2	2, 4	S	
484 orange musquée.									
485 orange de pâques									
486 orange rouge.									
487 orange tulipée	y. g. r.	ro. obo.	2	T	C	3	9	S	Good bearer, but only of inferior quality.
poire aux mouches									
l'orpoline, see beurré d'Aremberg.									
Paddington, see Easter bergamot.									
488 Paddletown				P					
489 parfum d'août.									
490 parfum d'hiver.									
Parkinson's warden, see black Worcester.									
491 Paridean's d'hiver.									
492 Parmentier	r.	obo.	2	T	B	1	10	S	Streaked with bright red.
493 passans de Portugal	p. b.	ob.	2	T	J	1	8, 9	S	Great bearer.
494 passatutte	g. y.	obo.	2	T	J	1	11, 12	W	
495 passe colmar	b. y.	obo. or	1	T	B	1	12, 1	W S	Trees very

Name.	Colour.	Form.	Size.	Use.	Texture	Quality	Season.	Situation.	Remarks.
passe colmar épineux.		or [o. pyr.							free from canker; much hardier than the *colmar*; great bearers.
colmar épineux.									
passe colmar gris									
passe colmar gris dit précel.									
beurré colmar gris dit précel.									
précel.									
fondante de panisel.									
fondante de Mons									
colmar Hardenpont.									
d'ananas.									
présent de Malines.									
marotte sucré jaune.									
souverain.									
colmar souverain									
Chapman's.									
passe colmar d'automne, see white doyenné.									
496 passe Madeleine	g. y.	pyr.	2		C	3	8	S	A great bearer.
497 pastorale	y. r.	pyr.	2	T	C	2	11, 2	S	
musette d'automne.									
petit rateau.									
498 pastorale de Christ	b. y.	pyr.	2	T	C	2	9, 10	S	
du pâtre, see easter beurré.									
499 pendard	y. rus.	pyr.	2	T	C	2	11	S	
500 pensionnaire de Hollande	g. r.	pyr.	3		C	3	9	S	Worthless.
501 perche cœur rouge	b. r.	ro.	3	P					
perdreau, see rousselette hâtive.									
perle (poire à la), see blanquette petite.									
petite oie, see merveille d'hiver.									
Philippe de pâque, see easter beurré.									
502 picard blanc.				P					
503 picard rouge.				P					
Pickering pear, see Uvedale's St. Germain.									
Pickering's warden, see Uvedale's St. Germain.									
pine pear, see white doyenné									
504 Pinsel.									
505 piper.									
pistolette, see figue.									
506 Pitfour	b.	obo.	2	T	J	1	10, 11	S	
507 plâtre				P					
508 Pollockshaw	p. g. r.	obo.	2		C	3	10	S	Quite worthless.
509 pommerants paere.									
510 pomme, poire.									
511 pomoise.									
Portugal, see seven-elbowed									
pound, see catillac and black Worcester.									
precel, see passe colmar.									
présent de Malines, see do.									
présent royal de Naples, see de livre.									
512 Powis Castle.									
513 de prêtre.	y. rus.	ro.	3	K	C	3	1, 2	S	Worthless.
514 prince Frederick.									
prince de Lagne, see ligne.									
515 princesse d'Orange	rus. r.	ro. obo.	2	T	C	2	10	S	Very handsome.
princesse Conquete.									
516 princesse de Parme.									
De Provence, see Domville.									
pucelle saintonge, see chat brule									
517 Quaker	rus.	obo.	2	T	B	2	10	S	
518 quarante onces.									
519 Ramilies.									
râteau gris, see de livre.									
râteau gris, gros, see de livre.									
râteau petit, see pastorale.									
520 reine Caroline.									
521 reine d'hiver.									
522 reine des poires.	y. g. r.	o. pyr.	1	T	C	2	10		Great bearer, but in regard to quality it does not merit its name.
reine (poire de la), see muscat Robert.									
Robert's keeping, see easter bergamot.									
523 riche ronde	b. y.	ro.	2	T	B	2	9	S	
524 robine.									
royale d'été.									
525 robin.									
roi d'été, see rousselet gros.									
roi de Rome, see Napoleon.									
roi Louis, see gros blanquet.									
roi de Wurtemberg, see glout morceau.									
526 Romaine.									
527 Romaine, grosse	g. b.	obo.	3	K	C	2	12, 2	S	
Carmélite musquée.									
528 rondelet.									
Rouville, see Martin Sire.									
rose, see summer rose.									
rosenbirne, see do									
rose angle early, see citron des carmes.									
529 Rouppe.									
530 rouse Lench	p. g.	obl.	1	T	B	1	1, 2	S	Great bearer.
531 rousseline	g. y. r.	pyr.	3	T	J	2	11	S	
rousseline, see Bishop's thumb.									
532 rousselet d'Anjou.									The *rousselets* are not now in great estimation; many new sorts
533 rousselet, Bowne's winter.									
534 rousselet exquis gros	rus. r.	o. pyr.	2			3	9	S	

Name.	Colour.	Form.	Size.	Use.	Texture.	Quality.	Season.	Situation.	Remarks.
535 rousselet doré -	y. rus.	pyr.	3	T	C	2	9	S	proving far superior.
536 rousselet gros -	p.g. rus	o. pyr.	2	T	C	2	8, 9	S	
roi d'été.									
537 rousselet hâtif.	y. rus.	pyr.	3	T	C	2	7, 8	S	
poire de Chypre.									
perdreau.									
rousselet d'hiver, see Martin sec									
538 rousselet musqué petit.									
539 rousselet de Rheims - -	b. r.	pyr.	3	T K		1	9	S	Peculiarly rich and sugary; dries well.
rousselet petit.									
rousselet.									
540 rousselet de Stuttgard.	p. g. b.	pyr.	3	T	C	2	8	S	
geisshirtle.									
roussette d'Anjou, see bezi de Caissoy.									
royal, see English caillot rosat.									
royale d'eté, see Robine.									
541 royale d'hiver -	g. y.	o. pyr.	1	T	C	2	12, 2	S W	
royal tairlon, see caster bergamot.									
rude épée, see ambrette d'été.									
542 Sabine (of the French).	g. b.	obo.	2	T	B	2	11, 1	S	Good bearer; quality nearly first-rate.
D'Austrasie.									
beurre d'Austrasie.									
Jaminette.									
colmar Jaminette.									
Sabine (of the Flemings), see colmar Sabine.									
543 Sabine d'été.									
544 Sabine d'hiver.									
545 sablonnière -	g. b.	obl.	3	P					
546 Sadley Jack -	p. y. r.	obo.	3		C	3	9	S	
547 seilebirne - -				P					
548 Saint André.									
549 Saint Augustin	y. rus.	pyr.	3		C	3	10	S	
550 Saint François	g. y.	pyr.	2	K	C	3	11		
551 Saint Gall - -				P					
poire au vin.									
552 Saint Germain	y. g. b.	pyr.	1	T	J	1	11, 1	W	This sort has sometimes been confused with *Louise bonne*; hence two varieties of *Saint Germain* are mentioned by some.
inconnue la fare.									
Saint Germain gris.									
Saint Germain jaune.									
Saint Germain blanc, see Louise bonne.									
553 Saint Germain, early.									
554 Saint Germain, Howlet's.									
555 Saint Germain, new sweet.									
556 Saint Germain, Prince's - -	b.	obo.	2	T	J	2	11, 12	S	Hardier, but inferior in quality to the *Saint Germain.*
new Saint Germain.									
557 Saint Germain, summer - -	b. g.	obo.	2	T	J	2	8	S	
558 Saint Germain, striped.									Tree appears to be very tender.
Saint Germain, panaché.									
559 Saint Germain, Uvedale's -	g. b.	pyr.	1	K	C	1	1, 4	W	Has been grown to weigh upwards of two pounds.
Uvedale's warden.									
Pickering pear.									
Pickering's warden.									
Union.									
Lent Saint Germain.									
Germain baker.									
560 Saint Ghislain	p. y. g.	pyr.	2	T	B	1	9	S	
561 Saint Hubert rousset - -	rus.	pyr.	3	T	C	3	11	S	
Saint Jean musqué gros, see muscat Robert									
Saint Jean, petit, see amiré Joannet.									
Saint Lambert, see jargonelle.									
562 Saint Lézin -	p. y. b.	pyr.	1	K	C		9, 10	S	Only fit for stewing; flesh crisp and astringent.
monsieur le Curé									
Saint Marcel, see angélique de Bordeaux.									
Saint Michel, see white doyenné									
Saint Michel doré, see grey doyenné.									
563 Saint Nicholas.									
564 Saint Pierre -	g. rus.	pyr.	2	K	C	2	3	S	
Saint Samson, see jargonelle.									
565 De salade - -	p. g	obo.	2	P	J		9	S	
566 Salisbury.									
567 Salviati - -	y. p. r.	ro.	2	K	T	2	8	S	
568 Salviati long -				T					
569 sanguine - -	b. r.	tur.	2	T	C	3	8	S	Flesh red.
poire d'Italie.									
570 sanguine blanc.									
sang blanc.									
571 sanguinole - -	b. r.	tur.	2	T	C	3	8, 9	S	Flesh red.
sang.									
sanguinole rouge.									
sang rouge.									
572 sand pear.									
573 sanspareille.									
574 sanspareille à feuille de chêne									
575 sanspeau - -	p. g.	pyr.	3	T	J	2	8	S	Skin very thin
fleur de guignes.									
skinless.									
576 sans pépins.									
577 Sapin - - -	g.	pyr.	3	T	C	3	7, 8	S	Small and worthless.
coquillarde.									
578 Sarazin.									
satin, see Lansac.									
satin vert, see épine d'été.									
579 sauch - - -		pyr.	1			3	8	S	
580 sauvage d'Angleterre - -	y.	pyr.	1		C	3	12		
581 scarlet - - -	y. r.	obo.	2	T	T	3	8	S	Bright colour, but of inferior flavour.
582 scarlet major, Pope's.									
583 Schahinghieri Armudi.									
584 schäublerbirne				P					
585 schneiderbirne.									
586 Scharadin.									
587 Schoenlin's winter butterbirne									
588 Seckle - - -	b. r.	obo.	3	T	B	1	10	S	Good bearer;

Name.	Colour.	Form.	Size.	Use.	Texture.	Quality.	Season.	Situation.	Remarks.
New York red cheek.									has a peculiarly rich aroma.
red cheeked Seckle.									
589 Seggiden.									
de seigneur, see white doyenné									
seigneur d'hiver, see easter beurré.									
590 Septembre la grosse.									
591 seven-elbowed.									
Portugal.									
seven-angled.									
seta cotovelhos.									
592 Sinclair.									
skinless, see sans-peau.									
snow, see white doyenné.									
solitaire, see mansuette.									
souveraine, see passe colmar.									
593 sieulle - - -	p. y.	ob.	2	T	B	1	10, 11	S	
beurré sieulle.									
594 Spack.									
seta cotovelhos, see seven-elbowed.									
Sept-en-gueule, see little muscat.									
595 Spadone.									
Spence, see beurré Spence.									
596 spina.									
597 spina di carpi.									
598 squash, Newmedow - - -				P					
599 squash, Teinton	g. rus.	obo.	2	P		1			Much esteemed as a perry pear.
600 stadelbirne -				P					
Stanton pear, see Gansel's bergamot.									
601 Steven's Genessee.									
602 Stoffels.									
603 Stoffels' d'hiver.									
604 Stumpfling -				P					
605 Stuyck.									
606 Styrian - -	y. r.	pyr.	2	T	C	2	10	S	Bears a second but inferior crop.
sucré doré, see Napoleon.									
607 sucre de Hoyerswerda - -	g.	obo.	3	T	J	2	9	S	
608 sucré vert - -	g.	obo.	2	T	J	1	10	S	Tree very vigorous; abundant bearer.
green sugar.									
609 sucre de Zurich.									
sugar, see green chisel.									
Suisse, see verte longue panachée.									
610 summer Portugal.									
611 summer rose -	rus. r.	ob.	1	T	J	1	8	S	Handsome.
épine rose.									
de rose.									
rosenbirne.									
caillot rosat d'été.									
ognon (of some).									
épine d'été (ib.).									
612 super-fondante	p. y.	obo.	2	T	B	2	10	S	Resembles the *white doyenné*.
suprême, see jargonelle (of the French).									
613 suprême de merlet.									
614 surpasse meuris.									
615 sugar top.									
616 swan's egg - -	g. b.	obo.	2	T	J	1	10	S	Good bearer.
617 swan's egg, bergamot - -	b.	obo.	2	T	J	2	9, 10	S	
618 swan's egg, Gansell's.									
swan's egg, Knevett's new, see moorfowl egg.									
619 swan's egg, little									
620 swan's egg, new	g. b.	ro.	2	T	T	2	10	S	Soon decays.
621 swan's egg, Saint John's - -	g. b.	ro.	2	T	C	2	10	S	
622 swan's egg, Tindall's.									
sweet summer, see jargonelle.									
623 sylvange - -	p. y.	obo.	2	T	B		10		Tender, yet does not seem deserving of a wall.
bergamotte sylvange.									
624 sylvange longue.									
625 sylvange verte.									
des tables des princes, see jargonelle.									
626 Tamaise - -				P					
627 tard cedore.									
tarling, see easter bergamot.									
628 Tarquin.									
Terreneuvaise, see bezi de Caissoy									
teton de venus, see bellissime d'hiver.									
629 Thompson's -	p. y.	obo.	2	T	B	1	11	S	Flavour of *passe colmar.*
630 Tidlig Sukker.									
631 Tillington.									
632 Tilton.									
633 Tonge - - -	y. r.	ro.	3	T	C	2	10	S	
634 de Toulouse.									
635 de tonneau.									
636 tonneau de Willem - - -	y. r.	obl.	1		C	3	10	S	
637 tresam prata.									
638 trésor d'amour	g. r.	obo.	1	K	C		12, 3	S	
639 trompe chasseur.									
640 trois saisons (poire de).									
de trois tours, see beurré Diel.									
trouvé de Montigny, see bezi de Montigny.									
truite, see forelle.									
641 Tump - - -				P					
Union, see Uvedale's Saint Germain.									
Uvedale's warden, see Uvedale's Saint Germain.									
642 urbaniste - -	p. g.	obo.	2	T	B	1	10	W	
Valencia, see white doyenné									
643 vallée franche -	y. g.	obo.	2	T	J	1	8, 9	S	Good bearer.
de vallée.									
bonne de Kienzheim.									
de Kienzheim.									
644 Van Hulthem.									

Name.	Colour.	Form.	Size.	Use.	Texture.	Quality.	Season.	Situation.	Remarks.
645 Van Mons.									
646 Van Mons, late.	p.	obo.	1	T	C	2	12, 1	S	Keeps well, but its quality is far inferior to the *easter beurré*.
647 Van Solingen.									
648 Venus.									
649 Verlaine.									
650 Verlaine d'été. *vermillion d'été*, see jargonelle, of the French.									
651 verte longue - *mouille bouche.* *muscat fleuré.* *new autumn.*	g.	pyr.	2	T	J	2	10	S	Good bearer.
652 verte longue panachée - - *Suisse.* *culotte de Suisse.*	g. y.	pyr.	2	T	J	2	10	S	Like the former, but striped with green and yellow.
653 vicar.									
654 vierge. *vin*, see St. Gall. *de vigne pelone*, see comtesse de Frenol.									
655 vigne - - - *demoiselle.*	b. r.	tur.	3	T	B	2	10	S	
656 vin de Stuttgard	y. g.	obo.	3	P			8		
657 vinter Oegge.									
658 virgouleuse - *poire glace.* *Chambrette.* *Bujaleuf.*	y. g.	obo.	1	T	B	1	11, 1	W	Flesh yellow: tree vigorous; but a bad bearer.
659 virgouleuse, Newtown.									
660 virgouleuse, Prince's.									
661 voleur.									
662 Wolpool.									
663 warden, brown	b. y.	obo.	1	K	C		10	S	
664 Washington -	g. y.	obo.	2	T	B	2	10	S	
665 wasserbirne - *zankersbirne.*				P			9, 10	S	
666 Waterloo - - *Weigsdorffer*, see Stuttgarter Gaishirtel.	p. g. r.	tur.	2	T	C	2	9	S	
667 Weely.									
668 Welbeck - - *Welbeck seedling*	y. rus.	obo.	1	T	B	1	9	W	
669 Whitfield - - *winter poplin*, see bezi de Caissoy.	y. b.	obo.	2	T	B	1	11	S	Great bearer.
670 Windsor - - *cuisse madame* (of some). *monarch* (of some).	y. g	pyr.	1	T	B	2	8, 9	S	Tree vigorous, but sometimes subject to canker.
671 Windsor, winter	p. y	obo.	1	2	C	3	11	S	
672 wine. *wilding of Caissoy*, see bezi de Caissoy. *winter thorn*, see épine d'hiver.									
673 Wolf's pear				P					
674 Wormsley Grange - - *Wurtemberg*, see Napoleon.	y. b.	obl.	2	T	B	1	10	S	
675 wurzer - - *wurzer d'automne.*	g. rus.	pyr.	1		C	2	11, 1	S	Tree vigorous.
676 yellow Bambriech.									
677 Yutte (poire). *zankersbirne*, see wasserbirne.									

Propagation.—The *pear* may be propagated by layers or suckers, but not easily by cuttings. These modes, however, are productive of very indifferent plants, and are justly rejected in favour of raising from seed, and grafting or budding.

From seed.—This mode is adopted either for the purpose of obtaining new varieties, or for producing *pear* stocks; in the former case the same principles of selection or crossing are to be followed as in raising seedling apples, between which and the *pear* tree the chief difference is, that the latter requires a longer period, nearly double, to come into bearing.

In raising pears for stocks, the seeds from perry-makers are generally made use of, but the most proper are those from the wild *pears*, as likely to produce plants more hardy and durable. There is, however, less difference between the *pear* stocks or those raised from the cultivated fruit and wild *pear* stocks, than there is between the free apple and crab stocks. The seeds being procured, may be sown and afterwards treated as directed for seedling crab or apple-tree stocks.

By grafting and budding.—The most common stocks on which the *pear* is grafted, are the common *pear* and wild *pear*; the *pear*, is, however, dwarfed and brought earlier into a bearing state by grafting or budding on the quince or white-thorn. The *pear* will also succeed well on the whitebeam, medlar, service, or apple, but stocks of the wild *pear* and quince are in most general use. *Pears*, on free stocks, grow most luxuriantly in good soil and on a dry bottom, those on wild *pear* stocks grow less rapidly, but are deemed more durable, and will thrive on the poorest soil, if a hardy variety and not over pruned. "On the quince," Miller observes, "breaking *pears* are rendered gritty and stony; but the melting sorts are much improved; trees on these stocks may be planted in a moist soil with more success than those on the wild *pear* stocks or thorns." On the thorn, *pears* come very early into bearing, continue prolific, and in respect to soil will thrive well on a strong clay, which is unsuitable both to those on quinces or wild *pears*, but it is supposed to have an unfavourable influence on the fruit, in rendering it smaller and hard; and the graft or buds require to be inserted very low, that the moisture of the earth may tend to favour the swelling or enlargement of the diameter of the stock, which does not increase proportionably to, nor ever attains, the same size as the stem of the *pear*. The free and wild *pear* stocks are to be planted in nursery rows at the same distances as recommended for free or wild apples; and the quince and thorn at the same distance as the Paradise stocks and creeper apples; in other respects the management is the same as for the apple.

Choice of sorts.—Select from the catalogue given, according to purpose and quality.

Choice of plants.—Abercrombie takes trees at one year from the graft, and thence to the sixth year or older. Forsyth says "I would advise those who intend to plant *pear* trees, instead of choosing young ones, to look out for the oldest that they can find in the nursery, and with strong stems."

Soil and site.—"A dry deep loam," Abercrombie observes, "is accounted the best soil for the *pear*-tree, when the stock is of its own species; on a quince stock it wants a moist soil, without which it will not prosper. Gravel is a good sub-soil, where the incumbent mould is suitable. Cold clay is a bad sub-soil; to prevent fruit trees from striking into it, slates may be laid just under the roots. For wall trees the soil should be made good to the depth of 2 or 3 feet; for orchard trees 18 inches may do. *Pear* trees, on their own stocks, will thrive on land, where apples will not even live; supposing the plants to be hardy varieties, little removed from wild *pears*, and to have room to grow freely as standards. To the more choice of the early autumn and prime winter *pears*, assign south-east, or west walls." Knight and M'Phail recommend a strong, deep, loamy soil, and the latter a high wall for training the better sorts.

Final planting is performed any time, in mild weather, from October to March; standards are placed from 25 to 40 feet apart every way; half standards from 20 to 30 feet; and dwarf standards, in borders, from 15 to 20 feet from stem to stem. Wall and espalier trees are planted from 15 to 30 feet, according as they may have been grafted or budded on *pear* or quince stocks.

Mode of bearing.—As in the apple tree, "The *pear* tree," M'Phail observes, "does not produce blossoms on the former year's wood, as several other sorts of trees do. Its blossom-buds are formed upon spurs growing out of wood not younger than one year old, and consequently, projecting spurs all over the tree must be left for that purpose."—"In some *pears*," Mr. Knight observes, "the fruit grows only on the inside of those branches which are exposed to the sun and air; in others it occupies every part of the tree."

Pruning and training standards.—"Permit these to extend on all sides freely. Several years may elapse before any cross-placed, very irregular, or crowded branches, dead or worn out bearers, require pruning, which give in winter or spring. Keep the head moderately open in the middle." "Pruning," Knight observes, "is not often wanted in the culture of the *pear* tree, which is rarely much encumbered with superfluous branches; but in some kinds, whose form of growth resembles the apple tree, it will sometimes be found beneficial."

Wall trees and espaliers will require a summer and winter pruning.

Summer pruning.—"While the spray is young and soft, but not until the wood-shoots can be distinguished from spurs, rub off the foreright, the disorderly, spongy, and superfluous shoots of the year, rather than let them grow woody, so as to require the knife. Retain some of the most promising, well-placed, lateral, and terminal shoots, always keeping a leader to each main branch, where the space will permit. Leave the greater number on young trees not fully supplied with branches. Train in these at their full length all summer, in order to have a choice of young wood in the winter pruning. Occasionally, on old trees, or others where any considerable vacancy occurs, some principal contiguous shoot may be shortened in June to a few eyes, for a supply of several new shoots the same season."

Winter pruning "may be performed any time from the beginning of November until the beginning of April. If on young trees or others a further increase of branches is necessary to fill up either the prescribed space or any casual vacuity, retain some principal shoots of last summer, to be trained for that purpose. As, however, many young shoots will have arisen on the wood branches and bearers, of which a great part are abundant and disorderly, but which have received some regulation in the summer pruning, we must now cut these out close to the mother branches, while we are preserving the best in the more open parts. Examine the parent branches, and if any are very irregular or defective in growth, either cut them out close, or prune them to some eligible lateral to supply the place; or if any branches be over extended, they may be pruned in to such a lateral, or to a good fruit-bud. Cut out the least regular of the too crowded, also any casually declined bearers, with decayed, cankery, and dead wood. The retained supply of laterals and terminals should be laid in as much at length as the limits allow, in order to furnish a more abundant quantity of fruit-buds. During both courses of pruning, be particularly careful to preserve all the orderly fruit spurs, emitted at the sides and ends of the bearers; if, however, any large, rugged, projecting spurs, and woody barren stumps or snags occur, cut them clean away close to the branches, which will render the bearers more productive of fruit-buds, and regular in appearance. As each tree is pruned, nail or tie the branches or shoots to the wall or trellis. If afterwards, in consequence of either pruning out improper or decayed wood, or of former insufficient training, there are any material vacuities or irregularities in the arrangement, unnail the misplaced and contiguous branches and lay them in order."

Mr. Knight's mode of training the *pear* tree is as follows:—"A young *pear* stock, which had two lateral branches upon each side, and was about 6 feet high, was planted against a wall early in the spring of 1810; and it was grafted in each of its lateral branches, two of which sprang out of the stem, about 4 feet from the ground, and the others at the summit in the following year. The shoots these grafts produced were about a foot long, were trained downwards, the undermost nearly perpendicular, and the uppermost just below the horizontal line, placing them at such distances, that the leaves of one shoot did not at all shade those of another. In the next year the same mode of training was continued, and the year following I obtained an abundant crop of fruit.

"An old St. Germain *pear* tree, of the spurious kind, had been trained in a fan-form against a north-west wall in my garden, and the central branches, as usually happens in old trees thus trained, had long reached the top of the wall, and had become wholly unproductive. The other branches afforded but very little fruit, and that never acquiring maturity, was consequently of no value, so that it was necessary to change the variety as well as to render the tree productive. To attain these purposes, every branch which did not want at least 20 degrees of being perpendicular, was taken out at its base, and the spurs upon every other branch, which I intended to retain, were taken off closely with the saw and chisel. Into these branches, at their subdivisions, grafts were inserted at different distances from the root, and some so near the extremities of the branches, that the tree extended as widely in the autumn after it was grafted, as it did in the preceding year. The grafts were also so disposed, that every part of the space the tree previously covered, was equally well supplied with young wood. As soon in the succeeding summer as the young shoots had attained sufficient length, they were trained almost perpendicularly downwards, between the larger branches and the wall to which they were nailed. The most perpendicular remaining branch upon each side was grafted about 4 feet below the top of the wall, which is 12 feet high, and the young shoots, which the grafts upon these afforded, were trained inwards, and bent down to occupy the space from which the old central branches had been taken away, and therefore very little vacant space any where remained in the end of the first autumn. A few blossoms, but not any fruit, were produced by several of the grafts in the succeeding spring; but in the following year and subsequently I have had abundant crops, equally dispersed over every part of the tree."

Heading down and pruning old pear trees.—"The method of pruning *pear* trees," Forsyth observes, "is very different from that practised for apple trees in general. The constant practice has been to have great spurs, as big as a man's arm, standing out from the walls, from a foot to 18 inches or upwards." The constant cutting of these spurs, he says, brings on the canker, and the fruit produced is small, spotted, and kernelly. Forsyth's practice with such trees was to cut them down, and renew the soil at their roots, and he refers to a beurré *pear*, restored from an inch and a half of bark, which, in 1796, bore 450 fine large pears, &c.

C. Harrison and various other gardeners adopt a mode of keeping only short spurs, by which much larger fruit is produced. According to this plan, each spur bears only once, when it is cut out, and succeeded by an embryo bud at its base.

This bud, at the end of the first season, is no more than a leaf-bud, but at the end of the second summer it has become a blossom-bud, and bears the third summer. Some useful observations on the management of *pear*-trees, in correspondence with the above, will be found in various parts of the Caledonian Horticultural Society's memoirs.

Insects, diseases, &c.—The *pear*-tree is liable to the attacks of the same insects as the apple-tree, and the fruit of the summer kinds, when ripe, is liable to be eaten by birds, wasps, &c. which must be kept off by shooting, hanging bottles of water, and other usual preventatives. For other points of culture, and gathering, and storing, see the apple.

Common Pear. Fl. April. Britain. Tree 20 to 30 feet.

2 P. Bollwylleria'na (D. C. fl. fr. suppl. p. 530.) leaves ovate, coarsely serrated, tomentose beneath and on the buds, when young velvety above, but glabrous in the adult state; corymbs many-flowered. ♄. H. Native country unknown, but cultivated in the gardens around Bollwyller, a town in Alsace, in the time of Bauhin, whence the trivial name. P. Bollwylleriàna, J. Bauh. hist. 1. p. 59. with a figure. P. Pollvèria, Lin. mant. 244. Lodd. bot. cab. 1009. Koop. pomol. 2. p. 38. t. 4. ex Reich. Fruit turbinate, small, orange-yellow. Flowers white.

Bollwyllerian Pear. Fl. April. Clt. 1786. Tree 20 feet.

3 P. salvifòlia (D. C. prod. 2. p. 634.) leaves lanceolate, quite entire, tomentose beneath, when young velvety above, but in the adult state glabrous; buds tomentose. ♄. H. Native of France, about Aurelia. Cœnomànum sylvéstris et cúlta, D. C. fl. fr. p. 531. in a note. Poirier sauger, D. Ourch. in bibl. phys. econ. mai. 1817. p. 299. Branches thick. Fruit large, elongated, and very useful for making perry. Flowers white.

Sage-leaved or Aurelian pear. Fl. April, May. France. Tree 20 to 30 feet.

4 P. amygdalifórmis (Vill. cat. strasb. 322. D. C. suppl. p. 531.) thorny; leaves oblong, acute, quite entire, tomentose beneath, when young velvety above, but in the adult state glabrous, 6 times longer than the petioles; buds tomentose; flowers corymbose. ♄. H. Native of Provence and Dauphiny, in woods. P. sylvéstris, Magn. bot. 215. P. salicifòlia, Lois. not. 79. Flowers white.

Almond-formed Pear. Fl. April, May. Clt. 1810. Tree 10 to 20 feet.

5 P. eleagnifòlia (Pall. nov. act. petr. 7. 1789. p. 355.) leaves oblong-lanceolate, acute, quite entire, tomentose on both surfaces, hardly longer than the petioles; flowers corymbose. ♄. H. Native of Iberia, Tauria, and Caucasus. P. orientàlis, Horn. suppl. 52. P. eleagnifòlia, Steud. nom. Flowers white.

Eleagnus-leaved Pear. Fl. April, May. Clt. 1800. Tree 20 feet.

6 P. salicifòlia (Lin. suppl. 255.) leaves linear-lanceolate, acute, quite entire, hoary, clothed with white tomentum beneath, about 3 times the length of the petioles; buds clothed with white tomentum; corymbs few-flowered. ♄. H. Native of Siberia and Caucasus. Ker. bot. reg. 514. Pall. itin. 3. p. 734. t. N. f. 3. fl. ross. 1. t. 9. Flowers white, on short pedicels, corymbose, never solitary.

Willow-leaved Pear. Fl. April, May. Clt. 1780. Tree 6 to 12 feet.

7 P. I'ndica (Colebr. Wall. pl. rar. asiat. 2. t. 172.) leaves ovate or ovate-cordate, acute, serrulated, glabrous, white beneath as well as the petioles and calyxes; claws of petals shorter than the calyx; umbels sessile, few-flowered; styles villous at the base. ♄. H. Native of the mountains of Silhet, in Bengal. Flowers white. Fruit with an austere taste, about the size of the wild *pear*. Leaves lobed in the young plants.

Indian Pear. Tree 20 feet.

8 P. cuneifòlia (Guss. pl. rar. p. 202.) leaves oblong-oval, crenulated at the base, when young clothed with floccose down beneath, but in the adult state glaucescent and smooth; peduncles corymbose, clothed with woolly tomentum when young as well as the calyxes; teeth of calyx lanceolate; petals obcordate; fruit globose. ♄. H. Native of Calabria, on hills. Fruit sour. Flowers white or pale red. Allied to *P. parviflòra*, Desf. and *P. salicifòlia*.

Wedge-leaved Pear. Fl. Mar. April. Tree.

9 P. lana'ta (D. Don, prod. fl. nep. 237.) leaves broadly elliptic, acuminated, doubly serrated, clothed with white wool beneath as well as on the branches; corymbs terminal, compound, woolly; calycine lobes ovate, acuminated, ♄. H. Native of Nipaul, in Sirinagur. Perhaps referrible to Sect. III. *Aria.*

Woolly Pear. Fl. May, June. Clt. 1818. Tree 20 feet.

10 P. crena'ta (D. Don, prod. fl. nep. p. 237.) leaves ovate, acutely crenated, on long petioles, glabrous above, but when young clothed with white tomentum beneath as well as the branches; corymbs simple, woolly; calycine lobes ovate, acutish. ♄. H. Native of Upper Nipaul, at Suembu. This species comes near to *P. Bollwylleriàna*, but differs in the leaves of that species being shorter and broader, serrated, not crenated, and in the flowers being more numerous.

Crenate-leaved Pear. Fl. May. Clt. 1820. Tree 20 feet.

11 P. Nu'ssia (Hamilt. ex D. Don, l. c.) leaves elliptic, mucronate, coriaceous, crenulated, glabrous, but when young woolly beneath, as well as the branches; corymbs terminal, panicled, covered with white woolly down; pome spherical. ♄. H. Native of the higher mountains of Nipaul. Fruit small, about the size of that of *P. arbutifòlia.*

Nussia Pear. Tree 20 feet.

12 P. variolòsa (Wall. cat. 680.) leaves ovate, acuminated, crenated, glabrous in the adult state, on long petioles, when young clothed with yellowish tomentum beneath; umbels terminal; pedicels and calyxes woolly. ♄. H. Native of Nipaul and Kamaon. Flowers white. Fruit nearly globose, not umbilicate at the base.

Variolose Pear. Fl. April, May. Tree 20 feet.

13 P. Pa'shia (Hamilt. ex herb. Lin. soc.) leaves ovate, acuminated, rather cordate at the base, crenated or serrated, glabrous in the adult state, but downy beneath when young, as well as the petioles, pedicels, and calyxes; cymes terminal; fruit globular. ♄. H. Native of Narainhetty.

Pashia Pear-tree. Tree 10 to 20 feet.

14 P. Sine'nsis (Lindl. hort. trans. 6. p. 396. bot. reg. 1248.) leaves cordate, apiculated, shining, serrated, when young pubescent beneath; peduncles corymbose; calyx glabrous inside; fruit warted, bony. ♄. H. Native of China and Cochin-china. Ri vulgo Nas, Kæmpf. amœn. 800. Pýrus commùnis, Loir. cochin. p. 321. Flowers white. This tree is called indiscriminately *Chinese pear*, *sandy pear*, or *snow pear*. Fruit gritty.

Chinese Pear. Fl. April, May. Clt. 1820. Tree 15 to 20 feet.

15 P. Sina'ica (Thouin, mem. mus. 1. p. 170. t. 9.) leaves ovate-oblong, rather crenated, acutish, clothed with white pubescence beneath, but glabrous and shining above; buds white from pubescence; flowers corymbose; fruit nearly globose. ♄. H. Native of mount Sinai. Wats. dendr. 49. P. Sinài, Desf. arb. 2. p. 144. Duham. ed. nov. 6. t. 57. P. Pérsica, Pers. ench. 2. p. 40. Much branched, diffuse. Leaves minutely crenulated, falling off late in the autumn. Flowers white.

Mount *Sinai* Pear. Fl. April, May. Clt. 1820. Tree 20 ft.

16 P. niva'lis (Lin. fil. suppl. 253.) leaves oval, quite entire, obtuse, mucronate, clothed with white silky down beneath; corymbs terminal; fruit globose. ♄. H. Native of the Alps of

Austria. Jacq. austr. 2. t. 107. Flowers white. Fruit very acid, but when ripe and becoming putrid, very sweet.

Snow Pear. Fl. April, May. Tree 6 to 10 feet.

17 P. Michau'xii (Bosc, in Poir. suppl. 4. p. 432.) leaves oval, quite entire, acutish, glabrous on both surfaces, and shining above; peduncles usually twin, when bearing the fruit thick and woody; fruit globose. ♄. H. Native of North America.

Michaux's Pear. Fl. April. Tree 20 feet.

18 P. parviflòra (Desf. cor. 78. t. 58.) leaves ovate, quite entire, hoary beneath; corymbs terminal; fruit globose. ♄. H. Native of Candia. P. sylvéstrus Crética, C. Bauh. pin. p. 439. Tourn. cor. 43. Flowers red.

Small-flowered Pear. Tree 20 to 30 feet.

Sect. II. Ma'lus (*mel* or *mal*, Celtic, for the apple, which the Greeks have rendered *μηλον*, and the Latins *malus*). Tourn. inst. t. 406. Petals flat, spreading. Styles 5, somewhat connected at the base. Pome usually globose and depressed, always umbilicate at the base. Pedicels simple, umbellate. Leaves simple, glandless.

19 P. ace'rba (D. C. prod. 2. p. 635.) leaves ovate, acute, crenated, quite glabrous when young, as well as the calycine tube; flowers corymbose. ♄. H. Native of Europe, in woods and hedges. P. Màlus austèra, Wallr. sched. 215. Màlus acèrba, Merat, fl. par. 187. D. C. suppl. 530. P. màlus sylvéstris, Fl. dan. 1101. P. Màlus, Smith, engl. bot. 179. Flowers white tinged with red. There are numerous varieties with acerb fruit; they are commonly called *cider apples*, and in French *pommier à cidre*. The fruit of the *wild apple* is globose, yellowish, with a tinge of red, very acid, and astringent, yet there are several varieties among the *wild crabs*, some of them of excellent flavour when baked with plenty of sugar, even surpassing many cultivated apples. The expressed juice of any of them, called verjuice, is used to cure sprains and scalds, being often kept by good housewives in the country for that purpose.

Sour or Wild Apple or Crab. Fl. March, April. Britain. Tree 15 to 20 feet.

20 P. Ma'lus (Lin. spec. 686.) leaves ovate or elliptic, acute, serrated, clothed with white down beneath, as well as on the calyxes, petioles, &c.; flowers corymbose; styles glabrous. ♄. H. Native of Europe, in woods, hedges, and parks; plentiful in Britain. Màlus mìtis, Wallr. sched. 215. Flowers umbellate, beautifully variegated with white and rose-colour, and slightly fragrant.

The *apple* tree is called *pomme* and *pommier doux* or *pommier à couteau* in France, *apfel* in German, and *pomo* or *melo* in Italian. It has the branches more horizontal than the pear tree; the flowers terminate in umbels, produced from the wood of the preceding year, but more generally from very short shoots or spurs from wood of two years' growth. The fruit in its wild state is termed a crab. It is a native of most countries of Europe in its wild state, and the improved varieties form an important branch of culture in Britain, France, and Germany, for the kitchen, the table, and for the manufacture of cider. From whence we received the cultivated *apple* is unknown, but in all probability it was introduced by the Romans, to whom 22 varieties were known in Pliny's time, and afterwards the stock of varieties greatly increased at the Norman conquest. According to Stow, *carps* and *pepins* were brought into England by Mascal, who wrote on fruit trees in 1572.

The *apple* tree is supposed by some to attain to a great age. Haller mentions some trees in Herefordshire that attained 1000 years, and were highly prolific; but Mr. Knight considers 200 years as the ordinary duration of a healthy tree grafted on a crab stock, and planted in a strong tenacious soil. Speechly (Hints, 58.) mentions a tree in an orchard at Burton-joyce near Nottingham, of about 60 years old, with branches extending from 7 to 9 yards round the bole, which in 1792 produced upwards of 100 pecks of apples. Of all the different fruits that are produced in Britain, none can be brought to so high a degree of perfection, with so little trouble; and of no other is there so many excellent varieties in general cultivation, calculated for almost every soil, situation, and climate, which our island affords. Very good apples are grown in the Highlands and Orkneys, and even in the Shetland Islands (Cal. hort. mem. vol. 2.), as well as in Devonshire and Cornwall; some sorts are ripe in the beginning of July, and others which ripen later will keep till June. Unlike other fruits, those which ripen latest are the best.

Use.—For pies, tarts, sauces, and the dessert, the use of the *apple* is familiar to every one. The fermented juice forms cider, a substitute both for grape wine and malt liquor. In confectionary it is used for comfits, marmelades, jellies, pastes and tarts, &c. In medicine, verjuice or the juice of crabs is used for sprains, and as an astringent and repellent, and, with the proper addition of sugar, Withering thinks a very grateful liquor might be made with it, little inferior to Rhenish wine. Lightfoot affirms, mixed with cultivated apples, or even alone, if thoroughly ripe, it will make a sound masculine wine. The apple when ripe is laxative; the juice is excellent in dysentery; boiled or roasted apples fortify a weak stomach. Scopoli recovered from a weakness of the stomach and indigestion from using them, and they are equally efficacious in putrid and malignant fevers, with the juice of lemons or currants. In perfumery, the pulp of apples, beat up with lard, forms pomatum; and Bosc observes (N. cours d'Agricultiur, &c.) that the prolonged stratification of apples with elder-flowers, in a close vessel, gives the former an odour of musk, extremely agreeable. In dyeing, the bark produces a yellow colour, and in general economy the wood of the tree is used for turning, and various purposes where hardness, compactness, and variegation of colour are objects.

Criterion of a good apple.—Apples for the table are characterized by firm juicy flesh, elevated poignant flavour, regular form, and beautiful colouring; those for kitchen use by the property of falling, as it is technically termed, or forming in general a pulpy mass of equal consistency, when baked or boiled. Some sorts of apples have the property of falling when green, as the *Keswick, Carlisle, Hawthornden*, and other codlins; and some only after being ripe, as the *Russet* tribe. Those which have this property when green are particularly valuable for affording sauces to geese early in the season, and for succeeding the gooseberry in tarts. For cider an apple must possess a considerable degree of astringency, with or without firmness of pulp or richness of juice. The best kinds, Knight says, are often tough, dry, and fibrous; and the *Siberian Harvey*, which he recommends as one of the very best cider-apples, is unfit either for culinary purposes or the table. Mr. Knight has found that the specific gravity of the juice of any apple recently expressed indicates with very considerable accuracy the strength of the future cider. Considering the various uses of the apple, it may be regarded as a fruit of more use and benefit to the public in general than all the other fruits the produce of this island.

Varieties.—Tusser in 1573 mentions in his list of fruits "apples of all sorts." Parkinson in 1629 enumerates 57 sorts. Evelyn about 30 years afterwards says (Pomona pref.), "it was through the plain industry of one Harris, a fruiterer to Henry VIII. that the fields and environs of about 30 towns in Kent only, were planted with fruit from Flanders, to the universal benefit and improvement of the county." Gibson (Churches of Dove and Homelacy,) mentions that Lord Scudamore, ambassador to the court of France in the time of Charles I., collected in

Normandy scions of cider-apples, and when he returned to England encouraged the grafting them throughout the county of Hereford. Hartlip in 1566 speaks of one who had 200 sorts of apples, and "verily believes that there are nearly 500 sorts in this island." Ray in 1688 selected from the information of the most skilful gardeners about London a list of 78 sorts. Succeeding writers have been enabled greatly to increase the list, partly from the almost continual accession of sorts received from the continent during intervals of peace, but principally from the great numbers raised from seeds. A variety of *apple*, like those of most other plants, appears only to have a limited duration; and hence on taking a retrospective view of the lists of sorts given by Parkinson, Evelyn, and other authors, many of them are not now to be found, or are so degenerated or diseased as no longer to deserve the attention of the planter. "The *moil*," Mr. Knight observes, "and its successful rival the *red-streak*, with the *musts* and *golden-pippin*, are in the last stage of decay, and the *stire* and *fox-whelp* are hastening rapidly after them." After making a great variety of experiments for several years, and after many attempts to propagate every old variety of the *apple*, this author observes (Treat. on Apple and Pear, 15.), "I think I am justified in the conclusion, that all plants of this species, however propagated from the same stock, partake in some degree of the same life, and will attend the progress of that life in the habits of its youth, its maturity, and its decay, though they will not be any way affected by any incidental injuries the parent tree may sustain after they are detached from it." Mr. Knight next directed his attention to raising new varieties from seeds, and has by crossing one sort with another, and by having constantly several thousands of seedlings rearing, from which as they show fruit, to select the best sorts, succeeded in producing several new varieties of apples, much esteemed for the table and the press. Of several of these sorts, and those obtained, accounts will be found in the work above quoted, and in Horticultural Transactions. Several eminent horticulturists in different districts are now engaged in a similar manner, and there can be little doubt a great and valuable accession will be constantly made to this class of fruits. Some, however, as Williamson (Hort. trans. 3. p. 291.) and Speechly (Hints, 188.) consider that the deterioration of the *apple* and other fruits may be owing to the climate, and that the return of genial summers would restore to us from old trees as good fruit as heretofore.

A numerous list of varieties may be considered as puzzling to the inexperienced person, who has to select for a garden or an orchard; but if each of these varieties were correctly figured and described, including the character and habits of the tree, as well as the leaves, roots, blossoms, and fruit, the list could not be too extensive of a fruit so universally grown and liked as the apple; for almost every garden and orchard differs in soil, climate, aspect or situation; and, consequently, to be planted in the best manner, must require a corresponding difference in the varieties of each species of fruit with which it is to be planted. Sabine, however, (Hort. trans. 3. p. 263.) considers, that the stock of *apples* requires reduction rather than increase, and observes that one of the chief objects to which the attention of the Horticultural Society is at present directed, is to make a judicious selection. A great variety of *apple* trees in a bearing state may be seen in different nurseries both in Britain and Ireland, but especially near London; from these in the autumn the fruit may be tasted from the trees, and either young plants newly worked or plants in a state of bearing fixed on, and marked to be taken up at the proper season. The advantages of this mode, especially to such as possess but a small garden, are too obvious to require comment.

The only catalogue of *apples* which can be depended upon for accuracy yet published, is that by the Horticultural Society of London in the present year, which none but a public body could have brought to such perfection. It is as follows.

The columns explain 1. The prevailing colour. 2. The usual form. 3. The average size. 4. The use, whether for table, kitchen, or cider. 5. The quality. 6. The usual season of perfection. The abbreviations employed are as follows:

1. *Prevailing colour.*—p. pale; d. dark; y. yellow; r. red; g. green; rus. russet; str. streaked; br. brownish.

2. *Form.*—Pea. pearmain-shaped; i. e. of the form of a truncated cone; calv. calville-shaped, when the ribs of the fruit are particularly prominent; ob. oblate; obl. oblong; ro. roundish; rou. round; con. conical; ro.-obl. roundish-oblong; ov. ovate; ov.-obl. ovate-oblong; obo. obovate.

3. *Size.*—1. very large; 2. middle-sized; 3. small.

4. *Use.*—T. table; K. kitchen; C. cider.

5. *Quality.*—1. first-rate; 2. second-rate; 3. indifferent or bad.

6. *Season, times of ripening.*—The months of ripening are placed in numbers beginning at Jan. for the 1st, and so on to December, the 12th.

Name.	Colour.	Form.	Size.	Use.	Quality.	Season	Remarks.
1 Achmore.							
2 D'Adam - - - *seigneur rouge.*	r.	calv.	2	C		11, 1	
3 Adam's apple - -	d. r.	obl.	2		3	12, 1	Worthless, unless for cider.
4 d'Avent.							
5 agat apfel rouge -	str.	ov.	3		3	12	Of no value.
6 agathe grise - -	p. y.	ov. obl.	2		3	12	
7 Alban - - -	g. r.	rou.	2	C		12, 2	
8 Alcester seedling.							
9 Alderston pippin -	p. y.	ov.	3	T	2	8	
10 Alexander - - - *emperor Alexander.* *Russian emperor.* *Aporta.*	str.	con.	1	K	1	9, 12	Moderate bearer, large and handsome.
11 Alfriston - - - *Newtown pippin* (of many). *lord Gwydyr's Newtown pippin.*	g. y.	ro.	1	K	1	11, 4	A valuable kitchen apple.
Althorp pippin, see marmalade.							
American mammoth, see gloria mundi.							
12 ambrosia, Parson's.							
13 American, new.							
14 American peach - -	r. y.	ro.	2		2	9	
American peach, see cousinette.							
15 American pippin.							
16 American summering.							
d'Amérique, see noir.							
17 d'ange - - -	g.	ro.	3	C		10	
d'Angleterre grosse, see reinette Wahre.							
18 Anglais.							
d'anis, see fenouillet gris.							
19 anis-seed - - - *rival golden pippin.*	g. y.	ob.	3	T	2	10, 1	
20 Annette black - -	d. r.	ov.	2	K T	2	11, 1	
21 api gros.							
22 api noir - - -	d. r.	ob.	3	K T	2	10, 4	
23 api panachée - - *panachée.*	y. g.	ro.	3		3	10, 12	More curious than useful.
24 api, petit - - - *pomme rose.* *lady apple* (of the Americans). *etoilée.*	y. r.	ob.	3	T	2	10, 4	Very beautiful.
Aporta, see Alexander.							
Arabian apple, see pigeon							

Name.	Colour.	Form.	Size.	Use.	Quality.	Season.	Remarks.
Arley, see Wyken pippin.							
25 Archdeacon Clarke's.							
26 argentée d'Angleterre.							
27 aromatic pippin, Edmonston's.							
28 Ashby seedling.							
29 Ashmead's kernel	y.	ob.	2	T	2	10, 1	
30 d'Asteins	g. str.	ro.	2	K	2	11, 3	
strifling d'hiver.							
31 Astrachan red	r.	con.	2	T	2	8, 9	
32 Astrachan white	p. y.	con.	2	T	1	8, 9	Good bearer.
Pyrus Astracanica, De Cand.							
pomme d'Astrachan.							
transparent de Moscovie.							
glace de Zélande.							
33 d'Assy, grosse.							
34 augusaeble.							
35 aunt's apple	str.	ro.	1	K	2	11, 3	
aurore, see golden reinette.							
36 autumn bough.							
avant tout, see summer Stibbert.							
37 Bains's	str.	ob.	2	K T	2	11, 3	*Ribston pippin* flavour, but not so rich.
38 Baird's favourite.							
39 Balderstone seedling.							
40 Baldwin's	g. r.	obl. ro.	1	K	1	11, 4	
red Baldwin.							
41 de Bâle.							
42 baleborodova	p. y.	ov.	3		3	8	Of no merit in this climate.
Balgone pippin, see golden pippin.							
43 Balgowen.							
44 Balmanno pippin	g. b.	ro. ov.	3	T	2	10, 12	
45 Baltimore.							
46 Bamporta.							
47 de Barbarin.							
bardin, see fenouillet rouge.							
Barossa, see Bourassa.							
48 Barrow Court pippin.							
49 Barton's favourite.							
50 Bascombe mystery.							
51 Basselaney pippin.							
52 Bath	y.	ro.	1	K	3	12?	
bay, see drap d'or.							
Bayfordbury pippin, see golden pippin.							
53 Beachamwell	y.	ov.	3	T	1	12, 3	An excellent table fruit.
Beachamwell seedling.							
Motteux's seedling.							
54 Beat's pippin.							
beaufin, Millmount, see Norfolk paradise.							
55 beaufin, Norfolk	d. r.	ob.	2	K	1	1, 6	Excellent for drying.
56 beaufin, Suffolk.							
57 beaufin, white.							
58 beaufinette.							
59 beauty of Kent	str.	ro.	1	K	1	10, 2	
Kentish pippin (of some).							
le beau rouge, see Hollandbury.							
60 beauty of the West.							
61 beauty of Wilts.							
beauty of Wilts, Dredge's, see Harvey's pippin.							
62 bec de lièvre	y.	ov.	2		3	10, 11	
63 Bedfordshire foundling	y.	obl. ro.	1	K	1	11, 3	Very handsome, large, and excellent.
Cambridge pippin.							
Belin, pomme de, see court pendu musqué							

Name.	Colour	Form.	Size	Use.	Quality	Season.	Remarks.
64 belle bonne	str.	con.	2	K	1	11, 4	
65 bel Ecossais.							
66 belle fille.							
67 belle fleur	y. r.	ro.	3		3	11, 12	Very indifferent.
68 belle fleur, Brabansche	y. r.	ro.	1	K	1	11, 4	An excellent sort.
69 belle fleur, double.							
70 belle fleur d'Egben	rus.	ov.	3		2	11, 3	
71 belle fleur, Hollandische.							
72 belle fleur, Westlandische.							
73 belle fleur de Stoffels	str.	ov.	3		2	11, 12	
74 belle fleur rouge.							
75 belle fleur, yellow	y.	obl.	1	K	2	11, 3	
belle fleur.							
bell flower.							
76 belle Hervy	g.	ro.	1	K	2	11, 3	
de Jardy.							
77 belle de Senard.							
Bell's scarlet, see scarlet pearmain.							
78 Belledge pippin	y.	ov.	2	T	2	11, 3	
79 Benholm pippin.							
80 Ben Lomond	g. y.	obl.	1	K		10, 12	
81 Bennet.							
82 Benwell's large	g.	ro.	1		3	12	
83 Bentleber rose	r.	calv.	2	K	3	10, 12	
84 Benzler.							
85 Bess Pool	g. r.	ov.	2	K	1	12, 4	
Best Pool.							
86 beurre à cidre	y.	ov.	3	C		12	
87 Bere Court pippin	g. r.	ob.	2	K		9, 10	
88 de Binet				C			
89 Bishopstone Norman	g. y. r.	ov. ro.	2	C			
90 birnformiger.							
91 bitter sweet							
92 bitter sweet, Siberian	y.	ov.	3	C C	1	9	Great bearer, and excellent.
93 bitter sweet, white.							
94 black.							
95 black American	d. r.	ro.	2	T	2	11, 12	Curious on account of its colour, in other respects worthless.
96 black Bess.							
97 black crab	d. r.	ro.	3		3	11, 1	
black Borsdörffer.							
98 black grove	g. r.	pea.	2		3		
99 black pippin.							
100 blandarine, red.							
101 bland rose	y. r.	ro.	2	T	2		
102 de Blangy	y.	ov.	3	C		10	
103 Blenheim crab.							
104 Blenheim pippin	y.	ro.	1	K T	1	11, 2	Grows very strong when young, and in that state bears rather thinly. A very handsome fruit.
Blenheim.							
Blenheim orange.							
Woodstock pippin.							
Northwick pippin.							
105 blumensaur.							
106 blood royal	d. r.	ro.	1	K	2	9, 11	
boatswain's pippin, see queen.							
107 de bœuf	g.	ob.	2	K	3	12, 1	
108 Bogmiln favourite	str.	ro.	3	T	2	11, 1	
109 à bois panaché	y. g.	obl.	2	K		10, 11	
110 Bollaston Hill.							
111 bonne de Mai	y.	ov.	3	C		12	
112 bonne rouge.							
113 Bontignie.							
114 Borsdorffer	y. r.	oval	3	T	1	11, 3	
Borstorffer.							
reinette bâtarde.							
winter Borsdorffer.							
reinette de Misnie.							
king.							
queen's.							
Borsdörffer, black, see black crab.							
115 Borsdorffer, double.							

Name.	Colour.	Form.	Size.	Use.	Quality.	Season.	Remarks.
116 Borsdorffer le grand Bohemien.							
117 Borsdorffer Ognoniforme	g. r.	ob.	3	T	3	10, 1	
118 Borsdorffer, Rother.							
119 Borovitsky	g. str.	ro.	2	T	1	8	Early, of considerable merit.
120 Bossom	y.	con.	2	K	2	12, 1	
121 Bostock orange.							
122 bough, large yellow	y.	ro.	1	K	1	8	Does not keep long.
123 Brainton, Symonds's				C			
124 Bransby pippin.							
125 Brazier's.							
126 Bourassa.							
Barossa.							
127 Bower.							
brandy, see golden Harvey.							
128 braune mal	br.	ob.	1	K		12, 3	
129 braunschweiger milch.							
130 brebis	y.	ro.	3	T C	2	8	A good bearer.
131 Breedon pippin	y.	ob.	3	T	1	10, 11	
Brentford crab, see Isleworth crab.							
de Bretagne, see reinette du Canada.							
132 Brickley seedling	g. r.	ro.	3	T	1	1, 4	
133 Bridgewater pippin	y. rus.	calv.	1	K	2	10, 11	
134 Bringewood pippin	y.	ob.	3	T	1	1, 3	
135 Broad-End	g.	ob.	2	K	1	11, 1	
broading.							
136 broad-eyed pippin	y.	ob.	1	K	1	9, 12	
137 Brookes's	y. rus.	ov.	3	T	1	9, 1	
138 Broughton	y. r.	ro.	3	T	2	10, 12	
139 brownite.							
brown apple of Burnt Island, see spice apple.							
140 brown Kenting.							
brown spice, see spice apple.							
141 Bucks county	y. r.	con.	1	C	1	11, 3	Great bearer.
Solebury cider.							
142 Buchanan	p. y.	obl.	2	K	2	9, 11	
143 Buchanan's long keeper.							
144 Buckland, Devonshire	p. y.	ob.	2	K T	2	12, 3	Good bearer.
lily Buckland.							
white lily.							
Dredge's white lily.							
145 Buckland, yellow	y.	ob.	2	K	3	12, 3	
146 buffcoat	y. rus.	ro.		C			
147 Bussier.				C			
Bullock's pippin, see sheep's nose.							
148 Burns's seedling	y. r.	ro.	1	K	1	10, 1	
Burnt Island pippin, see spice apple.							
149 burr knot	y.	ro.	1	K	1	10, 1	Strikes easily from cuttings.
Burr apple.							
150 Busham	y. g.	ro.	2	K		12, 3	
151 Byre-End	p. y.	ro.	1	K	2	12	
152 Byson Wood	rus.	ro.	3	T	1	12, 2	
Byson Wood russet.							
Caldwell, see Rymer.							
153 Cadbury.							
154 Calville blanche d'été	p. y.	calv.	2	K	2	8, 9	
white Calville.							
155 Calville blanche d'hiver	p. y.	calv.	1	K T	1	1, 4	
Calville d'Angleterre, see Cornish gilliflower.							
156 Calville Bosc.							
157 Calville imperiale.							
158 Calville Kops.							
159 Calville malingre	r.	calv.	1	K	1	1, 4	Great bearer,
160 Calville Normande	r.	calv.	1	K	2	1, 3	and keeps well.
malingre d'Angleterre.							
161 Calville pepin.							
162 Calville rouge d'automme	r.	calv.	1	K	3	10, 11	
163 Calville rouge d'été	r.	calv.	2	K	2	7, 8	
Calville d'été.							
Madeleine.							
164 Calville rouge d'hiver	r.	calv.	2	K	3	11, 12	
Calville rouge couronnée.							
Calville red.							
165 Calville rouge de Micoud	r.	obl.	3	K T	2	7, 11	Bears two crops a year.
Calville red, see pomme violette.							
166 Calville rouge de pentecôte.							
167 Calville rouge précoce	r.	calv.	3	K		8	Of no great merit.
168 Calville royale.							
Calville, white, see Calville blanche d'été.							
Cambridge pippin, see Bedfordshire foundling.							
169 Cambusnethan pippin	y. r.	ob.	2	T	1	10, 1	
winter redstreak.							
watch apple.							
170 Cambridge hive.							
171 Cam House.							
172 campagne doux	rus.	ro.	3	T	2	10, 1	
173 Campfield	y. r.	ob.	2	C		12, 1	
174 Canadian pippin.							
175 Cann.							
Carel's seedling, see Pinner seedling.							
Carle, pomme, see male Carle.							
176 Capucine de Tournay							
177 Carberry pippin.							
178 cardinal rouge	r.	ro.	2	T	2	11, 1	
179 carnation.							
180 Caroline	str.	ro.	1	K	1	11, 2	
Carthouse, see Gilpin.							
181 carree	p. y.	obl.	3	K	3	11, 1	Worthless.
182 carrée blanche	p. y.	ro.	1	K	2	11	
183 Carse of Gowrie, early							
184 Carse of Gowrie, late.							
185 catline	y. r.	ob.	3	T	2	10, 12	
Gregson.							
catline of Maryland.							
186 catshead.							
187 catshead, round.							
tête de chat (of Jersey).							
188 Cellini	g. r.	ob.	2	K T			
189 Chalcomb.							
190 Chalmer's large.							
191 chamelion.							
192 chance	p. g.	ro.	2	K T	1	10, 2	A Persian apple, indifferent in this climate.
193 Charlamowskischer Nallivia	y.	ob.	2	T	2	10	
194 Charlemagne	r.	ro.	3		3	10	
de Charles, pomme, see male Carle.							
195 de Charlotte				C			Contains a very strong acid.
196 Chataignier	str.	ov.	2	K		2 years	
197 Chataignier du Leman.							
198 chaudière	g.	ro.	3	C			
199 chauffard	str.	ov.	1			8, 9	Subject to canker.
200 Chelston pippin.							
201 chemise de soie blanche.							

Name.	Colour.	Form.	Size.	Use.	Quality.	Season.	Remarks.
202 Christie's pippin -	y.	ob.	3	T	1	12, 2	Good bearer, but of little merit.
203 chuchet egg - -	y.	ov.	3	T	2	9	
204 cierge d'hiver.							
205 citron.							
206 citron des carmes.							
207 citron de Saint Gall.							
208 clammy.							
209 Cley pippin - -	y.	ro.	3	T	1	10	
210 claret.							
Coates's, see Yorkshire greening.							
211 clove pippin.							
cluster pippin, see cluster golden pippin.							
212 cluster, streaky.							
213 Clydesdale.							
214 Cobham - -	g. r.	ro.	2	K T	2	11, 1	
215 coccagee - -	y.	ov.	2	C	1	10	
216 coccagee, new.							
217 cockle pippin -	br. y.	ov.	2	T	1	1, 4	
nutmeg cockle pippin.							
nutmeg pippin.							
white cockle pippin.							
218 cockpit - - -	y.	ro.	2	K	2	12, 3	
219 codlin, Betley -	y. b. r.	con.	2	K		10, 1	
220 codlin, Carlisle -	y.	con.	3	K	1	8, 12	Very good.
221 codlin, Clarke's -	y.	con.	2	K	3	11	
222 codlin, Dutch -	y.	ro.	1	K	1	8, 9	Very large.
223 codlin, French -	y.	con.	1	K	2	8, 9	
224 codlin, Kentish -	y.	con.	1	K	2	8, 9	
225 codlin, Keswick -	g. y.	con.	1	K	1	8, 9	
226 codlin, Kilkenny -	y.	rou.	1	K	1	8, 9	
codlin, Knight's, see Wormsley pippin.							
227 codlin, Kinnoul.							
228 codlin, Manks -	p. y.	con.	1	K	1	8, 10	
Irish pitcher.							
Irish codlin.							
229 codlin, Nelson's.							
230 codlin, Old English	p. y.	con.	2	K	2	8, 10	
English codlin.							
231 codlin, royal.							
232 codlin, Spring Grove	p. y.	con.	1	K	1	7, 9	
233 codlin, Tarvey -	y. g.	con.	1	K		9, 11	
234 codlin, Tottenham Park.							
235 codlin, transparent	p. y.	con.	1	K		9, 10	
236 codlin, winter -	g.	con.	2	K	1	9, 2	Great bearer.
237 cœur d'ane - -				C			
238 cœur de bœuf -	d. r.	calv.	1	K			
cœur de pigeon, see pigeonnet.							
239 Coing.							
240 Cole - - -	r.	ro.	1	K T	1	8, 9	
scarlet perfume.							
241 Collin's keeper.							
242 colonel Harbord's pippin - -	y. g.	con.	1	K	1	11, 1	
243 colonel Vaughan's.							
244 de Coloma - -	str.	ob.	3	T	2	9	
compôte, see Padley's pippin.							
245 concombre ancien.							
246 concombre des Chartreux.							
247 constanzer.							
248 constant bearer.							
Copmanthorpe crab, see Dutch mignonne.							
249 Coquerel plat -				C			
corianda rose, see courtpendu plat.							
250 Corin.							
251 Corlie's sweet.							
252 corn apple.							
253 Conquest de Wigers	p. y.	ro.	2	T	1	1, 3	Keeps well without shrivelling.
254 Cornish aromatic -	rus. r.	ro.	1	T	1	10, 1	
255 Cornish crab.							
256 Cos.							
257 Coul blush - -	y. r.	con.	2	K T	2	10	A good bearer
258 Corstorphine.							
259 court-pendu, Ayrshire							
260 court-pendu doré.							
court-pendu gris, see fenouillet rouge.							
261 court-pendu noir.							
262 court-pendu plat -	d. r.	ob.	2	T	1	12, 4	An excellent bearer.
court pendu.							
——— *extra.*							
——— *plat rougeâtre.*							
——— *rond gros.*							
——— *rond très gros.*							
——— *rond rougeâtre.*							
——— *rose.*							
——— *musqué.*							
——— *rouge musque.*							
corianda rose.							
pomme de Belin.							
Garnon's apple.							
Wollaton pippin.							
Russian.							
princesse Noble Zoete							
263 court-pendu rouge.							
264 court-pendu rouge et gris.							
265 court of Wick.	y.	ob.	3	T	1	10, 3	A handsome regularly formed dessert fruit of excellent quality.
Fry's pippin.							
golden drop.							
Knightwick pippin.							
Wood's Huntingdon.							
Phillips's reinette.							
yellow.							
266 court of Wick, scarlet.							
267 Cousham.							
268 coussinette - -	p. y. r.	ov.	3	K	2	8	Great bearer.
American peach (of some).							
269 cochon rouge.							
270 cow's snout - -	y. g.	obl.	1	K	2	8, 9	
271 Cragie.							
272 Cram apple.							
273 Cray pippin.							
274 Creighton.							
275 crimson pippin.							
Crofton, early, see Irish peach.							
276 Crofton, early white.							The *Croftons* are good apples, but being much confused, nothing can be said of them individually.
277 Crofton, scarlet.							
red Crofton.							
278 Crofton, white.							
279 Crofton, white summer.							
280 Croom pippin.							
281 Cumberland pippin.							
282 Cumberland spice.							
283 custard, white.							
284 cider sop - -	y. b. r.	ro. ov.	2	C			
dainty, see hoary morning.							
285 damelot - -	y.	ro.	3	C		10	A sort of bitter sweet.
286 damelot vert - -	g.	ro.	2	C		1	
287 Dantziger kantapfel	d. r.	ro.	2	K	2	11, 12	
288 Darleston pippin.							
289 Darlington pippin	g.	ob.	2		2		
Delaware, see Trumpington.							
290 Davis's pippin.							
291 Deptford Inn - -	br. r.	ro.	3	T	1	11, 1	Objectionable, owing
292 Derbyshire - -	p. y. r.	ov.	2	K		11, 3	

Name.	Colour.	Form.	Size.	Use.	Quality.	Season.	Remarks.
293 Descibus	y.	ob.	2	T	3	11	to its small size.
294 desjean muscate.							
295 deux ans, Hunt's	g.	con.	2	T	2	2 years	
296 deux ans, Hambledon	g. r.	ro.	1	K T	1	1, 5	A valuable sort.
297 doux ans, Somersetshire	r. y.	con.	3	C			
298 deux ans, Wickham's.							
299 Devonshire Buckland	p. y.	ob.	2	K T	2	12, 3	Good bearer.
lily Buckland.							
white lily.							
Dredge's white lily.							
300 Devonshire, Docker's	str.	ov.	2	T	2	12, 1	
301 Devonshire white sour	g. y.	ob.	3			8	
white sour.							
Dredge's early summer.							
Dewit, see doctor.							
Diepe Kopfis, see little hollow-crown.							
302 Devonshire wilding				C			
303 Dimmock's red.							
304 doctor	y. str.	ro.	2	T	2	10, 1	
Dewit.							
white doctor.							
yellow doctor.							
305 Doctor Harvey.							
306 Docker's seedling	str.	ov.	2	T	2	11, 1	
307 dog's snout.							
308 Dolgoi Squoznoi	p. g.	pea.	2	T	2	8	
309 domine.							
310 Dominiska.							
311 Doomside.							
312 double-blossomed.							
313 double Paradys	str.	ro.	2		3	10, 1	
314 double pepin.							
315 double rouge de Paradys.							
316 double suure de Marseilles	ru.	ro.	3	T	2	11, 1	
317 double bearing.							
318 douce de Bolwiller	br. r.	pea.	2	C	3	11, 12	
319 douce morelle				C			
peau de vache.							
320 douxveret dore.							
321 douxveret gris gros	g. y	ro.	3	C		12	
322 doux-amer	p. y.	ro.	3	C		12	
323 doux-chair				C			
324 doux evêque				C			
325 doux à laquet				C			
326 doux, le gros				C			
327 doux à trochet, gros.							
328 doux Saint Martin				C			
329 doux Vernet				C			
330 Downton	y.	ro.	3	T	1	11, 1	
Knight's golden pippin							
Elton pippin.							
Elton golden pippin.							
Knight's pippin.							
Saint Mary's pippin.							
331 Dowell pippin.							
332 downy.							
333 doxey.							
334 doyenné.							
335 drap d'or	y.	ro.	1	K	2	10, 11	Handsome, but proves of an inferior quality.
reinette jaune hâtive (of some).							
bay apple.							
Dredge's beauty of Wilts, see Harvey's pippin.							
Dredge's early summer, see Devonshire white sour.							
336 Dredge's emperor.							
337 Dredge's fair maid of Wishford							
338 Dredge's fame.							
339 Dredge's lord Nelson							
Dredge's white lily, see Devonshire Buckland.							
duc d'Arsel, see old nonpareil.							
340 duchess of Hamilton.							
341 duchess of Oldenburgh	str.	ro.	2	T	1	9	
342 duchess of York's favourite	y. r.	ob.	3	T	2	11, 12	
343 Dutch pippin.							
344 duke of Beaufort's pippin.							
345 duke of Gloucester, Hunt's.							
346 duke of York, Newbold's	y. str.	con.	2	K	2	12, 2	
347 Dumbarton pippin.							
348 Dumelow's seedling	y. r.	ro.	2	K	1	11, 3	An excellent kitchen apple.
Wellington.							
Normanton wonder.							
349 Duncan	y. r.	ro.	2	K		10, 1	
lord Duncan.							
350 Dundee.							
351 Duquesnay.							
352 Dutch mignonne	y. r.	ro.	2	K T	1	12, 4	Great bearer, and of first-rate quality.
reinette dorée (of the Germans).							
pomme de Laak.							
grosser casseler reinette.							
Paternoster apfel.							
Stettin pippin.							
Copmanthorpe crab.							
353 early almond.							
white codlin.							
354 early Bowhill.							
Luccombe's early Bowhill.							
355 early harvest.							
356 early Julien	y.	con.	3	T	2	8	
357 early marrow.							
358 early red	r.	ob.	1	K	2	9, 10	
359 early redstreak.							
360 early sweet redstreak							
361 early wax	y.	obl.	3	T	2	8	
362 easter apple	y.	con.	2	K T	2	1, 4	
paasch apfel.							
363 ecarlatine				C			
364 d'eclat.							
365 Edel Koning.							
366 Edinburgh cluster	y.	ov.	2	K	2	11, 1	
Sir Walter Blacket's favourite.							
egg, see white Paradise.							
367 eikenhager, Willers.							
368 embroidered pippin	y. b.	ro.	3	T	2	11, 1	
reinette brodée.							
emperor Alexander, see Alexander.							
Englise pippin, see golden reinette.							
369 Enkhing	p. g. r	ov.	3		3	12, 3	A poor fruit.
370 Enkhuizer Aagtie, Soete	y. r.	ov.	2		2	10, 1	
371 epine d'été.							
d'Espagne, see reinette blanche d'Espagne.							
372 Essex pippin	y.	rou.	3	T	1	10, 2	Allied to the *golden pippin*.
373 Evans's valuable.							
Eve apple (of Ireland), see early red Margaret.							

Name.	Colour.	Form.	Size.	Use.	Quality.	Season.	Remarks.
Eve apple, see Trumpington.							
374 d'Eve, pomme.							
375 everlasting.							
376 everlasting bearer.							
377 eyelet, yellow				C			
378 Faaremules.							
379 fail-me-never.							
380 fair Circassian.							
381 fair maid of France.							
382 fair maid of Taunton	y. r.	obl. ov.	3	T	2	11, 1	
fall pippin, see reinette blanche d'Espagne.							
fall pippin, *Cobbett's*, see ib.							
fall pippin, *large*, see ibid.							
fall pippin, *Sudlow's*, see Franklin's golden pippin.							
383 famagusta.							
fameuse, see de neige							
384 fame.							
385 Fanarike.							
386 Farleigh pippin	y. g.	ov. obl.	2	T	1	1, 4	
387 Farthing's pippin	g.	ob.	3		3	11	
388 faros, grand	y. r.	obl.	1		3	11, 1	
389 faros, gros *faros.*	r.	ob.	2	T	2	12, 3	
390 faros, petit.							
391 faux varin				C			
392 Fearn's pippin	r.	ob.	2	T K	1	11, 2	A good bearer.
393 fenouillet d'or, gros.							
394 fenouillet gris *pomme d'Anis.*	rus.	ro.	3	T	2	1, 4	Has a perfumed anise flavour.
395 fenouillet gris, gros.							
396 fenouillet jaune. *yellow fenouillet.*							
397 fenouillet rouge *bardin.* *court-pendu gris.*	rus. r.	ro.	3	T	1	11, 3	
de fer, see iron apple.							
398 Ferris's pippin.							
399 feuille d'Aucuba.							
400 figue.							
401 figue sans pépins.							
finale, pomme, see male Carle.							
five crown pippin, see London pippin.							
402 Flanders pippin.							
403 flat Anderson.							
404 Fletcher's kernel	y.	ro.	2	T	1	11, 1	
405 Fletcher's Abingdon pippin.							
406 flower of Kent.							
407 fleur de Prairéal	y.	ob.	3	T	2	11, 1	
formosa pippin, see Ribston pippin.							
408 Ford's seedling.							
409 flower of the town *flowery town.* *redstreak* (of Backhouse).	str.	ro.	2	K	2	9, 11	Indifferent in quality, though a good bearer.
410 forest pippin	y. r.	obl. ov.	2	K			
411 Forman's crew	y. rus.	con.	3	T	1	11, 4	
412 Foxley	y.	oval	3	C			
413 Foxley pippin.							
414 Foxley queening.							
415 fox whelp	d. r.	ov.		C			
416 framboise.							
417 Francatu.							
418 franche pepin	y.	ro.	2	T	1	11, 3	
419 French crab *Young's long keeping.*	g.	ro.	2	K T	2	2 years	
420 French crab, American *Metoisée.*	str.	ro.	2	K	2	12, 4	
421 French Sussex.							
422 Fréquin blanc				C			
Fry's pippin, see court of Wick.							
423 Fulwood.							
424 Fulwood, Dutch *late Fulwood.*							
425 Fulwood, early.							
426 Fulwood, green	g.	obl.	1	K	1	12, 5	
Garnon's apple, see court-pendu plat.							
427 garret pippin.							
428 Geache's favourite.							
429 géant.							
430 gelée d'été.							
431 George the Fourth, Burge's.							
432 George the Fourth, Myatt's.							
433 Gestreifter sommer cousinos.							
434 Gestreifter sommer zimptapfel.							
435 giant.							
436 gilliflower	str.	ro.	2	K	2	10, 2	
437 gilliflower, Cornish *Calville d'Angleterre.* *Cornish July-flower.* *pomme regelans.*	d. g. y.	ov.	2	T	1	12, 5	The best of apples, but a bad bearer.
438 gilliflower, summer *summer July-flower.* *Russian.*	str.	ro.	1	T	2	9	A great bearer.
439 Gilpin *Carthouse.*	str.	obl. ro.	2	T	2	12, 3	
440 Girdler's large	str.	ob.	1	K	3	9	
441 girkin pippin *Warwickshire pippin.*	p. y.	ob.	3		2		
442 de glace. *transparente.*							
443 glace blanche	p. g.	con.	2	C		12	
444 glace rouge.							
glace de Zelande, see white Astrachan.							
445 Glammis Castle	g.	con.	1	K	1	10, 11	
446 Glasbury, Norman	p. y.	ov.	3	C			
447 gloria mundi *American gloria mundi.* *New York gloria mundi.* *monstrous pippin.* *American mammoth.*	g. y.	ro.	1	K	1	11, 1	A very large fruit.
glory of York, see Ribston pippin.							
448 gloria mundi, Glazenwood.							
449 glory of Boughton	y.	rou.	1	K		10	
450 glory of England.							
451 glory of the West.							
452 glory of York.							
453 Gloucester, white, of Virginia.							
454 Gogar pippin. *stone pippin* (of some)							
455 golde gulderling.							
456 golden ball	y. r.	ro.	1	K	2	8, 9	
457 golden burr.							
golden drop, see court of Wick.							
458 golden drop, Coe's	y.	ro.	3	T	1	3, 5	An excellent dessert apple.
459 golden Harvey *brandy.*	rus. y.	ro.	3	T C	1	12, 5	One of the richest do.
460 golden knob	rus.	rou.	3	T	2	12, 2	

Name.	Colour.	Form.	Size.	Use.	Quality.	Season.	Remarks.
461 golden mundi.							
golden mundi, see golden russet.							
462 golden noble	y.	rou.	1	K	2	9, 10	
463 golden pippin	y.	ro.	3	T	1	11, 4	Requires a wall in most situations, and its superior richness deserves such protection.
old golden pippin.							
English golden pippin.							
Balgone pippin.							
Balgone golden pippin.							
Milton golden pippin.							
Bayfordbury pippin.							
russet golden pippin.							
Herefordshire golden pippin.							
London golden pippin.							
pepin d'Or.							
pomme d'Or.							
Koening's pippelin.							
reinette d'Angleterre.							
golden pippin, Bowyer's, see Bowyer's russet.							
464 golden pippin, Camberwell.							
465 golden pippin, cluster	y.	oval	3	T		11, 3	Fruit often joined in pairs.
cluster pippin.							
twin cluster pippin.							
466 golden pippin, Elford.							
golden pippin, Elton, see Downton.							
467 golden pippin, Franklin's	y.	oval	3	T	1	10, 12	Good bearer.
Sudlow's fall pippin.							
468 golden pippin, Hughes's	y.	ro.	3	T	1	12, 2	
Hughes's new golden pippin.							
golden pippin, Kirke's, see new golden pippin.							
Golden's pippin, Knight's, see Downton pippin.							
469 golden pippin, new	y.	ro.	3	T	2	12, 3	A great bearer, but inferior in quality to the *golden pippin.*
Kirke's golden pippin.							
new cluster golden pippin.							
golden pippin, rival, see anis-seed.							
470 golden pippin, new Taunton.							
471 golden pippin, scarlet							
472 golden pippin, Screveton.							
473 golden pippin, seedling	y.	ro.	3	T	3	10, 2	
474 golden pippin, summer	y.	ov.	3	T	1	8, 9	An excellent summer dessert apple.
475 golden pippin, Tunbridge.							
476 golden pippin, Warters's.							
477 golden pippin, Wynyard							Like the *golden pippin*, but not so rich.
478 golden Worcester.							
479 Golding.							
480 good-year pippin.							
481 gooseberry	y.	ro.	3	T	2	11, 2	A great bearer
482 Graafen.							
483 Grandessen.							
484 Grange	y.	ro.	3	T	2	10, 2	
485 Grange's pippin.							
Grange's pearmain.							
486 Grave Slije.							
487 Grauch, aigre				C			
488 Grauch, la douce	str.	ro.	1	C		10, 11	
489 Gravenstein	str.	ro.	1	K	1	10, 12	
490 great Milton pippin.							
491 Greasley's seedling.							
492 green apple.							
493 green balsam.							
green cosings, see Rymer.							
494 green everlasting	g.	ro.	3		3	3, 4	
495 green eyelet.							
496 green virgin.							
497 Grégoire				C			
Gregson, see catline.							
Grey House, see house							
498 Gribble.							
499 Grimshaw's crab.							
500 Grimsteen.							
501 grise	g. rus.	ro.	2	T	1	11, 3	
gros Rondy, see de rateau.							
502 gros Bohn.							
503 gros vert	g.	ro.	1	K		10, 2	
504 grosse bonne.							
505 grosse à cuire	y.	ro.	2	K		11, 2	
506 grosse pomme d'Amérique.							
507 grosse pomme noir d'Amérique.							
508 grosse pomme d'automne.							
509 grosser Edler Prinzessen.							
510 grosser reinischer Bohn apfel.							
511 grosser winter Fleiner							
512 Grummage.							
Birmingham pippin.							
513 Grunken Bergers krachapfel.							
514 Guillot Roger				C			
515 Grushovy Naliv	p. y.	ov.	2	T	2	8	A transparent Russian apple.
516 Halliday's pippin.							
517 hall-door	y. r.	ob.	2	T	2	12, 3	
518 Hamilton pippin.							
519 Hampstead sweeting							
Hampshire yellow, see king of the pippins							
520 Hampton candied heart.							
521 hanging-down.							
de Hanovre, see Pearson's plate.							
522 Hanwell souring	g. y.	con.	2	K		12, 3	
523 Haggerston pippin	g. r.	ro.	2	T	1	11, 4	
524 hard pippin	g. p. r.	ov.	3	C			
525 Harrison.							
526 Harrison's Newark.							
527 Harvey's pippin.							
Dredge's beauty of Wilts.							
528 Harvey, red.							
hâtive, pomme, see summer Stébbert.							
529 hautbois.							
Haus Mutterche, see mère de ménage.							
530 Hawthornden	p. y.	ro.	1	K	1	10, 12	Abundant bearer, and bears young.
white Hawthornden.							
531 Hawthornden, Irish.							
532 Hawthornden, red.							
533 Haynes's pippin.							
534 Hay's early	p. y.	ob.				8	
535 Heathfield's French apple.							
Heidelocher, see Hoskreiger.							

Name.	Colour.	Form.	Size.	Use.	Quality.	Season.	Remarks.
536 Herefordshire goose.							
537 Herefordshire monster	y.	ro.	3	C		12	
538 Hesketh's pippin	y.	con.	1	K		10, 1	
539 de Hérison				C			
540 hen and chickens.							
541 Henry's weeping pippin	y.	oval	3	T	2	12, 2	
542 de Heron.							
543 Hick's fancy. *new nonpareil.* *early nonpareil.* *Stagg's nonpareil.*	g. y.	ob.	3	T	1	10, 2	A fine brisk flavoured apple.
544 Hiéville rouge.							
545 Hill's seedling	p. g.	ob.	1	K	2	8, 9	
546 himbeerapfel.							
547 d'hiver	y.	ob.	2	K	2	1, 4	
548 Hoare's seedling.							
549 hoary morning *dainty.*	str.	ro.	1	K	2	10, 3	
550 hogshead	g. y.	ov.		C			
551 Hollandbury *hawberry pippin.* *Horsley pippin.* *le beau rouge.* *Kirke's scarlet admirable.*	r. y.	ro.	1	K	2	11, 1	Large and handsome.
552 Holland kruger.							
553 Holland pippin	y.	obl. ro.	1	K	1	11. 3	
554 Holbein				C			
555 hollow crowned pippin							
556 hollow eyed pippin.							
557 Home's large.							
558 honey greening. *Hormead pippin,* see Hormead pearmain							
559 Hood's seedling.							
560 Horner's bitter sweet				C			
561 Horselin	p. y.	ov.	2	T	2	11, 12	
562 Hoskreiger *Heidelocher.*	g.	ro.	1	K	1	11, 4	Good bearer.
563 house *Grey house.*	g. r.	oval	3	C		1	
564 How's pippin. *Howberry pippin,* see Hollandbury. *Horseley pippin,* see Hollandbury. *Hunaw, pomme de,* see Rosackerle.							
565 Hunt's.							
566 Hunt's fine green pippin.							
567 Hunthouse	p. y.	obl.	2	K		12, 3	
568 Hunthouse, large.							
569 Hutching's seedling.							
570 Hutching's late seedling.							
571 Hutchinson's spotted	y. r.	ob.	3	T	1	11, 12	
572 Huntingford	r.	con.	2	K		1, 4	Very bright colour.
573 Hyde pippin.							
574 imperial, Livesey's.							
575 incomparable	g. y.	calv.	1	K		10	
576 incomparable, Barton's.							
577 incomparable, Egremont's.							
578 incomparable, Hay's.							
579 incomparable, Ives's.							
580 incomparable, Kirke's							
581 incomparable, Lewis's	y. r.	con.	1	T	2	12, 2	
582 incomparable, Sharp's							
583 Ingestric, red	y. r.	ov.	3	T	1	10, 11	
584 Ingestric, yellow *Irish pitcher,* see Manks codlin.	y.	oval.	3	T	1	9, 10	Good bearer.
585 inimitable.							
586 iron apple *pomme de fer.*	b. g.	pea.	3	K T	2	a year	
587 Isle of Wight pippin *Isle of Wight orange.* *orange pippin.*	y.	oval	3	T	1	9, 1	Bears indifferently.
588 Isleworth crab *Brentford crab.*	p. y.	ro.	2	K	2	10	Good bearer.
589 Isted's plate apple. *Isted's.* *d'Italie, pomme,* see Massavis.							
590 Ives's seedling	str.	ro.	2	K		11, 1	
591 ivory pippin.							
592 Jackson's pippin. *Middleton pippin.* *janurea,* see reinette du Canada. *de Jardy,* see belle Hervey.							
593 Jeannette				C			
594 Jean Huré	y.	pea.	2	C		1	
595 Jeffrey's seedling	y.	ob.	1	K		10, 1	
596 Jennet, golden				C			
597 Jenny Sinclair.							
598 Jersey.							
599 Jersey greening. *Jérusalem, pomme de,* see pigeon.							
600 Jerwin's seedling.							
601 John apple *John apple,* see northern greening.	g. y. r.	pea.	3	C	1	12, 2	A very old var.
602 Jollyfield pippin.							
603 Jolty Kutofsky Naliff	p. y.	con.	3	T	3	8	
604 Jonathan.							
605 Jordbaeraeble.							
606 Jordbaeraeble Kantet	r.	calv.	2	K			Danish strawberry apples.
607 July early pippin. *July-flower,* see gilliflower. *July-flower, Cornish,* see Cornish gilliflower. *July-flower, summer,* see summer gilliflower.							
608 July pippin.							
609 Juneating, American red.							
610 Juneating, early red. *Juneating, early striped,* see early red Margaret.							
611 Juneating, large white *Juneating, red,* see early red Margaret *Juneating, striped,* see early red Margaret							
612 Juneating, white *Owen's golden beauty.*	p. y.	ro.	3	T	1	7, 8	A handsome early apple.
613 Kaisersheimer apfel.							
614 Kantjis apfel	rus. r.	ob.	2	K		1, 2	
615 Keiser.							
616 Kempster.							
617 Kentish fill basket. *Kentish pippin,* see beauty of Kent.							
618 Kentish giant.							
619 Kentish pippin.							
620 Kerkan.							
621 kernel				C			
622 kernel, Dollar's	str.	ov.	3	C		10, 11	
623 kernel, knotted	str.	ov.	3	C		10, 11	
624 kernel, Skirm's	str.	ov.	3	C		10, 12	
625 Kerry pippin	r. y.	oval	2	T		9, 10	Good bearer.
626 Keston pippin *king,* see Borsdorffer.	r. y.	ro.	3	T		10, 12	

Name.	Colour.	Form.	Size.	Use.	Quality.	Season.	Remarks.
627 Kinck Pepin.							
628 Kinellan.							
629 Kinfauns pippin.							
630 king George.							
631 king of the pippins	r. y.	pea.	2	T K	1	10, 1	A good bearer and very handsome.
Hampshire yellow.							
632 king Robert.							
633 Kingston black.							
634 Kirke's fame.							
635 Kirkton pippin.							
636 Kisking.							
637 Kleiner Fleiner.							
638 Knitly Naliff.							
Knight's pippin, see Downton.							
639 Knight's large	y. r.	rou.	1	K		9, 10	
640 Knight, pomme.							
Knightwick pippin, see court of Wick.							
Kœning's pippelin, see golden pippin.							
641 Koppel.							
642 Korishnory.							
643 Krappe Kruin	rus.	con.	2	K		10, 3	
644 krizapfel	p. g.	con.	2	T	2	12	A Russian apple, somewhat transparent.
de Laak, see Dutch mignonne.							
lady apple (of the Americans), see api petit.							
645 Lady de Grey's	g. y.	ro.	1	K		11	
lady's finger, see white Paradise.							
646 Lady Louisa pippin	p. y.	ob.	3		3	12	Worthless.
647 lady of the Wemys.							
Lancashire crab, see Minshul crab.							
648 Lancashire gap.							
Shircling.							
649 Lancashire witch	y. r.	ob.	2	K	2	10, 12	Handsome.
650 Lancaster crab.							
651 de Lande	str.	ob.	1	K		9, 13	
fleur de prairial.							
Langer Rother Himbeer apfel, see winter Queening.							
652 large yellow	p. y.	ro.	2	K T		8, 9	Very good.
Prince's harvest.							
653 late bloomer				C			
654 Lavendel pepping.							
655 Lawman's.							
656 Lawrence's new white pippin.							
657 Leadington, green	g.	con.	2	K	2	9, 10	
658 Leadington, grey	y. b.	oval	2	K	2	10	
659 Leadington, large	g.	obl.	1	K			
660 Leadington, monstrous	g.	obl.	1	K	1	10, 1	Very large.
green codlin.							
661 Leadington, red.							
662 Leadington, scarlet	r.	obl.	2	K T	2	11, 2	
663 Leadington, stoup	y. g.	obl.	1	K		9, 10	
664 Leadington, summer.							
leather-coat, see royal russet.							
665 Leicester, early.							
666 Leisham's pippin.							
667 lemon	y.	ro.	2	T	2	12, 1	
668 lemon pippin	y. g.	oval	2	K T	2	10, 4	
669 lemon pippin, Kirke's							
670 Leixlip pippin.							
671 Lettsom's American	r. y.	ob.	2			10	
672 Leyden pippin	p. g. r.	ro.	2	T	1	8, 9	A great bearer & good early apple, resembling *white Astrachan.*
673 Liestal.							
674 lièvre.							
lily Buckland, see Devonshire Buckland							
675 Limonella	g. y.	oval	1	T	2	10	Requires a warm climate.
676 Lincolnshire Holland pippin	str.	ro.	3	K	3	11, 2	
striped Holland pippin.							
677 little beauty	y.	ob.	3		3	10, 11	
678 little hollow crown.							
Diepe Kopjis.							
679 Lock's seedling.							
680 London pippin	y.	ob.	2	K T	1	11, 4	Does not shrivel.
five crown pippin.							
new London pippin.							
royal Somerset.							
681 de Long-bois	y.	con.	3	C		10	
tiolet.							
682 long early.							
683 long hanger, Parson's							
684 long keeper, Mogg's.							
685 long keeping seedling.							
686 long keeping yellow. Kew.							
long keeping, Young's, see French crab.							
687 long May	g. y.	obl.	2	K	2	10, 1	
May.							
long Tom, see sheep's nose.							
688 longue.							
689 Longville's kernel	str.	oval	2	T	1	8, 9	Great bearer.
Sam's crab.							
690 Lord Bateman's dumpling.							
Lord Duncan, see Duncan.							
691 Lord Nelson, Kirke's	r.	ro	1	K T	1	11, 2	Very handsome.
692 Lord Northwick's Dutch.							
693 Lourmont pippin.							
Loveden's pippin, see old nonpareil.							
694 Lucombe's seedling	str.	ro.	1	K	1	10, 2	A good kitchen apple.
695 Lud's summer.							
696 Lud's winter.							
697 Luffness pippin.							
698 Luiken.							
699 Lushington pippin.							
700 Lushington's seedling.							
701 lustré, pomme	r.	ro.	3	K	3	11, 1	Worthless.
madame, pomme, see reinette grosse d'Angleterre.							
Madeleine, see Calville rouge d'été.							
mætapfel à fleurs tardives, see Späthlühende.							
702 maid of the mill.							
703 maiden	g. r.	ro.	1				
704 maiden's blush	y. r.	ob.	1	K T	1	9, 10	Partially overspread with fine red.
705 make-him-rich.							
706 Malcolm's seedling.							
707 male Carle	g. r.	ro.	2	T	1	11, 3	Requires a wall.
Mela di Carlo.							
pomme de Charles.							
pomme Carle.							
pomme finale.							
malingre d'Angleterre, see Calville Normande.							
708 Margaret, early red	str.	ov.	2	T	1	8	One of the best early apples.
Margaret.							
Margaret, early.							
Marguerite.							
red Juneating.							
striped Juneating.							

Name.	Colour.	Form.	Size.	Use.	Quality.	Season.	Remarks.
early striped Juneating.							
striped Quarrenden.							
Eve apple (of Ireland).							
summer traveller.							
709 Margaret, yellow.							
white Margaret.							
710 Margaret, Yorkshire.							
711 Margil	y. r.	ov.	3	T	1	11, 2	Good bearer; approaches the *Ribston pippin* flavour.
Munche's pippin.							
malingre, see Calville malingre.							
712 marin Onfroi				C			
713 marmalade pippin	y.	ob.	2	K	2	10, 1	
Althorp pippin.							
714 marmorister sommer pepping.							
715 marygold.							
716 marygold pippin	y.	ov.	2			10, 11	Of little merit.
717 Mary Greed's.							
718 Masters's seedling.							
719 Mason's white	p. y.	con.	2	T	2	8	
Mason's early.							
720 Massavis.							
pomme d'Italie.							
matchless, see Newton Spitzemberg.							
721 Mäucher, Rother.							
May, see long May.							
722 Maude's seedling pippin.							
723 May bloom.							
724 Mayers pigeonnet blanc d'hiver	p. y.	con.	2	K T	2	12, 4	
Megginch favourite, see golden reinette.							
725 Melrose, white.							
726 Melville pippin.							
727 menagere	y.	rou.	1	K		11, 1	
728 mère de ménage	r.	ro.	1	K	1	10, 1	Very large.
Haus Mutterche.							
729 merveille de Portland.							
730 meuris Pepin.							
731 Michael Henry pippin	y.	ov.	1	K T	2	11, 2	
732 de Miche	y.	ov.	3	C		12	
Middleton pippin, see Jackson's pippin.							
733 Miller's glory	str.	ov.	2	K	2	12, 1	
734 Millfield.							
735 Minkler's.							
736 Minshul crab	y.	ob.	2	K	1	12, 2	Good bearer.
Lancashire crab.							
737 Moncrieffe.							
738 Moncrieffe, white.							
739 Monkland pippin	y.	[illegible]	3		3	11	Worthless.
740 Mollet's Guernsey pippin	y.	ob.	3	T	2	12, 2	Resembles a *golden pippin.*
monstrous pippin, see gloria mundi.							
Moore's large red winter sweeting, see red sweet pippin.							
741 Morchin's crab				C			
742 Morden bloom	y. r.	ob.	2	K	3	8, 9	
743 Morden round	y. rus.	rou.	3	T	3	12, 3	Handsome, but not juicy.
744 Morden striped.							
745 Moreton				C			
746 Morgan.							
molasses, see New England sweeting.							
747 Mortimer.							
748 mouse.							
métoisée, see American French crab.							
749 mother apple.							
Motteux's seedling, see Beachamwell.							
750 Mount Stewart	g. r.	ob.	1	K		11, 1	
751 moulin à vent	y.	ov.	2	C		12	
752 Moxhay pippin	p. y.	con.	3		3	10	
Munche's pippin, see Margil.							
753 Munster pippin	p. g.	con.	1	K		10, 1	
museau de lievre, see pigeonnet.							
754 Mussellier.							
755 naked apple.							
756 nègre dore.							
757 de neige	p. g. r.	ro.	2	T	2	11, 1	Very white flesh.
pomme fameuse.							
758 Nelson	g. y.	con.	1	K		9, 10	
759 Nelguin.							
760 never-fail.							
761 Newark king	g. r.	pea.	2	T	2	11, 2	
762 Newark yellow pippin.							
763 Newbold's Admiral Duncan.							
764 New England seek-no-further.							
765 New England sweeting				C			
molasses.							
766 Newman's kernel				C			
767 Newtown pippin	g. y.	ro.	2	T	1	1, 5	Excellent, but requires a wall or good situation.
American Newtown pippin.							
large Newtown pippin.							
Petersburgh pippin.							
green Newtown pippin.							
Newtown pippin, see Alfriston.							
Newtown pippin, Lord Gwydyr's, see Alfriston.							
768 Newtown pippin, Hunt's green.							
769 Newtown pippin, yellow.							
770 new rock pippin	g.	ob.	2	T	2	1, 5	Resembles *Newtown pippin*, but inferior.
771 New York.							
New York gloria mundi, see gloria mundi.							
772 New York, early.							
773 New York pippin.							
774 noblesse de Gand	p. y.	ov.	2		2	12, 1	
775 no core apple.							
776 noire.							
pomme d'Amérique.							
nonpareil, see old nonpareil.							
777 nonpareil, American.							
nonpareil d'Angleterre, see old nonpareil.							
778 nonpareil, Antrim	str.	ro.	3	T	2	12, 3	
779 nonpareil, Braddick's	g.	ro.	3	T	1	1, 4	Very good and keeps sound.
Ditton Nonpareil.							
780 nonpareil, Cockfield.							
781 nonpareil codlin.							
nonpareil, early, see Hick's fancy.							
nonpareil, English, see old nonpareil.							
782 nonpareil, Downton	g. rus.	ro.	2	T	1	12, 4	Sharp rich flavour.
783 nonpareil, Fair's	g. y.	oval	3	T	1	11, 2	
784 nonpareil, flat	rus.	ob.	3	T	1	12, 2	
785 nonpareil, formosa.							
786 nonpareil, Frognal.							

Name.	Colour.	Form.	Size.	Use.	Quality.	Season.	Remarks.
787 nonpareil, golden	y. rus.	rou.	3	T	1	12, 2	Handsome.
788 nonpareil, golden russet.							
789 nonpareil, green	g.	rou.	3	T	2	1, 4	
790 nonpareil, Hare's.							
791 nonpareil, Martin	y. rus.	ov.	3	T	1	12, 3	
nonpareil, new, see Hick's fancy.							
792 nonpareil, new green.							
793 nonpareil, old	g. y.	ro.	3	T	1	1, 5	Peculiar and excellent flavour: bears well as a standard in a favourable situation; otherwise deserves a wall.
nonpareil.							
English nonpareil.							
nonpareil d'Angleterre.							
duc d'Arsel.							
Hunt's nonpareil.							
Loveden's pippin.							
grüne reinette.							
pomme-poire (of some.)							
reinette nonpareil.							
794 nonpareil, Petworth.							
795 nonpareil, Redding's	rus. g.	ro.	3	T	1	12, 3	Small. Abundant.
796 nonpareil, Ross	rus. r.	ro.	3	T	1	11, 2	*Fenouillet* flavour.
nonpareil, russet coated, see nonpareil russet.							
797 nonpareil, St. John's.							
798 nonpareil, scarlet	r.	ro.	2	T	1	1, 3	Very handsome.
new scarlet nonpareil.							
nonpareil, Stagg's, see Hick's fancy.							
799 nonpareil, Stubton.							
800 nonpareil, Sweeney	br. r.	ro.	2	T	1	1, 4	Good bearer.
801 nonpareil, Symonds'	g. rus.	ob.	2	T	1	12	
802 nonpareil, Taunton.							
803 nonpareil, Waterford.							
804 nonpareil, white.							
805 nonnette.							
Rumsche Kruger.							
806 nonesuch	g. str.	ob.	2	K T	1	9	
807 nonesuch, Bowes's.							
808 nonesuch, Biggs's.							
809 nonesuch, Clifton.							
810 nonesuch, Greengrass's.							
811 nonesuch, royal winter.							
nonesuch, Watson's new, see summer Thorle.							
812 nonesuch park apple	y.	ro.	3	T	1	11, 2	Resembles the *golden pippin.*
Norfolk Beaufin, see Beaufin.							
813 Norfolk Coleman	d. r.	ro.	2	K		11, 1	Tree hardy.
814 Norfolk Paradise	r.	ob.	2	K		11, 4	
Milmount Beaufin.							
Norfolk pippin, see Adams's pearmain							
815 Norfolk storing	r.	ro.	2	K		1, 4	
816 Norman, knotted.							
817 Norman, red.							
818 Norman Styre	y. r.	rou.	3	C		10, 12	
819 Norman, yellow				C			
820 de Normandie	y.	ro.	3	C		11	
821 Normandy pippin.							
Normanton wonder, see Dumelow's seedling.							
822 North's crab				C			
823 northern greening	g.	oval	2	K C	1	11, 4	Keeps sound without shrivelling.
John apple (of some).							
Cowarn Queening (of some).							
Walmer Court.							
Northwick pippin, see Blenheim pippin.							
824 Norton seedling.							
825 Norwich jubilee.							
826 nostrate blanche	p. g.	ov.	1	C		12	
827 Nottidge's seedling.							
828 Nottingham.							
de Notre Dame, see Rambour franc d'été.							
nutmeg pippin, see cockle pippin.							
829 nouvelle madame.							
830 Oaks	str.	con.	2		3	11, 2	Worthless.
831 œillet				C			
832 ognon	g. r.	ob.	2		2	1	
833 Oldaker's new.							
834 old king.							
835 Old Park pippin	r. g.	ov.	3		3	11, 1	
836 olive pippin.							
837 Oliver's.							
838 orange.							
839 orange, American.							
orange Blenheim, see Blenheim pippin.							
orange, Isle of Wight, see Isle of Wight pippin.							
orange pippin, see Isle of Wight pippin.							
840 Orack Elma.							
841 Ord's apple	b. g. r.	ov.	3	T	2	1, 5	A Persian apple.
842 Orleans.							
843 Orme	p. g.	ob.	2	T	2	2, 4	
844 Orpolin				C			
Ortley, see Woolman's long.							
d'or, pomme, see golden pippin.							
d'or, pepin, see golden pippin.							
845 Ostend pippin.							
846 Oslin	p. y.	ro.	2	T	1	8, 9	Peculiarly rich aroma.
white Oslin.							
Arbroath pippin.							
outre-passe, see passe-pomme d'automne.							
Owen's golden beauty, see white Juneating.							
847 d'Ozanne				C			
paasch apfel, see caster apple.							
848 pack-horse	y. r.	ro.		T	2		
849 Padley's pippin	b. r. y.	ro.	3	T	1	12, 1	Apt to shrivel if not packed in fern, or sand.
compôte.							
850 painted lady	str.	ro.	2	T	2	10, 11	
panachée, see api panaché.							
851 paper.							
852 Paradise.							
853 Paradise, white	y.	obl.	3	T	2	11, 12	
egg.							
lady's finger.							
854 Paradis Franc				C			
855 Paradis rouge d'hiver	str.	ov.	2			11, 1	Of little value.
856 Parmentier.							
857 parsonage pippin	str.	ob.	3	T	2	11	
858 passe-pomme.							
859 passe-pomme d'automne	r.	calv.	2	K		9, 10	
pomme-générale.							
outre-passe.							
860 passe-pomme blanc	p. r.	calv.	2	K	2	9, 10	
passe-pomme du Canada, see royal russet.							
861 passe-pomme du Canada gris.							Probably *royal russet.*

Name.	Colour.	Form.	Size.	Use.	Quality.	Season.	Remarks.
862 passe-pomme rouge.							Those having the name of *passe pommes* are chiefly of the *Calville* nature.
863 passe-pomme rouge d'automne.							
864 passe-rose plat.							
865 Paternoster.							
Paternoster, see Dutch mignonne.							
866 Paternoster sans pepins.							
867 Patersonian.							
868 patriot.							
869 Pawson - - -				C			
870 peach apple.							
871 peach apple, Irish -	g. b. r.	ro.	2	T	1	8, 9	An excellent early fruit.
early Crofton.							
872 peach apple, Oxford.							
873 pear apple.	g.	obo.	3	3	3	10	
874 pearmain, Adams's	y. r.	pea.	2	T	1	11, 2	Very handsome and good.
Norfolk pippin.							
pearmain, American, see royal pearmain.							
875 pearmain, American summer.							
876 pearmain, American winter sweet.							
pearmain, Arundel, see Hormead pearmain.							
877 pearmain, Augustus.							
878 pearmain, autumn -	y. r.	pea.	2	K T	1	9, 10	Rich yellow flesh.
royal pearmain (of some).							
summer pearmain (of some).							
American pearmain.							
879 pearmain, Barcelona	y. r.	pea.	2	T	1	11, 1	Requires a good situation.
speckled golden reinette.							
kleiner casseler reinette.							
reinette rouge.							
reinette rousse.							
reinette des Carmes.							
880 pearmain, Baxter's	y. r.	pea.	2	K T	2	12, 3	
881 pearmain, Benwell's							
882 pearmain, Bright's.							
Wick permain.							
883 pearmain, Capper's	str.	pea.	1	T	2	12, 3	Handsome.
884 pearmain, Chester.							
885 pearmain, Claygate	y. r.	pea.	2	T	2	1, 3	
886 pearmain, federal -	g. r.	pea.	3	T	1	12, 3	
887 pearmain, Foulden -	y. r.	pea.	2	K T	1	11, 3	
pearmain, Grange's, see Grange's pippin.							
888 pearmain, golden -	rus. r.	pea. obl.	2	T C	1	11, 3	
Ruckman's pearmain.							
889 pearmain, Hammond's.							
890 pearmain, Herefordshire.	y. g. r.	pea.	1	K T	1	11, 3	An old and excellent sort.
old pearmain.							
parmain.							
royal pearmain (of some authors).							
891 pearmain Hormead	y.	pea.	2	K T	1	10, 3	A good bearer.
Arundel pearmain.							
Hormead pippin.							
892 pearmain, Hubbard's	p. rus.	pea.	3	T	1	11, 4	Very rich.
893 pearmain, gilliflower	y. r.	pea.	2	T	2	11, 3	
894 pearmain, Kilkenny.							
895 pearmain, Lamb Abbey - - -	g. y. r.	pea.	2	T	1	1, 4	Keeps well without shrivelling.
896 pearmain, large red sweet winter.							
897 pearmain, Loan's.							
898 pearmain, London.							
899 pearmain, Lord Powlet's.							
900 pearmain, Mickleham.							
901 pearmain, Panson's	g. b.	pea.	2	T	2	12, 3	
902 pearmain, Parry's -	p. g r.	ov.	2	T	1	12, 3	
903 pearmain, royal.							
pearmain, royal, see autumn pearmain.							
pearmain, Ruckman's, see golden pearmain.							
904 pearmain scarlet -	r.	pea.	2	T	1	9, 1	Good bearer.
Bell's scarlet.							
905 pearmain, Spanish.							
906 pearmain, striped.							
907 pearmain, summer golden.							
908 pearmain, summer.							
909 pearmain, sweet.							
910 pearmain, Teraughtie.							
911 pearmain, Vale Mascal - - -	br. r.	ov.	2	T	1	12, 2	
912 pearmain, Wick.							
913 pearmain, winter -	g. y. r.	pea.	2	K T	2	12, 3	Resembles the *Herefordshire pearmain.*
914 pearmain, Young's.							
915 Pearson's plate - -	y. g. r.	ob.	3	K T	1	12, 3	
peau de vache, see douce morelle.							
916 Pencaitland pippin.							
917 Pennock's red winter - - -	g. r.	ob.	1	K		11, 3	Not apt to shrivel.
Pennock's large red winter.							
Pennock, red.							
918 Pennington's seedling - - -	y. rus.	ob.	2	K T	1	11, 3	An excellent variety
919 Petworth seedling.							
Petersburgh pippin, see Newtown pippin.							
920 petit Jean - -	r.	ro.	3		3	11, 3	Abundant bearer, would perhaps do for cider.
921 Petit Thouars.							
922 Phlamboot.							
923 pigeon - - -	p. g. r.	con.	3	T	2	12, 1	
Arabian apple.							
pomme de Jérusalem.							
pigeonnet rouge.							
924 pigeon's egg.							
925 pigeonnet - -							The *pigeonnets* have all tender flesh, but the different sorts have not yet been rendered distinct.
cœur de pigeon.							
museau de lièvre.							
926 pigeonnet blanc.							
927 pigeonnet gros de Rouen.							
928 pine apple, Lucombe's	y.	ro.	3	T	2	9, 10	
pine apple.							
929 pine apple pippin.							
930 Pinner seedling.							
Carel's seedling.							
931 Pitminster crab -	str.	ov.	3		3	11, 12	Useless, unless fit for cider.
932 Polnischer Moronki.							
pomme-générale, see passe-pomme d'automne.							
933 pomme-poire - -	rus.	ro.	3	T	1	1, 4	Not so good as the *old nonpareil,* which it resembles.
pomme-poire, see old nonpareil.							
934 pomme-poire blanche							
pomme-rose, see api petit.							
935 pomme-poire grosse.							
936 pome roy.							
Taunton.							
937 pome-roy, early.							
938 pome-roy, new.							
939 pome-roy, old -	br. y.	con.	2	T	1	11, 2	Deserves to be
940 Pompion.							

Name.	Colour.	Form.	Size.	Use.	Quality.	Season.	Remarks.
941 Ponto pippin.							more cultivated.
942 poor man's profit.							
943 porte tulipee.							
Portugal, see reinette du Canada.							
944 post apfel - -	y. r.	oval	2	K	2	11, 1	
945 post captain.							
946 postophe d'été.							
947 postophe d'hiver.							
948 Potter's large - -	g. y.	ro.	1	K		10	
Prager, see Sykehouse russet.							
949 pound.							
950 Poveshon.							
951 Prague.							
952 Priestley - -	y. r.	obl. ro.	1	K T	2	12, 4	Spicy flavour.
Priestley's American.							
Prince's harvest, see large yellow.							
953 prince.							
954 prince royal - -	str.	ob.	2		3	12, 1	
955 prince de Waterloo.							
956 prince's pippin.							
957 princesse Anne.							
958 princesse noble.							
959 princesse noble Zoete	p. g.	con.	2	K	3	12	The *princesse noble* apples are all very indifferent in this climate.
princesse.							
princesse noble Zoete, see court-pendu plat.							
960 princesse noble Zuure	p. y.	obl.	2		3	10	
961 prinzen - - -	p. y. r.	obl.	2		3	10	
962 profit apple - -	str.	con.	2	K	2	10, 12	
963 pursemouth.							
964 Purton's pippin.							
965 Pupicher.							
966 Quarrenden, Devonshire - - -	r.	ob.	2	T	1	8	Good bearer.
red Quarrenden.							
sack apple.							
Quarrenden, striped, see early red Margaret.							
967 Quarrenden, white.							
968 Queen - -	g. b. r	oval	2	T	2	11, 2	
Boatswain's pippin.							
Queen's, see Borsdorffer.							
969 Queen Anne.							
970 Queen Charlotte -	g. r.	con.	2				A sort of crab
971 Queening, Cowarn -	g. r.	con.	3	C T		10, 1	Good bearer.
Queening, Cowarn, see Northern Greening.							
972 Queening crab.							
973 Queening crab, Knight's - -				C			
974 Queening, crimson -	r.	calv.	2	K	2	9, 11	
scarlet Queening.							
summer Queening.							
red Queening.							
975 Queening, grey -	g. rus.	oval	2	T	2	12, 2	
976 Queening, Herefordshire.							
977 Queening, winter -	r.	con.	2	T K	2	12, 3	Not so rich as the *Cornish gilliflower*, but resembles it both in flavour and appearance.
langer rother himbeer apfel.							
978 quince apple.							
979 quoit.							
980 Rabine.							
981 Rabine d'été.							
982 Raboulink.							
983 Raboulink blanc.							
984 Rambo - - -	y.	ob.	2	K	2	12, 1	
Romanite.							
American seek-no-further.							
985 rambour - -	g. r.	ob.	1	K		10, 1	
986 rambour à côtes, gros.							
987 rambour franc - -	p. y. r.	ro.	1	K		9, 10	
988 rambour franc d'été							Many varieties are confused under the name of *rambour ;* fruit generally large ; trees vigorous.
rambour rayé.							
pomme de Notre Dame.							
989 rambour gros.							
990 raspberry.							
991 de rateau.							
gros bondy.							
992 rather ripe - -	y.	ob.	3	T	2	8	
993 Ravelston pippin -	y. r.	ro.	2	T	2	8	
994 Rawling's pippin.							
995 Rawson.							
996 red bough.							
997 red everlasting.							
998 red must - -				C	3		
999 red streak, Devonshire - -	str.	ro.	2	C T		9	Blossom late.
1000 red streak, Dorsetshire - -	str.	con.	3	C			A good bearer.
1001 red streak, Eaton -				C			
1002 red streak, Herefordshire - -	str.						
1003 red streak, Irish.							
1004 red streak, keeping	str.	ro.	2	K		12, 4	A handsome firm apple.
1005 red streak, Moccas	str.	rou.	3	C			
1006 red streak, Parson's				C			
1007 red streak, Scotch winter.							
red streak, winter, see Cambusnethan pippin.							
1008 Redondelle - -				C			
1009 Redondelle Miche	y.	ob	3	C		10	A sweet cider fruit.
1010 red sweet pippin -	r.	ob.	2		2	11, 2	
sweet pippin (of the Americans).							
Moore's large red winter sweeting.							
large red winter sweeting.							
1011 Reed's baker.							
regelans, pomme, see Cornish gilliflower.							
reinette d'Aix, see golden reinette.							
1012 reinette d'Aizerna	br. y.	ro.	2	T	1	1, 3	
reinette de Breda.							
reinette Nelguin.							
1013 reinette d'Astrachan.							
reinette bâtarde, see Borsdorffer.							
1014 reinette Baumann	r.	ob.	2	T	2	12, 3	Not apt to shrivel.
1015 reinette de Bentem.							
1016 reinette Bernard.							
1017 reinette, Bischoffs.							
1018 reinette blanche.							
1019 reinette blanche d'Espagne - -	p. g. r.	obl. ro.	1	K T	1	11, 3	One of the largest sized apples. Trees in some soils inclined to canker.
reinette d'Espagne d'Espagne.							
fall pippin.							
large fall pippin.							
Cobbett's fall pippin.							
1020 reinette Bose.							
1021 reinette de Bretagne.							
reinette brodée, see embroidered pippin.							
1022 reinette du Canada		con. flat	1	K T	1	11, 4	Good bearer,

Name.	Colour.	Form.	Size.	Use.	Quality.	Season.	Remarks.
reinette du Canada blanche.							and, though large, of excellent quality even as a dessert fruit. Is probably the best apple of its size, and surpassed by few of those that are smaller. It therefore deserves extensive cultivation.
reinette grosse du Canada.							
du Canada.							
reinette de Caen.							
reinette du Canada à côtes.							
Portugal.							
Wahre reinette.							
reinette grosse d'Angleterre.							
de Bretagne.							
Janurea.							
reinette du Canada grise, see royal russet.							
reinette du Canada platte, see royal russet.							
reinette des Carmes, see Barcelona pearmain.							
1023 reinette Caractère	y. rus.	oval	3	T	2	10, 2	
1024 reinette Carpentin	rus. r.	ro.	3	T	1	12, 4	Peculiar subacid, and slight *fenouillet* flavour.
red streak (of Blackhouse), see flower of the town.							
1025 reinette de Caux.							
1026 reinette, Chassens Glanz.							
1027 reinette, citronen.							
reinette d'Angleterre, see golden pippin.							
1028 reinette, Contin	y. r.	ro.	2	T	2	10	A good bearer.
1029 reinette course.							
1030 reinette, Credos Gütten.							
1031 reinette Diel.							
1032 reinette, Dietzer Mandels.							
reinette dorée (of the Germans), see Dutch mignonne.							
1033 reinette dorée (of the French)							Different sorts have fruited under this name, but none of them are equal to the *golden reinette*, or *Dutch mignonne*.
reinette jaune tardive.							
reinette rousse.							
1034 reinette Episcopale.							
1035 reinette d'Erkenstein.							
reinette d'Espagne, see reinette blanche d'Espagne.							
1036 reinette franche.							
1037 reinette franche à côtes.							
1038 reinette franche grauwe	br. rus.	ro.	2	K T	1	12, 4	Requires a good situation with free admission of sun.
1039 reinette, French.							
1040 reinette, Gardonker gold.							
1041 reinette, Gaumont.							
reinette Gielen, see golden reinette.							
1042 reinette de Geer.							
1043 reinette Gielen, grosse.							
1044 reinette, golden	r. y.	ob.	2	T	1	10, 1	A handsome, regularly formed, and excellent dessert fruit of first-rate excellence: trees good bearers.
yellow German reinette.							
English pippin.							
Aurore.							
reinette d'Aix.							
princesse noble (of the French).							
reinette Gielen.							
Kirke's golden reinette.							
Megginch favourite.							
1045 reinette grise.							
1046 reinette grise d'Angleterre petite	rus.	ob.	3	T	2	11, 1	
1047 reinette grise d'automne.							
reinette marbrée.							
1048 reinette grise de Champagne	rus.	ro.	3	T	2	11, 3	Flavour resembles that of *fenouillet gris*.
1049 reinette grise dorée.							
1050 reinette grise double							
1051 reinette grise extra.							
1052 reinette grise de Granville	y. rus.	ob.	2	T	2	12, 2	
1053 reinette grise d'hiver, petite.							
1054 reinette grise de Hollande	rus.	ro.	3	T	2	11, 3	Very thickly coated with russet.
reinette de Havre.							
1055 reinette grise de Metz.							
1056 reinette grise, new.							
1057 reinette grise de St. Onge.							
1058 reinette grise Turbinée.							
reinette grosse du Canada, see reinette du Canada.							
reinette grosse d'Angleterre, see reinette du Canada.							
1059 reinette grosse d'Angleterre	str.	ro.	1	K T	2	12, 2	Nearly as large as the *roi du Canada*, but of less merit.
pomme madame (of some).							
1060 reinette, goldgelbe sommer.							
1061 reinette, Grove End.							
1062 reinette de Hollande.							
1063 reinette de Hongrie	rus.	ob.	2	T	2	11, 2	
1064 reinette jaune hâtive.							
reinette jaune hative, see drap d'or.							
1065 reinette jaune sucree.							
1066 reinette, Konigs.							
reinette, Kirke's golden, see golden reinette.							
reinette, Kleiner Casseler, see Barcelona pearmain.							
1067 reinette, Knack.							
1068 reinette de Laak	y. r.	ro.	2	T	2	9	A good bearer.
1069 reinette, Lancashire.							
1070 reinette, large sweet.							
1071 reinette à longue queue.							
reinette marbrée, see reinette grise d'automne.							
1072 reinette Michaux	y.	ob.	2	T	2	12	
1073 reinette, Minster golden.							
1074 reinette de Montbron	y.	ro.	2	T	2	10, 12	
1075 reinette, Multhaupts carmine	y. r.	ro.	2	T	2	10, 12	Resembles the *golden rei-*
1076 reinette, Muscaten.							

Name.	Colour.	Form.	Size.	Use.	Quality.	Season.	Remarks.
1077 reinette de museau.							*nette*, but not so rich.
1078 reinette musquee.							
reinette, nonpareil, see old nonpareil.							
1079 reinette naine -	y. g.	con.	2	T	2	11, 2	Tree dwarf.
1080 reinette, Neiman's Rother.							
1081 reinette du nord -	y.	oval	2	T	2		Will keep two years.
1082 reinette, northern.							
1083 reinette pictee -	p. rus.	ro.	2	K	3	10	
reinette, Phillips's, see court of Wick.							
1084 reinette de Provence							
1085 reinette Quetten.							
quince reinette.							
reinette rouge, see Barcelona pearmain.							
reinette, grune, see old nonpareil.							
1086 reinette de Rochelle							
1087 reinette rouge pictee							
1088 reinette rouge de Pentecôte.							
1089 reinette rouge de Sukler.							
reinette rousse, see Barcelona pearmain.							
1090 reinette, royal -	str.	con.	1	K T	2	12, 4	Good bearer.
1091 reinette, Selwood's	g. y.	pea.	3	T	2	12, 2	
reinette, speckled golden, see Barcelona pearmain.							
1092 reinette, striped monstrous.							
1093 reinette Truite -	y. str.	ro.	2	T	2	11, 12	Sugary, but not very juicy.
1094 reinette, Tyroler Glanz - -	p. y.	ro.	2	T	2	12, 1	
1095 reinette, Uellners gold - -	rus.	oval.	3	T	1	1, 3	Excellent : tree seems delicate.
reinette Wahre, see reinette du Canada.							
reinette, yellow German, see golden reinette.							
1096 reinette vert - -	g	ro.	3	T	2	12, 3	A sort of nonpareil.
1097 reinette Zorgvliet.							
1098 reinette, Zmnt.							
1099 reinette Zoete Grauwe.							
1100 Reinwardt.							
1101 Renouvelet - -				C			
1102 rhein apfel, der Saure - -				C			
1103 Rhode Island greening - - -	g.	ro.	1	K	1	11, 4 12, 4	Good bearer.
1104 Ribston pippin -	g. y. r.	ro.	2	T K	1	11, 3	Ought to be in every collection. Trees very healthy in some soils; in others subject to canker.
glory of York.							
formosa pippin.							
Travers's.							
1105 Ribston pippin, new.							
1106 Rick.							
1107 Ridge.							
1108 Roan's white crab.							
1109 Rigby's pippin.							
1110 Robert's seedling.							
1111 Robinson's.							
1112 Rob Roy.							
1113 Rodmersham pippin - - -	y. r.	ro.	2	K	2	10, 12	
1114 Rogers's magnum bonum.							
1115 roi très noble -	p. y. y.	obl.	2		2	11, 12	
1116 Romaine.							
1117 Romaine blanche -	p. y.	obl.	2		3	11, 2	Requires a warmer climate than this.
1118 Romaine d'Italie.							
1119 Roman stem -	y.	ov.	3	T	2	11, 12	
Romanite, see Rambo							
1120 Romaril - -	p. y.	ob.	2	C		11, 12	
1121 Rosackerle - -	y.	ro.	2	K C		1, 3	
pomme de Hunaw.							
1122 rose Harding.							
Rook's nest apple, see spice apple.							
1123 Rostocker - -	r.	ro.	1	K C	1	11, 5	A good bearer.
Stelling rouge.							
1124 rother Bietigheimer							
1125 rother weiner sommer apfel -	y. r.	pea.	2	C		9	
1126 rouge Bruyère -				C			
1127 rouge de Pentecôte	r.	calv.	2	K		1, 4	A sort of *calville*.
1128 Rougham seedling	g. r.	ob.	3	T	2	12	
1129 round.							
1130 round head - -	g.	ro.	2	K		11, 1	
1131 Rowlinson's.							
1132 royal Beacham -				C			
1133 royal Devon - -				C			
1134 royal George.							
1135 royal Jersey.							
1136 royal mundi.							
1137 royal pippin.							
1138 royal red, Hunt's.							
royal Somerset, see London pippin.							
1139 royal Wilding -	y.	con.	3	C	1	12	A shy bearer from Herefordshire, but one of this name in Devonshire has been much celebrated.
Russian, see summer gilliflower.							
Russian, see court-pendu plat.							
russet, Acklam's, see Syke House russet.							
1140 royale.							
1141 royale d'Angleterre	y. r.	obl.	2	K		11, 1	
1142 royal rouge d'hiver.							
Rumsche Kruger, see Nonnette.							
1143 Russian.							
1144 Russian transparent							
russet, aromatic, see spice apple.							
1145 russet, Bishop's.							
1146 russet, Bowyer's -	y. rus.	ov. ro.	3	T	1	9	
Bowyer's golden pippin.							
1147 russet, Boston -	rus.	ro.	2	T	1	1, 4	Of excellent quality, with a Ribston pippin flavour.
Roxbury russet.							
Shippen's russet (of some.)							
1148 russet, Browne's imperial.							
1149 russet, Burgundy.							
russet Byson-Wood, see Byson-Wood.							
1150 russet, Caraway.							
1151 russet, golden -	rus.	ov.	2	T K	1	12, 3	Requires a good situation.
golden mundi (of some).							
1152 russet, Harvey.							
russet, Irish, see Sam Young.							
1153 russet, knobby -	rus.	oval	3	T	2	12, 3	
1154 russet, mignonne.							
1155 russet, Morris's nonpareil - -	rus.	ob.	3	T	1	11, 2	
1156 russet, More's.							
1157 russet, nonpareil -	rus.	ob.	3	T	1	12, 2	
russet coated nonpareil.							
1158 russet nonpareil, Pitmaston - -	rus.	ob.	2	T	1	11, 2	Excellent.

Name.	Colour.	Porm.	Size	Use.	Quality.	Season.	Remarks.
1159 russet, nine partners little	g. rus.	oval	3	T	1	11, 3	
1160 russet, orange.							
1161 russet, Patch's	rus.	oval	3	T	2	11, 12	
1162 russet, Pile's	g. rus.	ob.	2	K		11, 3	
1163 russet, Pough Keepsie.							
1164 russet, Powell's	rus.	ro.	3	T	1	11, 2	
1165 russet, Rawlin's fine red streak.							
russet, Roxbury, see Boston russet.							
1166 russet royal	rus.	con.	1	K	1	11, 5	Becomes soft unless kept in pure sand. Excellent for kitchen use: tree bears well.
passe-pomme du Canada.							
reinette du Canada grise.							
reinette du Canada platte.							
leathercoat.							
1167 russet, Sandys's.							
1168 russet, scarlet.							
1169 russet, Scotch.							
1170 russet, Shippen's.							
russet Shippen's, see Boston russet.							
1171 russet, sweet	rus. r.	ro.	3	T		11, 12	Sweet *fenouillet* flav.
1172 russet, Swinden's table.							
1173 russet, Syke House	rus.	ob.	3	T	1	11, 2	Excellent, and particularly deserving of cultivation.
Syke House.							
Prager.							
Aclam's russet.							
1174 russet, Wareham's.							
1175 russet, Wheeler's.							
1176 russet, white.							
1177 russeting, Cooper's.							
1178 russeting, M'Keen's small.							
1179 russeting, white.							
1180 russeting, winter.							
Russian emperor, see Alexander.							
1181 Rymer	p. y. r	ro.	1	K	1	12, 4	Keeps very firm, and contains a brisk sharp juice.
Caldwell.							
green cossings.							
1182 Sabine (of the French).							
1183 Sabine (of the Flemings).							
sack apple, see Devonshire Quarrenden.							
1184 sack-and-sugar	y.	ro.	3	T K	2	8	Good bearer.
1185 Saint Germain.							
1186 de Saint Julien	g. y.	ro.	1	T	1	12, 3	Very good and bears well.
seigneur d'Orsay.							
1187 Saint Lawrence	y.	ob.	3	T	2	8, 9	
Saint Mary's pippin, see Downton.							
1188 de Saint Louis.							
1189 Saint Martinsaeble.							
1190 Saint Michael's pippin.							
1191 de Saint Noyer				C			
1192 Saint Patrick's sweeting	y.	ob.	3	T	3	8, 9	
1193 Salopian	p. y.	ro.	3		3	12	Of no merit, unless it be a cider fruit.
Sam's crab, see Longville's kernel.							
1194 Sam Young	rus.	ob.	3	T	1	11, 2	Rich and high flavoured.
Irish russet.							
1195 sanguineum.							
1196 sang tardif.							
1197 sapling bark	y.	oval	3		3	8	Worthless.
1198 Saru Sinap.							
1199 de Sauge				C			

Name.	Colour	Form.	Size	Use	Quality	Season.	Remarks.
scarlet admirable, Kirke's, see Hollandbury.							
scarlet perfume, see Cole.							
1200 Savelow's.							
1201 scarlet weeper.							
1202 Schafer	g. r.	ov. ro.	3	T	2	12, 1	Resembles the *scarlet nonpareil.*
1203 Schweitzer Schlotter apfel.							
1204 sea cliff	g.	obl.	1	K		10, 1	
1205 Schiebich.							
1206 Schyers' pepin.							
1207 sedan pomme.							
1208 Sedgefield.							
seek-no further, see Yorkshire greening.							
Seek-no-further, American, see Rambo.							
1209 seaside lemon.							
seigneur d'Orsay, see Saint Julien.							
de seigneur rouge, see D'Adam.							
1210 Shepherd's fame.							
1211 Shepherd's Newington	str.	ro.	1	K		10, 11	Very large but does not keep well.
1212 sheep's nose.							
Bullock's pippin.							
Long Tom.							
Shireling, see Lancashire gap.							
1213 Shorrock's table fruit.							
1214 Shustoke pippin	y. r.	ob.	2	K		12	
1215 Siberian Harvey.							
1216 Sieben Schlafer	p. y.	obl.	2		3	11, 1	Indifferent in this climate.
1217 silverling.							
1218 Simpkin.							
1219 Simpson's seedling	g.	ov.	2	T	2	1, 4	
1220 sine-qua-non.							
1221 Sir Thomas Gower's.							
Sir Walter Blacket's favourite, see Edinburgh cluster.							
1222 Sir William Gibbon's							
1223 Sir William Parker's							Like a *golden pippin.*
1224 Sklenkory.							
1225 Slade's pippin.							
Solebury cider, see Bucks county.							
1226 Somerset lasting	p. y. r.	ob.	1	K		10, 2	
1227 sommer Kleiner.							
1228 sommer Koning.							
1229 sonnette				C			
1230 South Carolina pippin	y.	ro.	1	K		12	Very large.
1231 sour Rawlings.							
1232 sovereign	y.	pea.	2		3	10	A poor fruit.
1233 sparrow pippin.							
1234 Spatbluhende.							
mætapfel à fleurs tardives.							
1235 spice-apple	rus.	con.	2	T	2	10	Good bearer.
aromatic russet.							
brown apple of Burnt Island.							
Rook's nest apple.							
brown spice.							
Burnt Island pippin.							
1236 spice, early.							
1237 spice-apple, scarlet.							
1238 Spiesslinger.							
1239 Spitzemberg, Æsopus	r.	obl.	2	K T	1	11, 1	

Name.	Colour.	Form.	Size.	Use.	Quality.	Season.	Remarks.
Spitzemberg, Flushing.							
1240 Spitzemberg, Kaighn's	p. r.	con.	2		3	11, 1	Worthless.
1241 Spitzemberg, Newtown	y. r.	ro.	2	K T	1	11, 2	Very handsome.
matchless.							
1242 Spitzemberg, Pownal's.							
1243 Staunton pippin.							
1244 Stead's kernel				C			
1245 stern apfel.							
Stettin pippin, see Dutch mignonne.							
1246 Stetting jaune	y.	ro.	1	C		1, 5	Bears abundantly.
Stetting rouge, see Rostocker.							
1247 Stelsted pippin.							
1248 Stetchworth seedling, Bayley's							
1249 Stetchworth seedling, Eaton's.							
1250 Steuchal, pepin.							
1251 Stire, red				C			
1252 Stire, white				C			
1253 Stirling Castle.							
1254 stone pippin	p. y.	ro.	2	T	1	1, 4	Handsome: different sorts are under this name.
stone pippin, see Gogar pippin.							
1255 Stony Royd pippin	y.	ro.	2	T	1	1, 4	
1256 Straat	g. y.	ro.	2	T	1	12, 4	Excellent, resembling *Newtown pippin.*
1257 strawberry, early.							
1258 strawberry, summer.							
1259 strawberry, winter.							
1260 Strode-House pippin	y.	ro.	2	T	2	11	
strifling d'hiver, see d'Astems.							
striped Holland pippin, see Lincolnshire Holland pippin.							
1261 Stubton pippin.							
1262 Sturmer pippin.							
Stuttgarter Gaishirtel, see Wügsdorffer.							
1263 sugarapple, Siberian							
1264 sugar loaf pippin	g.	obl.	2	K	1	8	A good early apple.
1265 summer hedging.							
1266 summer pippin	g.	ob.	3	T	2	8	
1267 summer queen.							
1268 summer rose	y. r.	ob.	3	K T	2	8	
1269 summer Stibbert	y.	con.	1	K	2	8	Good bearer.
avant tout.							
hâtive.							
summer traveller, see early red Margaret.							
1270 superieure.							
1271 superintendent prachtvoll-reinette.							
1272 surprise.							
1273 Sussex.							
1274 Svinels.							
1275 Swaar.							
1276 Swedish early sauce	str.	con.	2	K		8	
1277 Swedish golden.							
1278 sweet Lading	str.	ob.	2		2		
1279 sweet little wilding			3	C			Worthless.
Zoete Wildjes.							
sweet pippin (of the Americans), see red sweet pippin.							
1280 sweeting, large green.							
sweeting large red winter, see red sweet pippin.							
1281 sweet pippin	y.	ov.	3	C		10, 11	
1282 sweeting, large striped.							
Syke House, see Syke House russet.							
taffitai, see transparent d'Astrachan.							
1283 Tankerton.							
1284 Tankerville	str.	ro.	3		3	9	
1285 Tanner's.							
1286 tardfleur				C			
Taunton, see pomeroy.							
1287 Tay-side pippin.							
1288 ten-shillings.							
1289 Tenterden Park	y. r.	ro.	3	T	1	10, 2	
1290 téte de chat.							
tête de chat (of Jersey), see round cat's head.							
1291 Tetofsky	str.	obl.	2	T	2	8, 9	Handsome.
1292 Tewksbury winter blush.							
1293 Thompson's.							
1294 Thorle, summer	p. y. r.	ob.	2	T	1	8, 9	A very handsome early apple of good quality.
whorle pippin.							
Watson's new nonesuch.							
1295 Thorle, winter.							
tiolet, see de Longbois.							
1296 Thoresby seedling	r.	pea.	2	T	1	1, 4	
1297 Tockington ruby				C			
1298 Tom Potter.							
1299 Tom Put.							
1300 top.							
1301 Tonnelle.							
1302 Torbron's.							
1303 Tower of Glammis	g. y.	obl.	1	K	1	11, 2	Moderate bearer.
transparent, see de Glace.							
1304 transparent d'Astrachan.							
taffitai.							
1305 transparent de Christ							
1306 transparent green.							
1307 transparent, Wood's new.							
transparent de Moscovie, see white Astrachan.							
1308 transparent de Zurich	p. y.	con.	2	C		9, 10	Good bearer.
1309 traveller.							
Travers's, see Ribston pippin.							
1310 travelling queen.							
1311 Trianon superbe.							
1312 Trumpington	r.	ob.	3	T	2	9, 12	
Eve apple.							
Delaware.							
1313 Turk's cap				C			
1314 tulip	r.	ov.	2	T	2	11, 4	A Dutch apple of a very bright red colour, and a good bearer.
tulp.							
tulpen.							
1315 Turpin.							
twin cluster pippin, see cluster golden pippin.							
1316 two yearling.							
1317 Uffington pippin.							
1318 underleaf	y. r.	ob.	2	T	3	12	

Name.	Colour.	Form.	Size.	Use.	Quality.	Season.	Remarks.
1319 underleaf, Herefordshire - -				C			
1320 Valentine.							
1321 Valleyfield pippin	g. r.	ob.	2	T	2	9	Good bearer.
1322 Vandervere - -	y. r.	ob.	2	K C	2	12, 3	
Van Dyne, see Ortley.							
1323 vater apfel ohne kerne.							
1324 veiny pippin -	b. g.	ro.	2		3	10, 1	
1325 Venus pippin.							
1326 vertue.							
1327 violette, pomme -	d. r.	con.	1	K	2	10, 3	Moderate bearer: fruit covered with bloom like a plum.
violette de quatre goûts.							
gros pomme noire d' Amérique.							
red Calville (of some).							
1328 wachs apfel - -	p. y.	obl.	2	C		10, 12	
Walmer court, see northern greening.							
1329 Waltham pippin.							
1330 Waltham Abbey seedling - -	y.	ro.	1	K	1	9, 1	Large and handsome.
1331 wanderer.							
1332 Warwickshire greening.							
Warwickshire pippin, see girkin pippin.							
1333 Wasserlinger -				C		9, 4	
watch apple, see Cambusnethan pippin.							
1334 Watson's dumpling	str.	ro.	1	K	1		Resembles the *beauty of Kent*.
1335 wax apple.							
1336 Weisbrod apfel -				C		11, 2	
1337 Weisser Bietigheimer.							
1338 Weeks's pippin.							
1339 Wellbank's constant bearer - -	y. r.	ro.	2	K	2	11, 1	
Wellington, see Dumelow's seedling.							
1340 Welsh pippin.							
1341 West Grinstead pippin - - -	g. str.	ro.	2	T	1	11, 4	Does not shrivel.
1342 Wetherell's white sweeting - -	y.	ro.	2	C		9	A sweet cider apple.
1343 Whernel's pippin -	y.	pea.	2	K		12, 3	
1344 white costin.							
1345 white easter - -	p. y.	pea.	2	K		1, 4	
1346 white hyde pippin.							
1347 white loaf.							
1348 white Letham pippin							
white lily, see Devonshire Buckland.							
1349 white seal - -	p. y.	obl.	1	K		9	Of little value.
white sour, see Devonshire white sour.							
1350 white stone pippin.							
1351 Whitmore pippin.	y.	con.	1	K		12, 1	
whorle pippin, see summer Thorle.							
1352 Wugsdörffer.							Resembles the *Borsdörffer*.
Stuttgarter Gaishirtel.							
1353 William - -	y.	ob.	2	T C	2	11, 1	
1354 Williams's pippin.							
1355 Windham's seedling	y.	ob.	2	K	3	11, 12	
1356 wine - - -	y.	ob.	2	C		12	
1357 wine, red.							
1358 wine, white.							
1359 wine, sops of -	r.	ro.	2	C		10, 2	Reddish inside.

Name.	Colour.	Form	Size.	Use.	Quality	Season.	Remarks.
1360 wine-sop, winter.							
1361 wine-sop, American.							
1362 wine, Spitzemberg.							
1363 winter - - -	rus.	ro.	2	T	2	11, 3	
1364 winter Bogge, Zoete							
1365 winter greening.							
1366 winter majetin -	g. b. r.	ro.	1	K	1	1, 5	Tree hardy. not subject to the attacks of insects.
1367 winter pippin.							
1368 winter stone pippin - - -	p. g.	obl.	3	T		1, 5	
1369 winter warden.							
1370 wire wood.							
1371 wise apple.							
1372 Wydoge.							
1373 Witte Wyn -	p. g.	ro.	2	C		10, 11	
woodcock, see northern greening.							
1374 woodcock, new -				C			
Wood's Huntingdon, see Court of Wick.							
Woodstock pippin, see Blenheim pippin.							
1375 Wood's greening -	g.	con.	2	K T	2	1, 5	
1376 Woolman's long -	y.	obl.	2	K T	1	12, 4	Excellent in a good situation.
Ortley.							
Van Dyne.							
Wollaton pippin, see court-pendu plat.							
1377 Wormsley pippin -	p. g.	ro.	2	K T	1		Excellent bearer.
Knight's codlin.							
1378 Wyken pippin -	y.	ob.	3	T	2	12, 4	Has been confused with *Wyker pippin*, but is very different.
Arley.							
Wyker pippin, see golden reinette.							
yellow, see Court of Wick.							
1379 yellow bough, large early - -	y.	ro.	1	K	1	8, 9	
1380 yellow harvest.							
1381 yellow harvest, large							
1382 yellow pippin.							
1383 yellow Seggiden.							
1384 Young pippin.							
1385 Young's seedling -	g. r.	ro.	2	T	1	1, 5	
1386 Yorkshire greening - - -	g.	ob.	1	K	1	10, 1	Apt to speck.
Coates's.							
seek-no-further (of some).							
Yorkshire goose sauce.							
1387 Zoete bellefleur -	r. y.	ob.	2			12, 1	
1388 Zoete blanke -	y.	calv.	3	K	2	10, 1	
1389 Zoete Champagne	rus.	ro.	3	T	2	11, 1	A sweet russet.
1390 Zoete Kandy.							
1391 Zoete Kantjis.							
1392 Zoete Jopen Roode.							
1393 Zoete Peter Lely -	rus.	ob.	3	T	1	11, 2	Small but good, with a russet-nonpareil flavour.
Zoete Wildjes, see sweet little wilding							
1394 Zoete Raboise.							
1395 Zoete Veen.							
1396 Zurnbel.							
Apples used as stocks.							
1397 English Paradise.							Most dwarf of any.
1398 French Paradise.							
1399 Doucin (of the French).							
1400 wild crab.							

Propagation and culture.—The *apple*, like most other hardy trees, may be propagated by seeds, cuttings, suckers, layers, and by engrafting and budding; by seeds to obtain new varieties, and stocks, and by other modes for continuing such as are in esteem.

By seeds.—The first business here is the choice of seeds, which should be taken from fruits having the properties it is desired to perpetuate or improve in the greatest degree. The sorts of apples proper for crossing or reciprocal impregnation, appear to be those which have a great many qualities in common, and some different qualities. Thus the *golden-pippin* has been crossed by other *pippins* or *rennets*, and not by *calvils* or *codlings*. A small-sized apple, crossed by a large sort, will be more certain of producing a new variety than the above mode; but will be almost equally certain of producing a variety destitute of valuable qualities; the qualities of parents of so opposite natures being as it were crudely jumbled together in the offspring. Mr. Knight's mode of cutting out the stamens of the blossoms to be impregnated, and afterwards when the stigmas are mature, introducing the pollen of that intended for the male parent, is unquestionably the most scientific mode of performing the operation. In this way he produced those excellent apples, the *Downton, red* and *yellow Ingestrie*, and *Grange pippins* from the same parents; viz. the seed of the *orange-pippin* impregnated by the pollen of the *golden-pippin*. The *Bringwood-pippin* he produced from the *golden-pippin*, dusted with the pollen of the *golden-harvey apple*.

The seeds may be sown in autumn in light earth, covered an inch, and either in pots or beds. The end of the first year they should be transplanted into nursery rows, from six inches to a foot apart every way. Afterwards they should be removed to where they are to produce fruit, and for this purpose the greater the distance between the plants the better. It should not be less than 6 or 8 feet every way. The quickest way of bringing them into a bearing state, Williams, of Pitmaston, considers, (Hort. trans. 1. p. 333.) is to let the plants be furnished with lateral shoots from the ground upwards; so disposed as that the leaves of the upper shoots may not shade those situated underneath, pruning away only trifling shoots. This mode of treatment occurred to him on reflecting on Mr. Knight's theory of the circulation of the sap. Observing the change in the appearance of the leaves of his seedling plants, as the trees advanced in growth, he thought it might be possible to hasten the progress of the plants, and procure that peculiar organization of the leaf necessary to the formation of blossom-buds at a much earlier age. He, in consequence, adopted the mode above described, and succeeded in procuring fruit from seedling *apples* at four, five, and six years of age, instead of waiting eight, ten, and even fifteen years, which must be the case by the usual mode of planting close, and pruning to naked stems. Macdonald, an eminent Scotch horticulturist, has also succeeded in obtaining fruit from seedlings at an early period by grafting, already stated as one of the uses of that mode of propagation. In 1808, he selected some blossoms of the *nonpareil*, which he impregnated with the pollen of the *golden-pippin* and of the *Newton-pippin*. When the apples were fully ripe, he selected some of the best, from which he took the seeds and sowed them in pots, which he placed in a frame. He had eight or nine seedlings, which he transplanted into the open ground in the spring of 1809. In 1811, he picked out a few of the strongest plants and put them singly into pots. In spring, 1812, he observed one of the plants showing fruit-buds. He took a few of the twigs and grafted them on a healthy stock on a wall, and in 1813 he had a few apples. This year (1816) his seedlings yielded several dozens, and also his grafts; and he mentions that the apples from the grafts are the largest. He is of opinion that in giving names to seedlings raised in Scotland the word Scotch should be mentioned. Ringing has also been recommended by various authors as inducing precocity, and particularly by Hempel, (Hort. trans. I. appendix,) who says he has proved it experimentally. A very common practice among those who raise fruit trees from seed is, in the second or third season to select such plants only as have broad and roundish leaves, throwing away the rest, experience having taught that the former more frequently produce fruit of improved quality, or at least larger, than those plants which have narrow-pointed leaves. The width and thickness of the leaf, Mr. Knight observes, "generally indicate the size of the future apple, but will by no means convey any correct idea of the merits of the future fruit. Where these have the character of high cultivation, the qualities of the fruit will be far removed from those of the native species, but the apple may be insipid or highly flavoured, green, or deeply coloured, and of course well or ill calculated to answer the purposes of the planter. An early blossom in the spring, and an early change of colour in the autumnal leaf, would naturally be supposed to indicate a fruit of early maturity; but I have never been able to discover any criterion of this kind on which the smallest dependence can be placed. The leaves of some varieties will become yellow and fall off, leaving the fruit green and immature; and the leaves in other kinds will retain their verdure long after the fruit has perished. The plants whose buds in the annual wood are full and prominent, are usually more productive than those whose buds are small and shrunk in the bark; but their future produce will depend much on the power the blossoms possess of bearing the cold, and this power varies in the different varieties, and can only be known from experience. Those which produce their leaves and blossoms rather early in the spring are generally to be preferred, for though they are more exposed to injury from frost, they less frequently suffer from the attacks of insects, the more common cause of failure. The disposition to vegetate early or late in the spring, is, like almost every other quality in the *apple* tree, transferred in different degrees to its offspring; and the planter must therefore seek those qualities in the parent tree which he wishes to find in the future seedling plants. The most effective method I have been able to discover of obtaining such fruits as vegetate very early in the spring has been by introducing the pollen of the *Siberian crab* into the blossom of a rich and early *apple*, and by transferring in the same manner the pollen of the *apple* to the *Siberian crab*. The leaf and habit of many of the plants that I have thus obtained possess much of the character of the *apple*, whilst they vegetate as early in the spring as the *Siberian crab*, and I possess at least two plants of this family." Abercrombie observes, "as the *codling* is a sort found to change very little from seed, or not for the worse, new plants of it are sometimes raised by sowing the kernels, not by way of experiment for a new uncertain variety, but with some dependence in having a good sort resembling the *parent*."

By cuttings.—Every variety of *apple* may be grown from cuttings, though some with much greater facility than others. All those of the *Burknott* and *codling* tribes grow as well this way as by any other, and some allege that the trees so raised are not liable to canker (Hort. trans. 1. p. 120.), which is supposed to be owing to their putting out no tap root, but spreading their numerous fibres from the knots or burrs horizontally. Even the *golden-pippin* may be continued in this way, and the trees have remained seven years in perfect health, when grafts taken not only from the trees, but from the very branch, part of which was divided into cuttings, cankered in two or three years. "All *apple* trees raised in this way," Bigg observes, "from healthy one-year old branches, with blossom-buds upon them, will continue to go on bearing the finest fruit in a small compass for many years. Such trees are peculiarly proper for forcing, and not liable to canker" (Hort. trans. 1. p. 65.). The cuttings are to be chosen from young wood of horizontal or oblique branches, rather than from upright ones; from six to eight inches or more in length, with a small portion of old wood at the lower end. Cut off the tip of the shoot, and all the buds, excepting two or three next the tip or upper extremity; then smooth the sections at the lower end, and insert three or four inches in sandy loam, pressing the earth firmly to them, watering and covering them with a hand-glass. The proper time for this operation is early in February, and the glass should not be touched, excepting to give water, till the shoots have sprung an inch or two. Shade during the mid-day sun, and begin to harden by giving air in July; finally, remove the glass in August, and in October transplant to nursery rows, or in pots according to future intention. With the *Burknott* all that is necessary is to plant the cuttings in a shady border, and treat them like those of the gooseberry or currant.

By layers.—The success of this mode of propagation may be considered as certain; but it has nothing peculiar in its application to the *apple*. The after treatment of the plants is the same with that for those originated by the following or foregoing modes.

By suckers.—This mode is generally confined to the *Paradise* and *creeping apple* for stocks.

By grafting and inoculation.—This may be said to be the universal practice in propagating the *apple*. The first consideration is the choice of stocks; of these there are five sorts in common use;—*seedling apples*, used for full standards and riders or wall standards; *seedling crabs*, for standards and half standards; *codling apples*, from layers or cuttings for dwarfs and espaliers; *Paradise apples*, from layers or cuttings for low dwarfs and trained trees; *creeper apples*, from layers or cuttings for the best dwarfs or bushes.

Stocks of seedling apples.—The seeds should be selected from the fruit of vigorous growing young or middle-aged healthy trees; but when wanted in larger quantities they are procured from cider makers; private propagators will adopt the first mode. The sowing and after treatment is the same as for *seedling crabs*.

Seedling crabs.—"A preference," Mr. Knight observes, "has generally and justly been given to *apple* stocks raised from seed of the native kind or *crab*, as being more hardy and durable than those produced from the *apple*. The offspring of some varieties of the *crab*, particularly of those introduced from Siberia, vegetate much earlier in the spring than other trees of the same genus; and hence the inexperienced planter will probably be led to suppose that such stocks would accelerate the vegetation of other varieties in the spring, and tend to produce an early maturity of the fruit in autumn. In this, however, he will be disappointed. The office of the stock is, in every sense of the word, subservient, and it acts only in obedience to the impulse it receives from the branches; the only qualities, therefore, which are wanting to form a perfect stock are vigour and hardiness."

Seed sowing and culture.—In collecting the seeds to sow, it must be remembered that the habits, as well as the diseases, of plants are often hereditary, and attention should be paid to the state of the tree from which seeds are taken; it should be large and of free growth, and rather in a growing state than one of maturity or decay. The *crab* trees, which stand in cultivated grounds, generally grow more freely, and attain a larger stature than those in hedges or woods, and therefore appear to claim preference. The seed should be taken from the fruit before it is ground for vinegar, and sown in beds of good mould an inch deep. From these the plants should be removed in the following autumn to the nursery, and planted in rows at three feet distance from each other, and 18 inches between each plant. Being here properly protected from cattle and hares, they may remain till they become large enough to be planted out, the ground being regularly worked and kept free from weeds. Rev. J. Venables (Hort. soc. trans. vol. 1. ser. 2. p. 39.) has never found a satisfactory reason why the pips of the best apples should produce most frequently trees little better than the *crab*, while other products of our gardens are not deteriorated from the parent stock. It would seem that much of the peculiar flavour of fruit depends upon the leaf, and whatever determines the first organization of this member of the tree, must have considerable influence on its produce. In the growth of those seeds furnished with albumen, the albumen is converted into a substance resembling sugar, and this saccharine material affords the first nourishment to the growing plant, and supports it till the radicles spread and are enabled to draw a supply of aliment from the earth; but as the apple pip is destitute of albumen, we may easily discover the source from which this deficiency is to be supplied. It was evidently intended that the apple itself decaying on the ground, and enriching the soil around the pips with its saccharine juices, should supply the young tree with its earliest nutriment. When, therefore, we separate the pips from the apple for the purpose of sowing, we deprive the seedling of a material part of its appropriate nourishment, and consequently raise a tree in no way resembling the qualities of its parent. We have no account of the manner in which the best *apples* and *pears* were raised in the 15th and 17th centuries, and possibly the best fruits of those days may have been a selection from numbers raised of an inferior quality. It is probable that we owe some of our best fruits more to the undisturbed production of nature than to the operations of art. An apple has fallen from some tree, and lain unobserved, the fruit has decayed on the spot, and enriched the ground; and, from the soil thus peculiarly prepared by nature, has sprung up a tree, whose produce has proved of peculiar excellence and flavour. According to the above theory, apples should be sown instead of pips, or pips of one sort introduced into the fruit of another, and then sown, or the ground manured with rotten apples. The seedling from this mode of sowing will be more likely to produce fruit of superior flavour than by sowing the pips alone.

Codling stocks are raised chiefly from layers, which at the end of the season are taken off and planted in nursery rows, 2 feet between the rows, and 1 foot from plant to plant.

Paradise stocks, or as they are called by the French, *Doucin stocks*, are raised from either layers or suckers; and stocks raised from *creeping apples*, so named from their aptitude to throw out suckers, or the *Dutch Paradise*, chiefly from the latter mode. They may be planted in nursery rows, somewhat closer than the codling stocks.

All stocks require to stand in the nursery till they are from half an inch to an inch thick at the height at which they are to be grafted; such as are intended for full standards or riders will, in general, require to grow three or four years before they are fit for this operation; those for half standards two years, and those for dwarfs one year. The ground between them must be kept clear of weeds, and stirred every winter; the side shoots of the plants, at least to the height at which they are intended to be grafted, rubbed off as they appear, and all suckers carefully removed. Where budding is adopted, the stocks may be worked at nearly half the diameter of stem requisite for grafting; and stocks for dwarfs, planted in autumn or spring, may be inoculated the succeeding summer. No great advantage, however, is gained by this practice, as such plants require to stand at least another year before they have produced their bud-shoots.

Soil and situation of the nursery.—"A difference of opinion appears to have always prevailed respecting the quality of the soil proper for a nursery. Some have preferred a very poor, and others a very rich soil; and both perhaps are almost equally wrong. The advocates for the poor soil appear to me to have been misled by transferring the feelings of animals to plants, and inferring that a change from want to abundance must be agreeable and beneficial to both. But plants in a very poor soil become stunted and unhealthy, and do not readily acquire habits of vigorous growth when removed from it. In a soil which has been highly manured the growth of young *apple* trees is extremely rapid, and their appearance, during 2 or 3 years, generally indicates the utmost exuberance of health and vigour. These are, however, usually the forerunners of disease, and the 'canker's desolating tooth' blasts the hopes of the planter. In choosing the situation for a nursery, too much shelter or exposure should be equally avoided, and a soil nearly similar to that in which the trees are afterwards to grow should be selected where it can be obtained. Pasture ground or unmanured meadow should be preferred to old tillage, and a loam of moderate strength, and of considerable depth, to all other soils." (Treat. on Appl. and Pear.)

Grafting.—The first business is to select the scions. At whatever season scions are to be inserted, Mr. Knight observes, "the branches which are to form them should be taken from the parent stock during the winter, and not later than the end of the preceding year; for if the buds have begun to vegetate in the smallest degree, and they begin with the increasing influence of the sun, the vigour of the shoots, during the first season, will be diminished, and the grafts will not succeed with equal certainty; though a graft of the *apple* tree very rarely fails, unless by accidental injury or great want of skill in the operator. The amputated branches must be kept alive till wanted, by having the end of each planted in the ground a few inches deep in a shady situation." Stocks destined to form standard trees may either be grafted at the usual height at which the lateral branches are allowed to diverge, which is commonly six feet, or they may be grafted near the ground, and a single shoot trained from the grafts, so as to form the stem of the tree. The propriety of grafting near the ground or at the height of six or seven feet, will depend on the kind of fruit to be propagated, whether it be quite new, and just beginning to bear, or a middle-aged variety. In new and luxuriant varieties, and these only should be propagated, it will be advantageous to graft when the stocks are three years old, as the growth of such will be more rapid, smooth, and upright than that of the *crab*, and there will be no danger of their being injured by beginning to bear too early. "Middle-aged varieties will be most successfully propagated by planting stocks of six or seven feet high, and letting them remain ungrafted till they become firmly rooted in the places in which the trees are to stand. One graft only should be inserted in each stock; for when more are used they are apt to divide when loaded with fruit, and to cleave the stock, having no natural bond or connexion with each other. When the stocks are too large for a single scion, I would recommend that the grafts be inserted in the branches, and not in the principal stem." This practice is not uncommon in various parts of England, and in general use in Germany with free stocks, where, however, they often neglect to graft the trees, and thus, as Mr. Neill observes, produce an endless variety of sorts, some good, but most of them little better than *crabs*. Stocks intended to form half standards are grafted at three or four feet from the ground, and those for dwarfs at eight or ten inches or lower. Miller and Knight agree in recommending to graft near the ground, where lasting and vigorous trees are wanted; but the practice of the continental gardeners, and the opinions of some in this country, are in favour of leaving a stem below the graft of not less than a foot in length. A kind of grafting generally adopted for moderate sized stocks is the whip or tongue method, or the new mode of saddle-grafting adopted by Mr. Knight; and the general time for the *apple* is in the end of February and the greater part of March. Much depends on the season and situation; the guiding principle is to make choice of the time when the sap of the stock is in full motion, while that of the scions, from having been previously cut off and placed in the shade, is less so. The common season for budding the *apple* is July, and there is nothing peculiar to this tree in performing that operation.

Transplanting grafted trees in the nursery.—"It has been recommended," Knight observes, "to remove grafted trees once or twice during the time they remain in the nursery, under the idea of increasing the number of their roots, but I think this practice only eligible with trees which do not readily grow when transplanted. I have always found the growth of young *apple* trees to be much retarded, and a premature disposition to blossom to be brought on by it; and I could not afterwards observe those trees which had been twice removed grow better than others. It has also been supposed that many small roots, proceeding immediately from the trunk, are in the future growth of the tree to be preferred to a few which are large; but as the large roots of necessity branch into small, which consequently extend to a greater distance, the advantages of more transplantations than from the seed-bed to the nursery, and thence to the garden or orchard, may reasonably be questioned."

The choice of sorts depends upon the object in view. The first thing an inexperienced gardener has to do is to consider the various uses of the apple, and then determine what is wanted, according to family, market, or other purpose to be supplied; the next thing is to consider how those wants are to be supplied in his given soil, situation, and circumstances; and the last thing is to study the catalogue of sorts, and to select accordingly. Another source of choice is, as may respect the soil, situation, and climate of the garden or orchard, in which they are to be planted, or the character, whether of dwarfs, espaliers, or wall-trees, which they are to assume there. The winter and spring table apples may require a south wall in one district, while in another they may attain equal maturity as standards or espaliers. Where there is ample room a selection of large sorts, as the *Alexander* and *Baltimore* apples, or of such as are the most beautifully coloured, as the *violet*, *carnation*, &c. may be made to gratify the eye; or where room is wanting, useful sorts and great bearers are to be preferred, as the *golden* and *ribston pippin*, *summer pearmain*, *codlins*, *grey russet*, *summer* and *winter Calvilles*, &c. In general small sized fruit, as the *Harveys* and *Granges*, are to be preferred for standards, as less likely to break down the branches of the trees, or be shaken down by winds, middling sorts for walls and dwarfs, and the largest of all for espaliers. In respect to a soil liable to produce canker, sorts raised from cuttings may be desirable, as the *Burknott* and *codling* tribe; and where an occupier of a garden has only a short interest therein, such as come into immediate bearing, as the *Burknotts* and others from cuttings, and the *Hawthorndean*, *Apius's apple*, and other short-lived dwarf sorts on *Paradise* or *creeping* stocks, may deserve the preference. On the contrary, where a plantation is made on freehold property, or with a view to posterity, new varieties on *crab* or free stocks should always be chosen, as the *Grange*, *Ingestrie*, *Harvey*, &c. Some excellent sorts will grow and produce crops every where, as the *Hawthorndean*, *codling*, and *Ribston pippin*; the latter of which, Nicol says, will grow at John O'Groat's house, and may be planted in Cornwall; others are shy bearers in cold situations, as the *Newtown pippin* of America, &c.

Choice of plants for planting.—This depends in some degree on the object in view, the richness of the soil, and the shelter.

Young trees are more likely to succeed in exposed sites and poor soils, but the *apple* will bear transplanting at a greater age than any other fruit tree. It may be planted in open weather from November till February.

Soil and site for permanent planting.—Any common soil, neither extremely sandy, gravelly, nor clayey, on a dry subsoil, and with a free exposure, will suit the *apple*. On wet hilly subsoils it will do no good, but after being planted a few years will become cankered, and get covered with moss. When fruit trees must be planted on such soils they should first be rendered as dry as possible by under-draining; next provision must be made for carrying off the rain water by surface gutters; and, lastly, the ground should not be trenched above a foot deep, and the trees planted rather in hillocks of earth above the surface than in pits dug into it. There is no point of more importance than shallow trenching and shallow planting in cold wet soils, in which deep pits and deep pulverization only serve to aggravate their natural evils of moisture and cold. See Sang. in cal. hort. mem. 4. p. 140. "The *apple* tree," Mr. Knight observes, "attains its largest stature in a deep strong loam or marly clay; but it will thrive in all rich soils, which are neither very sandy nor wet at bottom. It succeeds best," he adds, "in situations which are neither high nor remarkably low. In the former its blossoms are frequently injured by cold winds, and in the latter by spring frosts, particularly when the trees are planted in the lowest part of a confined valley. A south or south-east aspect is generally preferred on account of the turbulence of the west, and the coldness of north winds; but orchards succeed well in all aspects, and where the violence of the west wind is broken by an intervening rise of ground, south-west aspect will be found equal to any." "All the sorts of *apple* trees," Abercrombie observes, "may be planted in any good common soil, with a free exposure, whether that of a garden, orchard, or field, so that the ground be neither very low, nor excessively wet, nor subject to inundation in winter. Avoid as far as possible very strong clayey and gravelly soils."

Mode of bearing.—"In all the varieties of the common *apple* the mode of bearing is upon small, terminal, and lateral spurs, or short robust shoots, from half an inch to two inches long, which spring from the younger branches of two or more years' growth, appearing first at the extremity, and extending gradually down the side, the same bearing branches and fruit spurs continue many years fruitful." Abercrombie.

Pruning.—"As, from the mode of bearing, *apple* trees do not admit of shortening in the general bearers, it should only be practised occasionally; first, where any extend out of limits, or grow irregular or deformed; and secondly, a good shoot contiguous to a vacant space is shortened to a few eyes, to obtain an additional supply of young wood from the lower buds of this shoot for filling up the vacancy. But to shorten without such a motive is not merely cutting away of the first and principal bearing part of the branches, but also occasions their putting forth many strong useless wood-shoots, where fruit-spurs would otherwise arise; and both effects greatly tend to retard the trees in bearing, whereas the fertile branches being cultivated to their natural length, shoot moderately, and have fruit-spurs quite to the extremity." Abercrombie.

Espaliers and wall-trees require a summer and winter pruning.

The summer pruning.—"Train in the young shoots of the same year which are likely to be wanted in the figure, and retrench them where ill placed or too numerous; for as the trees continue bearing many years on the same branches, they only require occasional supplies of young wood; therefore begin in May or June to pinch off or cut out all foreright, ill placed, and superfluous shoots, retaining only some of the promising laterals in the more vacant parts, with a leader to each branch; train in these between the mother-branches at their full length all summer, or where any vacancy occurs some strong contiguous shoot may be shortened, in June, to a few eyes to furnish several laterals the same season. Keep the shoots in all parts closely trained, both to preserve the regularity of the espalier, and to admit the air and sun to the advancing fruit."

"*The winter pruning* may be performed from November till the beginning of April. This comprehends the regulation of the wood branches, the bearers, and the young shoots. First examine the new shoots trained in the preceding summer, and, if too abundant, retain only a competency of well-placed and promising laterals, to furnish vacant parts with a leading shoot to each parent branch. Continue these mostly at their full length, as far as there is room. Cut out close the superabundant and irregular young shoots, and where any of the elder branches appear unfruitful, cankery, or decayed, cut them either clean out, or prune short to some good lateral, as may seem expedient. Also prune into order any branches which are very irregular or too extended. Carefully preserve all the eligible natural fruit spurs, but remove all unfruitful stumps or snags, and large projecting rugged branches. As each espalier is pruned, let the old and new branches be laid in at convenient distances according to the size of the fruit, 4, 5, or 6 inches asunder, and neatly tied or nailed to the wall or trellis."—*Abercrombie.*

Heading down apple-trees that are much cankered, is strongly recommended by Forsyth, who gives an example of one after it had been headed down four years, which bore plenty of fine fruit. The point at which it was headed down was within 18 inches of the soil, and under it on the stump were two large wounds, made by cutting out a cankery part, and which, being covered with the composition, were soon nearly filled up with sound wood. Very little pruning is at first given to trees so cut, but afterwards a regular succession of bearing wood is kept up by removing such as have borne three or four years. Thus, one branch which has done bearing is cut off, and succeeded by another, and when that is tired also, it is cut off and replaced by a third, and so on.

Grafting old apple-trees of indifferent sorts with superior varieties, is an obvious and long tried improvement. In this case, if the tree is a standard, it is only headed down to standard height; in old subjects, most commonly the branches only are cut over within a foot or two of the trunk, and then grafted in the crown or cleft manner.

On fertilising the blossoms of pear and apple-trees.—An almost general unproductiveness, as to the fruit of the superior varieties of *pear* and *apple-trees*, has long been a subject of complaint with horticulturists, both in south and north Britain. The Rev. George Swayne (Hort. trans. 5. p. 208.) has a tree of the *Gansell's bergamot pear*, which had for a long time baffled all his attempts to alter its unfertile habits. The tree had all the appearance of health and sufficient luxuriance, and produced a profusion of blossoms at the proper season, but has never borne more than three or four pears in any one year. Before the blossoms expanded, he cut off all the flowers in each corymb, except the lower three, in this tree, and another tree of the *brown beurré*. He divested these trees of at least three-fourths of all their flower-buds. On the *beurré* this operation subsequently appeared to have the best effect, for there was scarcely an instance in which the remaining blossoms did not set, which afterwards produced a fine crop of pears. But on the *Gansell*, although the blossoms at first seemed to set, and many of them did not fall till Midsummer, yet not a single pear arrived at maturity. By dissecting many of the largest which fell off last, it was plain that the kernels had not been impregnated, indicating some imperfections in the essential parts of the blossom. In the following spring, he impregnated the stigmas of many of the flowers with the pollen of the *beurré pear*, and most of them came to perfection and produced large well-formed fruit. The cross impregnation had not produced any change in the appearance of the fruit, nor was any difference in flavour discovered. Before he impregnated the blossoms, he cut off all the buds in the corymb, except the three lowest ones, as in the former year. Whether the result of the above-detailed experiments be such as to authorise an expectation that artificial assistance in vegetable fecundation will hereafter become of so much importance to gardeners in the instances just alluded to, as in those at present recognised of the cucumber, the melon, the hautbois strawberry, &c. must be left to others to ascertain.

Injuries, insects, diseases, &c.—The misletoe (*Viscum album*) is frequently, through negligence, suffered to injure trees in orchards, and different species of mosses and lichens those of gardens. "Moss," Mr. Knight observes, "appears to constitute a symptomatic rather than a primary disease in fruit trees; it is often brought on by a damp or uncultivated soil, by the age of the variety of fruit, and by the want of air and light, in closely planted, unpruned orchards. In these cases it can only be destroyed by removing the cause to which it owes its existence."

Blights.—Whatever deranges and destroys the organization of the blossoms, and prevents the setting of the fruit, is in general termed a blight, whether produced by insects, parasitical plants, or an excess of heat or cold, drought or moisture. One of the most injurious insects with which the *apple* tree has been visited is the *Aphis lanigera* of Lin., the *Eriosòma mali* of Leach, woolly aphis, apple-bug, or American blight. "The eriosomàta," Leach observes, "form what are called improperly galls on the stalks of trees, near their joints and knobs, which are in fact excrescences, caused by the efforts of nature to repair the damage done to the old trees by the perforation of those insects, whose bodies are covered with white down." *Sam. entym.*—There is no way of getting rid of these insects, but cleaning them off with a brush and water, together with amputation when it has been some time at work; but even this will not do unless resorted to at an early stage of its progress. The caterpillars of many species of butterfly and moth, and the larvæ of various other genera of the hemiptera and lepidoptera, &c. as Scarabæus, Curculia, &c., attack the *apple* tree in common with other fruit-trees; and on a large scale it is difficult, if not impracticable, to avoid their injurious effects. Burning straw or other materials under the trees has been long recommended; but the principal thing to be relied on is regimen; that is, judicious subsoil and surface soil, culture and pruning.

Ripening the fruit.—Berard, in an essay on the ripening of fruits, which gained the prize of the French Academy of Sciences in 1821, found that the loss of carbon is essential to the ripening of fruit; that this carbon combines with the oxygen of the air, and forms carbonic acid, and that when the fruit is placed in an atmosphere deprived of oxygen, this function becomes suspended, and the ripening is stopped. Hence it results, that most fruits may be preserved during a certain period, by gathering them a few days before they are ripe, and placing them in an atmosphere free from oxygen. The most simple process for effecting this consists in placing at the bottom of a bottle, a paste formed of line, sulphate of iron, and water; then introduce the fruit, so as they may rest detached from the bottom of the bottle and from each other, and cork the bottle and cover it with cement. Peaches, plums, and apricots have been kept in this way for a month, and apples for three months. (Journ. R. Jnot. xi. p. 396.) Duduit of Mazeres, has found that one-third of boiled apple-pulp, baked with two-thirds of flour, having been properly fermented with yeast for twelve hours, makes a very excellent bread, full of eyes, and extremely palatable and light.—*New Monthly Mag. June*, 1821.

Storing the fruit.—The fruit-room ought to be well ventilated, and for this purpose it ought to have a fire-place. The fruit-room was formerly a mere loft, where fruit was kept on the floor in common with onions, with no proper means of separation. Now, however, they are regularly fitted up either with shelves, on which to place sieves of different sorts of fruit, or with close shelves, for jars or boxes, &c., according to the various modes adopted for preserving them. The room may be of any form, but one long and narrow is generally best adapted for ventilation, and heating or drying when necessary by a flue. The system of shelves may be placed along one side, and may be raised to the height of six feet or more, according to the number wanted. These shelves are formed of open work, on which to place the sieves of fruit, each of which should be numbered, in order to know the kind of fruit contained in each.

Apple-tree. Fl. April. Britain. Tree 3 to 30 feet.

21 P. DIOI'CA (Willd. arb. 263. spec. 5. p. 1018.) leaves oval, serrated, clothed with tomentum beneath as well as on the calyxes; flowers usually solitary, dioecious from abortion; petals linear, length of calyx; styles glabrous. ♄. H. Native country unknown, but cultivated in gardens, and perhaps has originated from the *Pỳrus Màlus*. P. apétala, Munch. hausv. 5. p. 247. Màlus dioíca, Audib. cat.

Dioecious Apple-tree. Fl. April, May. Clt. 1818. Tree 10 to 20 feet.

22 P. ASTRACA'NICA (D. C. prod. 2. p. 635.) leaves oval-oblong, acute, somewhat doubly serrated, pale beneath and villous on the nerves, glabrous above, with the rachis puberulous. ♄. H. Native about Astracan. Màlus Astracánica, Dum. Cours. ed. 2. vol. 5. p. 426. Perhaps only a variety of *P. Màlus*.

Astracan Apple-tree. Fl. April, May. Clt. 1810. Tree 15 to 20 feet.

23 P. SPECTA'BILIS (Ait. hort. kew. 2. p. 175.) leaves oval-oblong, serrated, glabrous as well as the calycine tube; umbels sessile, many-flowered; petals ovate, unguiculate; styles woolly at the base. ♄. H. Native of China. Curt. bot. mag. 267. Màlus spectábilis, Desf. arbr. 2. p. 141. Màlus Sinénsis, Dum. Cours. ed. 2. vol. 5. p. 429. When it blossoms in perfection no tree can be more showy than the Chinese *apple* tree. The flowers are large, of a pale red, when open semidouble, and the buds are of a deeper hue.

Showy or Chinese Apple-tree. Fl. April, May. Clt. 1780. Tree 20 to 30 feet.

24 P. PRUNIFÒLIA (Willd. spec. 2. p. 1018.) leaves ovate, acuminated, serrated, quite glabrous as well as the calyx; peduncles pubescent; styles woolly at the base. ♄. H. Native of Siberia? Pỳrus Màlus β. Ait. hort. kew. 2. p. 175. Màlus hỳbrida, Desf. arb. 2. p. 141.? Mill. fig. t. 269. The leaves resemble those of the cherry tree; they are on long petioles. The flowers are white, much like those of the pear tree. The fruit is globose, when ripe yellowish coloured, but red on the side exposed to the sun, of an austere taste, decaying like the fruit of the medlar, and then more palatable.

Plum-leaved or Siberian Crab. Fl. April, May. Clt. 1758. Tree 20 to 30 feet.

25 P. BACCA'TA (Lin. mant. 75.) leaves ovate, acute, equally serrated, glabrous, length of petioles; peduncles crowded; lobes of calyx deciduous. ♄. H. Native of Siberia and Dahuria. Wats. dend. t. 51. Pall. fl. ross. t. 10. Màlus baccàta, Desf. arb. 2. p. 141.—Amm. ruth. t. 31. Flowers white. Fruit roundish, yellow tinged with red, about the size of a cherry; the pulp is red, and is used for making quasar punch in Siberia.

Berried or Small-fruited Crab-tree. Fl. Apr. May. Clt. 1784. Tree 15 to 20 feet.

26 P. QUINQUIFLÒRA (Hamilt. ex Lin. soc. herb.) leaves elliptic, acute, downy on the nerves and petioles; pedicels elongated, sessile, 5-6-together, axillary; calycine segments subulate. ♄. H. Native of Chitlong. Flowers white?

Five-flowered Crab-tree. Tree.

27 P. SIEVE'RSII (Led. fl. alt. 2. p. 222.) leaves ovate, rather tomentose; flowers umbellate. ♄. H. Native of Siberia, at the river Uldschar, in the Kirghisean Steppe. P. nòva species, Sievers, in Pall. nord. beytr. 7. p. 292. A bush with many stems rising from the same root. Fruit very acid.

Sievers's Crab-tree. Fl. April, May. Tree 8 to 12 feet.

28 P. CORONA'RIA (Lin. spec. 687.) leaves broad-ovate, rounded at the base, serrated, and rather angular, smooth; peduncles corymbose, glabrous. ♄. H. Native of North America, from Pennsylvania to Carolina. Sims, bot. mag. 2009. Wats. dendr. brit. icon. Màlus coronària, Mill. Flowers red, and with a very fragrant odour. The fruit is small, sour, and unfit for any thing but to make vinegar of.

Garland or Sweet-scented Crab-tree. Fl. May. Clt. 1724. Tree 20 feet.

29 P. ANGUSTIFÒLIA (Ait. hort. kew. 2. p. 276.) leaves oblong-lanceolate, dentately-serrated, tapering to the base, shining; peduncles corymbose. ♄. H. Native of Carolina, in woods. Wats. dend. brit. 132. Lindl. bot. reg. 1207. P. coronària, Wang. amer. 61. t. 21. f. 47. Màlus sempervìrens, Desf. arbr. 2. p. 141. Flowers reddish.

Narrow-leaved Crab-tree. Fl. My. Clt. 1750. Tr. 10 to 20 ft.

SECT. III. A'RIA (*Aria* is a name given by Theophrastus to a tree, probably from the name of a place, as many places bear that name). D. C. prod. 2. p. 635. Petals spreading, flat. Styles usually 2 or 3. Pome globose. Flowers disposed in racemose corymbs; peduncles branched. Leaves simple, glandless, clothed with white tomentum beneath.

30 P. A'RIA (Ehrh. beitr. 4. p. 20.) leaves elliptic, cut, serrated, clothed with adpressed white tomentum beneath; corymbs flat; styles about 2. ♄. H. Native of Europe and Siberia, in groves; in Britain, in mountains on a chalky soil, and in the fissures of limestone rocks. Smith, engl. bot. 1858. Cratæ'gus, A'ria, Lin. spec. 681. Fl. dan. t. 302. Méspilus A'ria, Scop. Sórbus A'ria, Crantz. austr. 1. p. 2. f. 2.—Bauh. hist. 1. p. 65. Young branches very white and downy. Leaves doubly serrated, sometimes with several marginal lobes. Flowers white, in corymbose compound tufts. Fruit globular, scarlet, dotted, mealy, acid, and astringent.

Var.* α, *obtusifòlia (D. C. prod. 2. p. 636.) leaves flat, oval, obtuse, simply serrated, glabrous above in the adult state. ♄. H. Fl. dan. t. 302. P. A'ria ovàlis, Hortul.

Var.* β, *acutifòlia (D. C. l. c.) leaves oval, stiff, acute at both ends, concave, doubly serrated, grey, cobwebbed above. ♄. H. Cratæ'gus longifòlia, Duham. ed. nov. 4. t. 34. P. alpìna, Willd. enum. 527.

Var.* γ, *undulàta (Lindl. hort. trans. 7. p. 234.) leaves flat, oval-lanceolate, broad, undulated, unequally and deeply serrated, acuminated, cobwebbed above.

Var.* δ, *angustifòlia (Lindl. l. c.) leaves oval, obtuse, concave, somewhat simply serrated, woolly above.

Var.* ε, *rugòsa (Lindl. l. c.) leaves large, ovate-elliptic, doubly serrated, shining above and wrinkled, white beneath.

Var.* ζ, *Crética (Lindl. l. c.) leaves flat, orbicularly elliptic, crenate-serrated, retuse, cuneated at the base, smooth above and hoary beneath; branches cobwebbed. P. A'ria rotundifòlia, Hortul. P. Græ'ca, Hortul.

Var.* η, *bullàta (Lindl. l. c.) leaves concave, elliptic, acuminated, blistered, coarsely serrated at the apex, entire at the base. P. A'ria acuminàta, Hortul.

Aria or Common White Beam-tree or White Wild Pear. Fl. May. Brit. Tree 20 to 30 feet.

31 P. EDU'LIS (Willd. enum. p. 527.) leaves oblong, cuneated at the base, unequally and doubly serrated, tomentose beneath; flowers corymbose. ♄. H. Native of France. Wats. dend. brit. t. 52. Cratæ'gus edùlis, Hort. P. intermèdia, var. angustifòlia, D. C. prod. 2. p. 636.—Flowers white. Fruit red, sapid, and edible.

Edible-fruited White Beam-tree. Fl. May. Clt.? Tree 20 to 30 feet.

32 P. INTERME'DIA (Ehrh. beitr. 4. p. 20.) leaves ovate, deeply lobed and toothed, clothed with white adpressed tomentum beneath; corymbs flat. ♄. H. Native of Europe, especially towards the north. In Britain on the walls of Castle Dinas y brān, Denbighshire. Cratæ'gus A'ria β, Lin. spec. 681. Cratæ'gus Scándica, Wahl. fl. ups. 165. Sórbus hỳbrida, Huds. 216. Wither. 461. P. hỳbrida, Smith, fl. brit. p. 534. Flowers white. Fruit red, edible.

Var.* α, *latifòlia (D. C. prod. 2. p. 636.) leaves broad-ovate. ♄. H. Native of France. Cratæ'gus latifòlia, Poir. 4. p. 444. Duham. arb. 1. t. 80. Sórbus latifòlia, Pers. Cratæ'gus dentàta, Thuill. fl. par.

Intermediate White Beam-tree. Fl. My. Wales. Tr. 20 to 30 ft.

33 P. VESTI'TA (Wall. cat. 679.) leaves, cymes, and young branches clothed with white tomentum; leaves elliptic or obovate-elliptic, acuminated, serrated towards the apex; corymbs branched, terminal. ♄. H. Native of Nipaul and Kamaon. Flowers white. Fruit red? Habit of *P. A'ria*.

Clothed White Beam-tree. Tree 20 to 30 feet.

34 P. KAMAONE'NSIS (Wall. cat. no. 678.) leaves oblong, pinnatifidly lobed and serrated, acuminated, clothed with white down beneath; corymbs, young branches, and petioles tomentose; fruit pear-shaped, about the size of a common medlar, red. ♄. H. Native of Kamaon and Sirmore. Flowers small, white.

Kamaon White Beam-tree. Tree 20 to 30 feet.

SECT. IV. TORMINA'RIA (from *tormina*, gripings; the fruit of *P. torminàlis* was supposed to cure gripings and dysentery by their astringency). D. C. prod. 2. p. 636. Petals spreading, flat, rather unguiculate. Styles 2-5, connected together, glabrous. Pome turbinate at the base, rather dry, truncate at the apex in consequence of the calycine lobes being deciduous. Leaves lobately angular, glabrous when in the adult state. Flowers corymbose; peduncles branched.

35 P. TORMINA'LIS (Ehrh. beitr. 6. p. 92.) leaves ovate, somewhat cordate, deeply lobed; lobes serrated, acute, lower ones spreading; when young downy beneath, but in the adult state glabrous. ♄. H. Native of Europe, in woods and hedges. In England chiefly in the midland and southern counties. Cratæ'gus torminàlis, Lin. spec. 681. Smith, engl. bot. t. 298. Fl. dan. 798. Jacq. aust. t. 443. Sórbus torminàlis, Crantz. aust. p. 85. Flowers white, numerous, in large terminal downy corymbose panicles. Styles 3-4 or 5. The fruit is not much larger than that of the *hawthorn*, becomes agreeably acid and wholesome after the frost has touched it, and may sometimes be seen in the London fruit-shops. Ray prefers its flavour to the *true service*, which latter is now become obsolete.

Griping or Common Wild Service-tree. Fl. Ap. May. Brit. Tr. 30 to 40 ft.

36 P. RIVULA'RIS (Dougl. mss. Hook. fl. bor. amer. p. 203. t. 68.) leaves ovate, entire, and angularly somewhat 3-lobed, rather acuminated, acutely serrated, pubescent beneath; corymbs terminal, simple; calyxes hairy, and densely tomentose inside; styles 3-4, connected at the base. ♄. H. Native of Nootka

Sound, and other parts of the north-west coast of America. Petals roundish, white. Pome small, hardly half an inch long, subglobose, red or yellow. The wood is employed for making wedges, and is so hard as to be susceptible of a fine polish. The fruit is used as an article of food, and is called in the language of the Chenook tribe of Indians *Pow-itch*.

River-side Wild Service-tree. Fl. Ap. May. Tree 15 to 20 ft.

SECT. V. ERIÓLOBUS (from εριον, *erion*, wool, and λοβος, *lobos*, a lobe; in reference to the woolly lobes of the calyx). D. C. prod. 2. p. 636. Petals spreading, flat, somewhat unguiculate, rather tridentate at the apex. Styles 5, elongated, rather connected, very hairy at the base. Pome globose, glabrous, crowned by the calycine lobes, which are clothed with tomentum.

37 P. TRILOBAˋTA (D. C. prod. 2. p. 636.) leaves palmate-lobed, glabrous; middle lobe 3-lobed, lateral ones usually 2-lobed; lobules serrated. ♄. H. Native of Mount Lebanon. Crataeˋgus trilobàta, Labill. dec. 4. p. 15. t. 10. Poir. suppl. 1. p. 291. Flowers white.

Three-lobed-leaved Service-tree. Fl. May, June. Clt. 1810. Tree 20 feet.

SECT. VI. SÓRBUS (from the Celtic *sormel*, composed of *sor*, wild, and *mel*, an apple; wild apple). Lin. gen. no. 623. Petals spreading, flat or concave. Styles 2-5. Pome globose or turbinate. Leaves impari-pinnate. Flowers corymbose; peduncles branched.

38 P. AURICULAˋTA (D. C. prod. 2. p. 636.) leaves of 3 pairs of leaflets, hairy beneath, the lower 2 or 4 leaflets distinct, but the ultimate ones are joined into one large, ovate, crenated leaflet. ♄. H. Native of Egypt. Sórbus auriculàta, Pers. ench. 2. p. 39. Corymb compact. Flowers white. Perhaps only a variety of *Sórbus pinnatífida*.

Auricled-leaved Service-tree or Mountain-ash. Fl. May. Clt. 1800. Tree 20 to 30 feet.

39 P. PINNATIˊFIDA (Ehrh. beitr. 6. p. 93. Smith, engl. bot. 2331.) leaves deeply pinnatifid or half pinnate, clothed with hoary down beneath, as well as the petioles and peduncles; styles about 3. ♄. H. Native of Gothland and Thuringia, in mountain woods. In the Western Isles of Scotland on the mountains, particularly in rocky situations on Cairn na Callich, and other mountains at the north end of the Isle of Arran. P. hýbrida, Smith, fl. brit. p. 534. but not of Willd. spec. 2. p. 1022. Sórbus hýbrida, Lin. spec. p. 684. Lin. fil. fasc. 11. t. 6. Fl. dan. t. 301. Crataeˋgus Aˋria γ Fénnica, Lin. spec. ed. 2. p. 167. Flowers cymose, cream-coloured. Pome globose, red. This species is an intermediate plant between *P. aucupària* and *P. Aˋria*.

Var. β, arbúscula (Poir. suppl. 5. p. 164. under Sórbus,) dwarf; leaflets nearly glabrous, obtuse, outer ones usually confluent. ♄. H. Native of Germany. This is a variety either of *P. pinnatífida* or *P. aucupària*.

Pinnatifid-leaved Service-tree or Mountain-ash. Fl. May. Scotland. Tree 20 to 30 feet.

40 P. MICROCAˊRPA (D. C. prod. 2. p. 636.) leaves pinnate, glabrous, as well as the petioles; leaflets acuminated, unequally and deeply serrated, the serratures ending in a setaceous mucrone; pome globose, red. ♄. H. Native of North America, from Carolina to New York. Sórbus aucupària α, Michx. fl. bor. amer. 2. p. 291. Sórbus micrántha, Dum. Cours. ed. 2. vol. 5. p. 464. Sórbus microcárpa, Pursh. fl. amer. sept. 1. p. 341. Flowers whitish.

Small-fruited Mountain-ash. Fl. May, June. Tree 12 ft.

41 P. SAMBUCIFÒLIA (Cham. in Linnæa. 2. p. 36.) leaves with 5 pairs of ovate, lanceolate, sharply serrated, acuminated leaflets, which are pilose on the nerves and margins, and bearded at the apex; stipulas clothed with rufous villi. ♄. H. Native of Kamtschatka.

Elder-leaved Mountain-ash. Shrub.

42 P. AUCUPAˋRIA (Gærtn. fruct. 2. p. 45. t. 87.) leaves pinnate, downy beneath when young; leaflets uniform, serrated, glabrous; buds and peduncles downy; pomes globose. ♄. H. Native of Europe and Siberia, in mountains, woods, and hedges; plentiful in some parts of Britain. Sórbus aucupària, Lin. spec. 683. Crantz. aust. 2. p. 49. t. 1. f. 4. Smith, engl. bot. t. 337. Mill. fig. t. 43. Fl. dan. 1034. Méspilus aucupària, All. Flowers white, numerous, with a light almond-like scent; petals concave. Fruit small, globose, scarlet, very juicy, sour, and bitter; they are eaten in some parts of Scotland and Wales, and afford an agreeable fermented liquor, and by distillation a strong spirit; soaked in water to extract some of its bitterness, and then boiled with sugar, makes a kind of jelly, which is tolerably flavoured. Birds of the thrush kind devour them with avidity, and our mountain-ash trees planted for ornament in most parts of England are thus unfortunately stripped early in autumn of their produce. The *mountain-ash* in profitable planting is chiefly valuable as a nurse tree, growing very fast when young, and enduring the most severe exposure. The timber is used by wheel-wrights, and for other common country purposes; the bark is used by tanners, and the berries afford a dye. As an undergrowth it affords tolerable poles and hoops. It will grow in any soil, dry or wet, and as to situation, it is found on the sea shore, and near the tops of the highest mountains. It seems to thrive best on the sides of moist rocky dells and dingles. In the days of superstition the *mountain-ash* was considered as an object of great veneration. It is even to be found at this day growing in the neighbourhood of Druidical circles of stones in Scotland. The *roddon* tree was formerly in Scotland especially famous as a protection against charms and witchcraft. The tree is called in Scotland *rhodon* or *roddon* tree, *roan* tree, and *rantry*. In England *mountain-ash*, *quick-bean*, *witchen* or *whitten*. In Germany the fowlers' bait-springs or nooses of hair, are suspended in the woods, with these berries attached to them to entice the red-wings and field-fares, whence the specific name *aucuparia*.

Fowlers' or Common Mountain-ash or Roan-tree. Fl. May. Britain. Tree 20 to 40 feet.

43 P. AMERICAˋNA (D. C. prod. 2. p. 637.) leaves pinnate; leaflets oblong, acute, almost equally serrated, at length quite glabrous; pomes globose (purple, Pursh; fulvous, Torrey). ♄. H. Native of North America, in Canada and throughout the woody country; Newfoundland; on the north-west coast, and in the subalpine prairies of the high mountains. Wats. dend. brit. t. 54. Flowers white.

American Mountain-ash. Fl. May. Clt. 1782. Tr. 15 to 20 ft.

44 P. FOLIOLÒSA (Wall. cat. 677. pl. asiat. rar. 2. p. 81. t. 189.) leaves pinnate, with 7-8 pairs of elliptic-lanceolate, mucronate leaflets, which are serrated at the apex, pubescent beneath; cymes branched, terminal, pubescent. ♄. H. Native of Nipaul. Flowers white. Pome small, obovate-roundish, red.

Leafy Mountain-ash. Tree 20 feet.

45 P. URSIˋNA (Wall. cat. 675.) leaves pinnate, with numerous pairs of leaflets; leaflets lanceolate, blunt at both ends, mucronate at the apex and cuspidately serrated, rusty beneath; corymbs, branches, rachis, and nerves of leaves clothed with rusty villi. ♄. H. Native of Nipaul, Kamaon, and Gosaingsthan. Pomes globular, red, about the size of those of the *common mountain-ash*.

Badger's Mountain-ash. Tree.

46 P. DOMEˊSTICA (Smith, engl. bot. t. 350.) leaves pinnate; leaflets uniform, serrated towards the points, clothed with deciduous cottony down beneath: buds glabrous, clammy, acumi-

nated; flowers panicled; fruit pear-shaped. ♄. H. Native of Europe, in mountainous parts. In England in the mountainous parts of Cornwall; also in the moorlands of Staffordshire. P. Sórbus, Gærtn. fruct. 2. p. 45. t. 87. Sórbus doméstica, Lin. spec. 684. Crantz. stirp. fasc. 2. p. 48. t. 2. f. 3. Jacq. fl. aust. t. 447. Flowers about the size of those of the *hawthorn*, cream-coloured. Styles usually 5. The *true service-tree* is of slow growth, and, according to Kroker, does not come into bearing before it is 60 years old. The fruit is obovate, about an inch in length, reddish spotted, extremely austere, causing a most painful and durable irritation in the throat if tasted in an unripe state; but when mellowed by frost or keeping, it becomes brown, soft, and eatable, resembling a medlar, though to most people less agreeable. It is common in Italy, and ripens at Genoa in September, where it is esteemed good in dysentery and fluxes. The wood, which is very hard, is held in repute for making mathematical rulers and excisemen's gauging sticks. In Italy they have many varieties obtained from seeds; but those generally known in this country are only three; the pear-shaped, the apple-shaped, and berry-shaped. The tree is recommended by Forsyth and Abercrombie to be grown as a standard at 20 or 30 feet distance, and to be pruned and otherwise treated like the apple and pear. It may also be grafted in the same manner on the same kind of stocks, or it may be propagated by seeds, cuttings, or layers, but the first mode is preferable. It is late in the autumn before the fruit can be gathered; after it is collected wipe it dry, and lay it on dry straw, spread on the open shelves of the fruit room, and in about a month it will become mellow and fit for use.

Domestic or True Service-tree. Fl. May. Britain. Tree 20 to 60 feet.

47 P. LANUGINÒSA (D. C. prod. 2. p. 637.) leaves pinnate; leaflets serrated, clothed with cottony down beneath, as well as the petioles and buds; pomes globose. ♄. H. Native of Hungary? Sórbus lanuginòsa, Kit. in litt. Flowers whitish.

Woolly Service-tree. Fl. May. Tree 20 to 30 feet.

48 P. SPU'RIA (D. C. prod. 2. p. 637.) leaves pinnate, of 3 pairs of leaflets, hairy beneath; leaflets ovate, crenated, terminal one the largest; rachis glanduliferous above. ♄. H. Native country unknown. Pyrus hýbrida, Mœnch. weiss. t. 6. ex Willd. spec. 2. p. 1022. Sórbus spùria, Pers. ench. 2. p. 39. Méspilus sorbifòlia, Poir. suppl. 4. p. 72. Flowers white. Fruit red. This tree is perhaps a hybrid between *P. aucupària* and *P. arbutifòlia*. Styles 5. Probably referrible to the following section.

Spurious Service-tree. Fl. May. Clt. 1800. Tree 20 to 30 ft.

SECT. VII. ADENORHA'CHIS (from *αδην*, *aden*, a gland, and *ραχις*, *rachis*, the spine of the back; in reference to the rachis of the leaves bearing glands). D. C. prod. 2. p. 637. Petals spreading, unguiculate, with the limbs concave. Styles 2-5. Pome globose. Leaves simple, bearing glands along the rachis on the upper side. Flowers corymbose. Peduncles branched.

49 P. ARBUTIFÒLIA (Lin. fil. suppl. 256.) leaves obovate-oblong, acute, crenate-serrate, downy beneath, as well as the calyxes; corymbs few-flowered, shorter than the leaves; fruit pear-shaped. ♄. H. Native of North America, throughout Canada from Lake Huron to the Saskatchawan, Newfoundland, &c. Cratæ'gus pyrifòlia, Lam. dict. 1. p. 83. Arònia pyrifòlia, Pers. ench. 2. p. 39. Cratæ'gus serràtus, Poir. suppl. 1. p. 292. Méspilus arbutifòlia, Lin. spec. 685. Smith, arb. t. 86. Méspilus arbutifòlia *α* erythrocárpa, Michx. fl. bor. amer. 1. p. 292. Mill. fig. t. 109. Flowers white. Pome red.

Var. β, intermèdia (Lindl. hort. trans. 7. p. 229.) fruit globose, brown. ♄. H.

Var. γ, serótina (Lindl. l. c.) leaves shining, velvety beneath; fruit late, party-coloured. ♄. H.

Arbutus-leaved Pyrus. Fl. May. Clt. 1700. Sh. 4 to 6 ft.

50 P. FLORIBU'NDA (Lindl. hort. trans. 7. p. 230.) branches cinereous, reclinate; leaves oblong-lanceolate, acute, on long petioles, tomentose beneath, as well as the calyxes; fruit spherical; corymbs many-flowered, longer than the leaves. ♄. H. Native of North America? Lindl. bot. reg. 1006. Flowers white. Fruit black.

Bundle-flowered Pyrus. Fl. May, June. Shrub.

51 P. DEPRE'SSA (Lindl. l. c. p. 230.) stems humble, reclinate; leaves oblong, obtuse, tomentose beneath, as well as the calyxes; fruit pear-shaped; corymbs length of the leaves. ♄. H. Native of North America. Flowers white. Fruit dark purple.

Depressed Pyrus. Fl. May. Shrub 1 to 2 feet.

52 P. MELANOCA'RPA (Willd. enum. p. 526.) stem humble, erect, glabrous; leaves oblong, acute, shining, serrated, glabrous beneath, as well as the calyxes and peduncles; fruit roundish-turbinate. ♄. H. Native of North America, from Canada to Virginia, and on the mountains of Carolina. P. arbutifòlia *β*, Willd. spec. 2. p. 1013. Arònia arbutifòlia, Pers. ench. 2. p. 39. Corymbs more crowded than those of the last species, and the pomes are black. Flowers white.

Var. β, subpubéscens (Lindl. hort. trans. 7. p. 232.) leaves when young tomentose beneath, but glabrous in the adult state.

Black-fruited Pyrus. Fl. May, June. Clt. 1700. Sh. 2 ft.

53 P. PU'BENS (Lindl. hort. trans. 7. p. 232.) stem erect; branches pubescent; leaves oblong or obovate, abruptly acuminated, smooth; fruit spherical, and are, as well as the calyxes, quite glabrous; corymbs loose, many-flowered; fruit with a glabrous disk. ♄. H. Native of North America. Flowers white. Fruit round, large, dark purple. Both this and the following have the robust foliage and habit of *P. chamæméspilus.*

Downy Pyrus. Clt. 1810. Shrub 4 to 5 feet.

54 P. GRANDIFÒLIA (Lindl. l. c.) stem erect, and is, as well as the branches, smoothish; leaves oblong or obovate, acute, glabrous; fruit spherical, and are, as well as the calyxes, glabrous; corymbs few-flowered, coarctate: fruit with a villous disk. ♄. H. Native of North America. Lindl. bot. reg. 1154. Flowers white. Fruit dark purple.

Great-leaved Pyrus. Clt. 1810. Shrub 4 to 5 feet.

SECT. VIII. CHAMÆME'SPILUS (*chamæ* in botany usually signifies false, and *Mespilus*, the medlar; false medlar). D. C. prod. 2. p. 637. Petals erect, connivent, concave. Styles 2. Pome ovate. Leaves simple, glandless. Flowers disposed in capitate corymbs.

55 P. CHAMÆME'SPILUS (Lindl. in Lin. trans. 13. p. 98.) leaves ovate, serrated, glabrous. ♄. H. Native of Europe, in mountainous parts. Cratæ'gus chamæméspilus, Jacq. aust. t. 231. hort. vind. 213. Méspilus chamæméspilus, Lin. spec. 685. Sórbus chamæméspilus, Crantz aust. 83. t. 1. f. 3. Leaves clothed with deciduous down when young. Flowers reddish. Fruit round, red.

Bastard-Medlar or Quince. Fl. May, June. Clt. 1683. Shrub 5 to 6 feet.

† *Species not sufficiently known.*

56 P.? ALNIFÒLIA (Lindl. l. c.) glabrous: leaves roundish, toothed at the apex, feather-nerved, rather glaucous beneath; raceme simple, elongated. ♄. H. Native of North America, at Fort Mandan. Pome black, sugary.

Alder-leaved Pyrus. Shrub.

57 P. TOMENTÒSA (D. C. prod. 2. p. 637.) leaves oval-lanceolate, rather crenulated, on short petioles, clothed with white tomentum beneath, as well as the branchlets, and with cinereous

villi above. ♄. H. Native of Siberia. Màlus tomentòsa, Dum. Cours. ed. 2. vol. 5. p. 438. Said to be allied to *P. baccàta*, but the flowers as well as the fruit are unknown.

Tomentose Pyrus. Tree.

58 P. rubicu'nda (Hoffmans. verz. 1824. p. 192.) leaves ovate, acumina'ed, glabrous; pome like that of *P. Màlus*, yellow on one side, and red on the other, côvered with a kind of glaucous bloom. ♄. H. Native country unknown.

Reddish Pyrus. Tree.

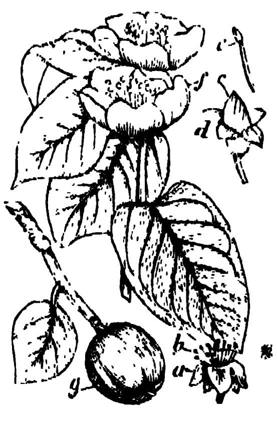
Cult. All the species of *Pỳrus* are either trees or large shrubs. They are both useful and ornamental; free growers thrive in any soil, and may be planted in shrubberies, or to stand singly. They may be raised from seeds, cuttings, layers, or by engrafting the rarer on the commoner sorts.

XI. CYDO'NIA (so named from being a native near Cydon in Candia). Tourn. inst. 632. t. 405. Pers. ench. 2. p. 40. D. C. prod. 2. p. 638.—Pỳrus species of Lin. and others.

Lin. syst. *Icosándria, Pentagýnia.* Calyx 5-cleft (f. 84. *a.*). Petals orbicular (f. 84. *f.*). Stamens erect (f. 84. *b.*). Styles 5. Pome closed (f. 84. *g.*), 5-celled; cells cartilaginous, many-seeded. Seeds covered with mucilaginous pulp.—Trees, with undivided, quite entire, or serrated leaves, and large flowers, which are either solitary, or few together in a kind of umbel.

Sect. I. Cydònia (see genus for derivation). Lindl. in Lin. trans. 13. p. 97. Lobes of calyx rather foliaceous, and serrulated. Stamens disposed in a single series.

FIG. 84.



1 C. vulga'ris (Pers. ench. 2. p. 40.) leaves ovate, blunt at the base, quite entire, clothed with white tomentum beneath, as well as the calyxes and pedicels; flowers few, in a kind of umbel. ♄. H. Native of the south of Europe, among rocks and in hedges. Pỳrus Cydònia, Lin. spec. 687. Jacq. austr. t. 342. Woodv. med. bot. t. 79. Cydònia Europæ'a, Savi, alb. tosc. 1. p. 90. The *Quince-tree* is low, much branched, and generally crooked and distorted. The flowers are large, white, or pale red, and appear in May. The fruit varying in shape in the different varieties, globular, oblong, ovate or obovate; it has a peculiar and rather pleasant apple-smell, and an austere taste. It is mentioned by Tusser in 1753, but has never been very much cultivated.

Use.—The fruit is not eaten raw, but stewed, or in pies or tarts along with apples it is much esteemed. In confectionary it forms an excellent marmalade and syrup. When apples are flat and have lost their flavour, Forsyth observes, a quince or two in a pie or pudding will add a quickness. In medicine the expressed juice, repeatedly taken in small quantities, is said to be cooling, astringent, and stomachic, &c. A mucilage, prepared from the seeds, was formerly much in use, but is now supplanted by the simple gums. The fruit taken in small quantity is supposed to restrain vomiting and alvine fluxes. In nursery-gardens the plants are much used as stocks for the pear.

The varieties of the quince are as follow:—

1 *Common quince, coignassier commun.* This and the two following are often confused with each other; it is very probable that from seeds of either sort varieties have been, and still may be, obtained, some of which would produce apple-shaped, and some pear-shaped fruit.

2 *Apple-shaped quince, coignassier malifórme, coignassier pomifórme.* Cyd. vulgàris *α* malifórmis, Mill. dict. no. 2. Fruit nearly globose, of the same quality as the last.

3 *Pear-shaped quince, coignassier pyrifórme.* Cyd. vulgàris *γ* oblónga, Mill. dict. no. 1. Leaves oval or oblong; fruit pear-shaped, of the same quality as the two last species.

4 *Portugal quince, coignassier de Portugal.* Cyd. vulgàris, var. *β* Lusitánica, Mill. dict. no. 3. This is a good sort, and distinct from the preceding kinds; it does not become, however, except in very favourable seasons, of so deep an orange; its leaves are broader; its growth less contracted, consequently it is the best sort for grafting pears upon.

5 *Orange quince.* This and the following possess characters differing so little from what may be found among sub-varieties of the others, that they are scarcely worth distinguishing.

6 *Large-fruited quince, coignassier à gros fruit.*

Propagation.—Generally by layers, but also by cuttings, and approved sorts may be perpetuated by grafting. In propagating for stocks nothing more is necessary than removing the lower shoots from the larger, so as to preserve a clean stem as high as the graft; but for fruit-bearing trees it is necessary to train the stem to a rod till it has attained 4 or 5 feet in height, and can support itself upright.

Soil and site.—The *quince* prefers a soft moist soil, and rather shady or at least a sheltered situation. It is seldom planted but as a standard in the orchard, or to grow singly in the garden, and a very few trees are sufficient for any family.

Time of planting, the mode of bearing, and all the other particulars are the same as for the apple and pear.

Common Quince. Fl. May, June. Clt. 1573. Tree 20 feet.

2 C. Sumbòshia (Hamilt. in D. Don, prod. fl. nep. p. 237.) leaves cordate, oval, mucronate, quite entire, clothed with white tomentum beneath, as well as the branchlets and calyxes; stipulas elliptic, acute, glandularly serrated; peduncles solitary, terminal, tomentose; calycine segments oblong; pome attenuated at the base. ♄. H. Native of Nipaul, where it is called in the Nawaricc language *Sumboshi-swa*, and *Bhee* in that of Sirinigur. Very like *Cydònia vulgàris.*

Sumboshi or Nipaul Quince. Fl. May, June. Tree 20 feet.

3 C. Sine'nsis (Thouin, in ann. mus. 19. p. 145. t. 8 and t. 9.) leaves ovate, acuminated at both ends, acutely serrated, when young rather villous, but in the adult state glabrous, as well as the calyxes; stipulas oblong-linear, glandularly serrated. ♄. H. Native of China. Pỳrus Sinénsis, Poir. suppl. 4. p. 452. Flowers white. Fruit egg-shaped, large, hard, and nearly dry, greenish. Seeds about 30 in each cell, many of which are abortive. This appears to be an intermediate plant between the last and the following.

Chinese Quince. Fl. May, June. Clt. 1818. Tree 20 feet.

Sect. II. Chænome'les (from χαινω, *chaino*, to open, and μηλον, *melon*, an apple; when the plant was first so called, the fruit examined was split at the top, from some cause or other; perhaps from heat). Lindl. l. c. Lobes of calyx short, obtuse, and quite entire. Stamens inserted in 2 series.

4 C. Japo'nica (Pers. ench. 2. p. 40.) leaves oval, somewhat cuneated, crenate-serrated, quite glabrous on both surfaces, as well as the calyxes; stipulas reniform, serrated. ♄. H. Native of Japan. Pỳrus Japónica, Thunb. fl. jap. p. 207. Curt. bot. mag. t. 622. Moris, fl. consp. t. 1. p. Chænomèles Japónica, Lindl. l. c. Flowers deep scarlet, solitary, or 2-3 together. A very ornamental plant. There is also a white flowered variety, which is also very ornamental.

Japan Quince. Fl. year. Clt. 1815. Shrub 4 to 6 feet.

Cult. All the species of *quince* are very ornamental when in blossom. The three first species answer well to be planted as standards singly in any conspicuous situation. The *C. Japónica* is one of the most elegant hardy shrubs yet introduced to our gardens, as it produces its beautiful scarlet flowers the greater part of the year. It is a very proper plant for training against a wall. All the species may be increased by ripened cuttings off the roots, planted in a sheltered situation, with a hand-glass placed over them. They are also to be increased by grafting the one on the other, or on any of the plants contained in the present order.

† *Genera doubtful whether they belong to the present order.*

XII. DICA'LYX (from δις, *dis*, double, and καλυξ, *kalyx*, a calyx; so named in consequence of the calyx being calyculated by bracteas, which assume the appearance of an outer calyx.) Lour. coch. p. 663. Blume, bijdr. 1116. Decàdia, Lour. Sariàva, Reinwdt.

Lin. syst. *Icosándria, Digýnia.* Flowers superior. Calyx 5-cleft, permanent, calyculated by 2-3 bracteas. Corolla deeply 4-parted. Stamens numerous, inserted in the base of the corolla. Ovary inferior, 3-celled; cells many-seeded. Seeds pendulous. Styles 2, crowned by obtuse trigonal stigmas. Drupe baccate, containing a 1-3-celled nut; nut 1-seeded, 2 of the cells being usually vacant. Seeds albuminous. Embryo linear, somewhat incurved, inverted.

1 D. TINCTÒRIUS (Blum. bijdr. 1116.) leaves oblong, acuminated, rounded at the base or acutish, finely serrulated, smooth, rather pubescent at the ribs beneath, as well as the tips of the branches and peduncles; peduncles crowded, short, axillary; fruit smooth. ♄. S. Native of Java, in mountain woods.

Var. β; leaves smaller, very much acuminated, acute at the base, sharply serrated, covered with strigose down on the middle nerve beneath, as well as the branches. Perhaps a species.

Dyer's Dicalyx. Tree 20 feet.

2 D. ODORATI'SSIMUS (Blum. bijdr. p. 1116.) leaves elliptic-oblong, large, acute at both ends, but rather bluntish at the apex, coarsely and obtusely serrated, glabrous; panicles axillary, rather tomentose; fruit smooth. ♄. S. Native of Java, on the mountains. Flowers white.

Very-sweet-scented Dicalyx. Tree 30 feet.

3 D. ALUMINÒSUS (Blum. bijdr. 1117.) leaves oblong-lanceolate, acuminated at both ends, bluntish at the apex, glabrous, with blunt exserted serratures; panicles axillary, finely tomentose; fruit smooth. ♄. S. Native of Java and Cochin-china. Decàdia aluminòsa, Lour. coch. 315. Flowers small white. The wood and leaves are much used in dyeing by the natives of Cochin-china.

Aluminous Dicalyx. Tree.

4 D. COSTA'TUS (Blum. bijdr. 1117.) leaves oblong, tapering to both ends, smooth, finely serrulated; spikes short, axillary; fruit ribbed. ♄. S. Native of Java, on the mountains of Burangrang. Flowers white.

Ribbed Dicalyx. Tree.

5 D. JAVA'NICUS (Blum. bijdr. 1117.) leaves elliptic-oblong, acuminated, acute at the base, finely serrulated above the middle, smooth, rather pubescent on the veins beneath; spikes panicled, axillary, and terminal, and are, as well as the branches, densely tomentose. ♄. S. Native of Java, on the mountains.

Java Dicalyx. Tree.

6 D. SALACE'NSIS (Blum. bijdr. 1118.) leaves elliptic-oblong, acute at both ends, finely serrulated, and are, as well as the branches, quite glabrous; spikes simple or branched, axillary and terminal, short, densely tomentose. ♄. S. Native of Java, on Mount Salak. Flowers white.

Salak Dicalyx. Tree.

7 D. SESSILIFÒLIUS (Blum. bijdr. 1118.) leaves nearly sessile, oval, acute at both ends, finely serrulated, and are, as well as the branches, glabrous; spikes branched, axillary and terminal, rather tomentose; fruit smooth. ♄. S. Native of Java, on the top of Mount Gede. Flowers white.

Sessile-leaved Dicalyx. Tree.

8 D. SPICA'TUS (Blum. bijdr. 1118.) leaves lanceolate, acuminated at both ends, quite entire or serrulated, and are, as well as the branches, glabrous; spikes axillary and terminal, simple or branched, clothed with silky tomentum; fruit ovate, glabrous. ♄. S. Native of Java. Flowers white.

Var. β; leaves narrow, oblong-lanceolate.

Spiked Dicalyx. Tree.

9 D. CILIA'TUS (Blum. bijdr. 1119.) leaves oblong-lanceolate, acuminated at both ends, nearly entire, and are, as well as the branches, glabrous; spikes branched, axillary, downy; bracteas and calyxes ciliated; fruit oval, smooth; calycine segments ovate, acute. ♄. S. Native of Java, on Mount Tjerimai.

Ciliated Dicalyx. Tree.

10 D. ACUMINA'TUS (Blum. bijdr. 1119.) leaves oblong-lanceolate, acuminated at both ends, finely serrulated at the apex, and are glabrous as well as the branches; panicles axillary or almost terminal, smooth. ♄. S. Native of Java, on Mount Salak. This species comes very near D. sylvàticus of Lour, but the leaves are acuminated, and the serratures hardly conspicuous.

Acuminated-leaved Dicalyx. Tree.

11 D. SYLVA'TICUS (Lour. coch. p. 663.) leaves lanceolate, serrate, glabrous; racemes simple, almost terminal. ♄. S. Native of Cochin-china. Rumph. amb. 5. t. 104. Flowers white.

Wood Dicalyx. Tree 30 feet.

Cult. A mixture of loam, peat, and sand will suit the species of this genus, and ripened cuttings will probably root if planted in sand, with a hand-glass placed over them.

XIII. PYRENA'RIA (from *pyren*, a cherry-stone; in reference to the bony seeds). Blum. bijdr. 1119.

Lin. syst. *Polyándria, Pentagýnia.* Calyx inferior, of 5 sepals, bibracteate, imbricate. Petals 5, imbricately-conniving at the base. Stamens numerous, free, hypogynous, and somewhat adnate to the base of the petals. Anthers bursting outwardly. Ovary 5-celled; cells biovulate. Styles 5, approximate, emarginate. Pome globose, depressed, fleshy, 5-celled; cells covered with a papery membrane, containing each two bony seeds. Seeds exalbuminous. Embryo erect, with leafy contortuplicate cotyledons. This genus has the habit of *Pomàceæ*, but from the structure of the calyx and insertion of the stamens it comes nearer to *Ternstrœmiàceæ*.

1 P. SERRA'TA (Blum. bijdr. 1120.) ♄. S. A tree, with alternate, stalked, oblong, serrated, coriaceous, exstipulate leaves; axillary solitary 1-flowered peduncles, and white flowers. ♄. S. Native of Java, on the higher mountains.

Serrated-leaved Pyrenaria. Tree.

Cult. For culture and propagation see *Dicàlyx.*

Order LXXXVI. CALYCA'NTHEÆ (plants agreeing with *Calycánthus* in important characters). Lindl. bot. reg. no. 404. D. C. prod. 3. p. 1.—Calycanthinæ, Link, enum. 2. p. 66.—Calycánthus, Lin. gen. no. 639. Lam. ill. t. 445. dict. 1. p. 565. Willd. hort. berol. no. 80.—Rosàceis affines, Juss. gen. Vent. Nees.—Monimìcis affìnes, Juss. ann. mus. 14. p. 119.—Magnòliis affìnes, Batsch. t. 116.

Calyx coloured, with a fleshy urceolate tube, girding the ovaries (f. 85. *b.*) and a many-parted limb; segments unequal, disposed in many series (f. 85. *d. a.*), imbricate. Petals wanting. Stamens numerous, inserted in several series in a fleshy disk in the throat of the calyx; the inner ones sterile. Anthers adnate, bursting longitudinally outwardly by 2 cells. Carpels numerous (f. 85. *b.*), inserted on the inside of the tube of the calyx, as in *Ròsa*, 1-celled, biovulate, only one of the ovula coming to maturity, and therefore 1-seeded from abortion. Styles terminal, distinct, exserted from the tube of the calyx: stigmas simple. Carpels of akenia inclosed in the fleshy tube of the calyx, 1-seeded; the pericarp rather corneous. Seed conformed to the cavity of the akenia, ascending, having the hylum nearly opposite the cicatrice of the pericarp. Embryo exalbuminous, straight, with convolute cotyledons, and an inferior radicle.—This order is composed of beautiful hardy early-flowering shrubs, with simple, exstipulate, scabrous, feather-nerved leaves. Flowers yellowish, sweet-scented, or lurid purple, hermaphrodite, solitary, pedicellate, terminal, or in the axils of the leaves of the present or preceding year. The wood, leaves, and flowers of *Calycánthus flòridus* have a scent resembling the quince, hence it is called *American allspice*. *Calycántheæ* agrees with *Rosàceæ* in the carpels or akenia being inserted in the inner sides of the calyx as in *Ròsa*, and with *Granàteæ* in the opposite leaves, and in the convolute cotyledons of the embryo; in this last respect it also agrees with *Combretàceæ*. *Calycántheæ* differs from *Rosàceæ* and *Pomàceæ* in the form of the embryo, and from *Granàteæ* in the form and imbricate æstivation of the calyx. It differs from both the last-mentioned orders in the absence of petals, in the numerous lobes of the calyx, and in the anthers bursting outwardly.

Synopsis of the genera.

1 Calyca'nthus. Lobes of calyx disposed in many series, lanceolate, coriaceous, coloured. Stamens deciduous, 12 outer ones fertile.

2 Chimona'nthus. Lobes of calyx oval, obtuse, outer ones form of bracteas. Stamens permanent, 5 outer ones fertile.

I. CALYCA'NTHUS

I. CALYCA'NTHUS (from καλυξ, *calyx*, a calyx; and ανθος, *anthos*, a flower; in reference to the calyx being coloured, and appearing like a corolla). Lindl. bot. reg. no. 404. Nees. nov. act. bonn. 11. p. 107.—Buttnèria, Duham. arbr. 1. p. 114. but not of Lin.—Beurrèria, Ehret, pict. t. 13.—Bastèria, Adans. fam. 2. p. 294.—Pompadoùra, Buchoz.—Calycánthus species, Lin. Lam. Willd.

Lin. syst. *Icosándria, Polygýnia.* Lobes of calyx disposed in many series (f. 88. *a. d.*), imbricate, lanceolate, all somewhat coriaceous and coloured. Stamens unequal, deciduous, 12 outer ones fertile. Akenia numerous (f. 85. *b.*).—Shrubs, natives of North America, with brachiate branches; and terminal and axillary flowers, rising after leaves, of a lurid purple colour; they are sweet-scented as well as the bark and leaves.

1 C. flòridus (Lin. spec. 718.) leaves ovate, downy beneath as well as the branchlets. ♄. H. Native of Carolina, on the shady banks of rivulets. Curt. bot. mag. t. 503. Duham. arb. 1. t. 45. Lam. ill. t. 445. f. 1. Guimp. abb. holz. t. 4. C. stérilis, Walt. car. 151. Mill. fig. t. 60. Branches spreading. Wood and roots smelling strong of camphor. Flowers usually sterile, with a sweet apple scent. Fruit turbinate.

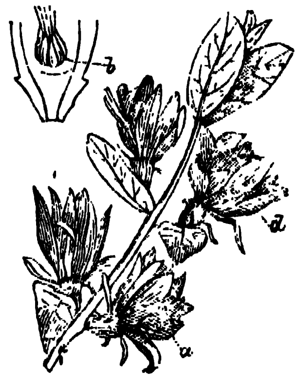
Var. a, oblóngus; leaves oblong. Ait. hort. kew. ed. 2. vol. 3. p. 282.

Var. β, ovàtus; leaves roundish-ovate. Ait. l. c.

Florid or Common American Allspice. Fl. May, Aug. Clt. 1726. Shrub 4 to 6 feet.

2 C. fe'rtilis (Walt. car. p. 151.) leaves ovate-lanceolate, acuminated, glaucous and pubescent beneath. ♄. H. Native of Carolina, on the mountains. Lindl. bot. reg. t. 404. Guimp. abb. holz. t. 5. C. glaúcus, Willd. enum. p. 559. D. C. prod. 3. p. 2. Andr. bot. rep. 539. Flowers fertile, of a lurid purple colour, but with very little scent (f. 85.).

FIG. 85.



Var. β, oblongifòlius (Nutt. gen. amer. 1. p. 312.) leaves ovate-lanceolate, elongated. ♄. H. Native on the mountains of North Carolina.

Fertile-flowered American Allspice. Fl. May, Aug. Clt. 1726. Shrub 4 to 6 feet.

3 C. lævigа'tus (Willd. enum. p. 559. hort. berol. t. 80.) leaves oblong or ovate, gradually acuminated, rather wrinkled, and rough to the touch on the upper surface, but glabrous and green beneath. ♄. H. Native of Pennsylvania, Virginia, and Carolina, on the mountains. Pursh, fl. sept. amer. 1. p. 358. Nutt. gen. amer. 1. p. 312. Guimp. abb. holz. t. 6. Lindl. bot. reg. 481. C. fèrax, Michx. fl. bor. amer. 1. p. 305. Branches strictly erect. Flowers lurid purple, hardly sweet-scented? C. Pennsylvánicus, Lodd. cat. ex Lond. hort. brit. p. 214.

Smooth American Allspice. Fl. May, July. Clt. 1806. Sh. 3 to 6 feet.

Cult. These shrubs are well worth growing for the exquisite scent of their blossoms, resembling that of ripe apples or quinces; they all grow best in peat borders, although they will grow in any kind of soil, but not so freely as in peat. They are usually increased by layers, put down in the summer.

II. CHIMONA'NTHUS

II. CHIMONA'NTHUS (from χειμων, *cheimon*, winter, and ανθος, *anthos*, a flower; in reference to the time of flowering, which is from December to February). Lindl. bot. reg. no. 404. and 451. D. C. prod. 3. p. 2.—Meràtia, Nees. in nov. act. bonn. 11. p. 107.—Calycánthus species of Lin.

Lin. syst. *Icosándria, Polygýnia.* Lobes of calyx imbricate, oval, obtuse; outer ones in the form of bracteas; inner ones larger and appearing like a corolla. Stamens nearly equal, permanent, the 5 outer ones fertile, connate at the base, at maturity.—Shrubs, with the flowers rising before the leaves, in the axils of the leaves of the preceding year. Flowers very sweet-scented, yellowish, but purplish inside. Bark and leaves without scent.

1 C. fra'grans (Lindl. bot. reg. 404.). ♄. H. Native of Japan. Calycánthus præ'cox, Lin. spec. 718. Ait. hort. kew. ed. 1. vol. 2. p. 220. t. 10. Curt. bot. mag. t. 466. Lam. ill. t. 445. f. 2. Meràtia fràgrans, Nees. l. c.

Var. β, grandiflòra (Lindl. bot. reg. t. 451.) flowers larger and more spreading. Perhaps a proper species, for the fruit of *C. fràgrans* is lageniform, thicker above the base, and tapering at the apex into a long neck, but in the present plant, according to the figure, the fruit is oblong and tapering to the base.

Var. γ, lùteus; flowers yellow, both inside and outside.

Fragrant Winter-flower. Fl. Dec.-Feb. 1766. Sh. 6 feet.

Cult. The delightful fragrance of the blossoms, makes the *C. fràgrans* and its varieties desirable objects in all collections.

They thrive in almost any kind of soil, and are usually increased by layers, but young cuttings will also strike root, if planted in a pot of sand, with a bell-glass placed over them, in a little bottom heat. The plants endure our winters in the open air, in a sheltered situation, with very little protection in severe weather. But as they flower during the winter months, the plants are liable to be injured by the frost, if planted in an exposed situation, they are therefore seen to most advantage under shelter, as in a greenhouse, pit, or conservatory.

ORDER LXXXVII. GRANA'TEÆ (this order only contains the species of *Pomegranate* and their varieties). D. Don, in edinb. phil. journ. july 1826. p. 134. D. C. prod. 3. p. 3. A genus of *Myrtàceæ*, Juss. and all other authors.

Calyx with a turbinate tube (f. 86. *a.*) and a 5-7-cleft coriaceous, tubular limb (f. 86. *e.*); segments valvate in æstivation. Petals 5-7 (f. 86. *b.*). Stamens numerous; filaments free; anthers 2-celled, bursting in front, by 2 chinks. Style filiform. Stigma capitate, papulose. Fruit large, spherical (f. 86. *c.*), crowned by the limb of the calyx (f. 86. *d.*), indehiscent; the fruit is the tube of the calyx, divided horizontally into two chambers or parts (f. 86. *f.*), the upper division 5-9-celled, and the lower division 3-celled; the dissepiments membranous, separating the cells; the placentas of the upper division of the fruit fleshy, reaching from the parietes to the centre; those of the lower division progressing irregularly from the bottom of the fruit. Seeds innumerable, exalbuminous, covered with pellucid baccate pulp. Embryo oblong, with a short, straight radicle, and foliaceous, spirally convolute cotyledons. This order is composed of trees or shrubs, with tetragonal subspinose branches, opposite, deciduous leaves, rarely verticillate or alternate; they are oblong-lanceolate and dotless, usually disposed in fascicles in the axils. Flowers 2-5, scarlet, almost sessile, rising near the tops of the branches.—This order only consists of one genus, the well-known *pomegranate*. It differs from *Myrtàceæ*, in the leaves being destitute of dots, and in being without the marginal nerve, also in the economy of the fruit, the pulpy seeds, and in the convolute cotyledons; from *Calycánthceæ* in the valvate calyx, and in the anthers bursting inwardly; from *Memecyleæ* in the indefinite stamens; from *Combretàceæ* in the many-celled ovary, and in the situation of the seeds; from *Vochysièæ* in the indefinite stamens and regular flowers; and from all in the structure of the fruit.

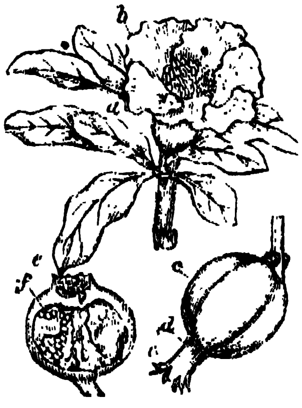
I. PU'NICA (*Punicus*, Carthaginian, because it is a native of the countries from the north of Africa to Rome; or from *puniceus*, scarlet, from the colour of the flowers). Tourn. inst. t. 401. Lin. gen. no. 618. Gærtn. fr. 1. t. 38. D. C. prod. 3. p. 3.

LIN. SYST. *Icosándria, Monogýnia.* Character the same as the order.

1 P. GRANA'TUM (Lin. spec. 676.) leaves lanceolate; stem arboreous. ♄. H. Native of Barbary, from whence it has migrated into the south of Europe, and now as it were become indigenous.

Var. a, rùbrum; flowers scarlet, single; pulp surrounding the seed, reddish. ♄. H. Wild in the places stated above. Trew, ehret. t. 71. f. 1. Poit. et Turp. arb. fr. 22. Schkuhr, handb. t. 131. *b.* Sims. bot. mag. 1832.

FIG. 86.



* *flòre-plèno;* flowers double, scarlet. More impatient of cold than the single variety. Trew. ehret. t. 71. f. 2.

Var. β, albéscens; corolla white; calyx yellowish; pulp surrounding the seeds pale. ♄. H. Less impatient of cold than the preceding variety. Andr. bot. rep. 96.

* *flòre-plèno;* flowers double, white, having the calyx yellowish. ♄. H. This variety is very impatient of cold.

Var. γ, flàvum; flowers yellow. This variety is very rare.

The rind of the fruit and the flowers of the pomegranate are the parts directed for medicinal use. They are both powerful astringents, and have long been successfully employed as such both externally and internally as gargles, in diarrhœas, &c. The dose in substance is from half a drachm to a drachm. In infusion or decoction to half an ounce. The pulp is subacid, allaying heat, quenching thirst, and gently laxative.

Common *Pomegranate.* Fl. June, Sept. Clt. 1548. Tree 15 to 30 feet.

2 P. NA'NA (Lin. spec. 676.) leaves linear; stem shrubby. ♄. G. Native of the West India Islands, and South America; about Demerara, &c. Sims, bot. mag. 634. Trew. ehret. t. 71. f. 3. Flowers red. Perhaps only a variety of the preceding. The flowers are much smaller than those of the common *pomegranate*, and the fruit is about the size of a nutmeg. In the West Indies, where it is a native, it is planted for hedges, and continues flowering all the year.

Dwarf Pomegranate. Fl. Jul. Sept. Clt. 1723. Sh. 5 to 6 ft.

Cult. There is no tree more showy than the *Pomegranate*, when in flower. It is best planted against a wall with a south aspect. All the varieties strike root freely from cuttings or layers; the rarer varieties are sometimes increased by grafting on the commoner kinds. Those varieties most impatient of cold had better be grown in pots, that they may the more easily be protected by placing under shelter in the winter.

ORDER LXXXVIII. MEMECY'LEÆ (plants agreeing with *Memècylon* in important characters). D. C. prod. 3. p. 5.

Calyx with an ovate or subglobose tube and a 4-5-lobed or 4-5-toothed limb. Petals 4-5, inserted in the calyx and alternating with its lobes. Stamens 8-10, or double the number of the petals; filaments free; anthers incurved, 2-celled. Style filiform. Berry crowned by the limb of the calyx, 2-4-celled. Seeds few, exalbuminous. Cotyledons foliaceous, convolute. Radicle straight.—Intratropical shrubs, with simple, quite entire, dotless, opposite leaves, which are nearly always feather-nerved; and axillary pedicellate flowers. This is a very doubtful order, but is, on account of its convolute cotyledons, allied to *Calycánthceæ, Granàteæ*, and *Combretàceæ*, but from the form of the anthers and the number of the parts of the flower, it is nearer related to *Melastomàceæ*, nor is it far removed from *Myrtàceæ* in the habit, flowers, and opposite leaves.

Synopsis of the genera.

1 MEME'CYLON. Calyx with a globose tube and a bluntly 4-

toothed limb. Petals 4. Stamens 8. Berry dry, globose, 2-4-celled.

2 SCU'TULA. Calyx with a truncate, spreading, fleshy, saucer-formed limb. Petals 4-5. Stamens 8-10. Berry 8-celled; cells 1-seeded.

3 MOURI'RIA. Calyx furnished with 2 scales at the base; limb urceolate, 5-toothed. Petals 5. Stamens 10. Berry 1-4-celled, 1-4-seeded.

I. MEME'CYLON (from μεμηκυλον of Dioscorides, the Greek name of the fruit of the A'rbutus). Lin. gen. no. 481. Lam. dict. 4. p. 88. ill. t. 284. Pet. Th. obs. p. 57. and p. 58. but not of Mitch. D. C. prod. 3. p. 5.—Valikàha, Adans. fam. 2. p. 84.

LIN. SYST. *Octándria, Monogýnia.* Calyx with a hemispherical or subglobose tube, and a small limb striated at the bottom, and with a bluntly 4-toothed, repand, or entire border. Petals 4, oval. Stamens 8, longer than the petals; filaments free; anthers incurved, fixed by the middle, acutely beaked at one end, and blunt at the other, and bearing 2 polliniferous cells each. Style 1, filiform, bearing a simple stigma. Berry nearly dry, globose, crowned by the limb of the calyx; when young 2-4-celled, cells 2-seeded; but when mature 1-celled, and 1-seeded. Nut brittle, easily separated from the calyx. Seed pendulous, exalbuminous. Cotyledons foliaceous, convolute. Radicle superior, acute.—Shrubs having the branches nodose, at the origin of the leaves. Leaves glabrous, rarely 3-nerved, usually feather-nerved. Flowers axillary, in fascicles, or in racemose heads, of a bluish-violet colour. Bracteoles small, opposite, sometimes connate under the flowers and at the bifurcations of the pedicels.

* *Branches tetragonal.*

1 M. TRINE'RVE (D. C. prod. 3. p. 5.) branches acutely tetragonal; leaves almost sessile; flowers in fascicles, nearly sessile, at the knots of the branches. ♄. S. Native of the East Indies. Leaves bluntish, with revolute margins, 2 inches long and 1 broad.

Three-nerved-leaved Memecylon. Shrub 3 to 4 feet.

2 M. ANGULÒSUM (Reichb. in Sieb. pl. exsic. maur. 2. no. 116.) branches acutely tetragonal; leaves on very short petioles, oval, rather attenuated at both ends, bluntish, 1-nerved; flowers pedicellate, in fascicles at the knots of the branches. ♄. S. Native of the Mauritius. Melaleùca ovalifòlia, Poir. suppl. 3. p. 624. Petioles 1-2 lines long. Leaves 2 inches long and 10-12 lines broad. Pedicels usually bifid and 2-flowered.

Angular-branched Memecylon. Shrub 3 to 4 feet.

3 M. OLO'PTERUM (D. C. prod. 2. p. 5.) branches 4-winged; the wings curled; leaves sessile, ovate-roundish, somewhat emarginate at the apex, shining on both surfaces, scarcely 1-nerved. ♄. S. Native of Madagascar. Leaves 5-6 lines long and 4 lines broad. Flowers solitary, pedicellate in the specimen examined but it is badly preserved.

All-winged-stemmed Memecylon. Shrub 2 feet.

4 M. SUBQUADRANGULA'RE (D. C. prod. 2. p. 6.) branches tetragonal at the apex; leaves sessile, ovate, bluntish, 1-nerved; flowers pedicellate, in fascicled umbels at the knots of the branches. ♄. S. Native of the East Indies. Leaves 2 inches long and an inch broad. Pedicels 2-3 lines long. Border of calyx entire. Flower-bud tetragonal, acute.

Subquadrangular-branched Memecylon. Shrub 3 to 4 feet.

* * *Branches terete.*

5 M. CAPITULA'TUM (Lin. spec. 497.) branches nearly terete; leaves oval, on short petioles, bluntish, 1-nerved; peduncles axillary, 3-times longer than the petiole, bearing a head of flowers. ♄. S. Native of Ceylon. Burm. zeyl. t. 30. Lam. ill. t. 284. f. 1. Blum. bijdr. p. 1094. Fruit globose, rather ventricose at the base, crowned by the bluntly 4-toothed calyx.

Small-headed-flowered Memecylon. Fl. July. Clt. 1796. Shrub 3 to 5 feet.

6 M. SPHÆROCA'RPUM (D. C. prod. 2. p. 6.) branches nearly terete; leaves on short petioles, oval, obtuse, sub-attenuated at the base, 7-nerved; peduncles axillary, many-flowered, hardly longer than the petioles. ♄. S. Native of the Mauritius. M. tinctòrium, Sieb. pl. exsic. maur. 2. p. 115. and perhaps of Willd. Leaves yellowish when dried, with rather revolute margins, 2 inches long and 1 broad. Fruit exactly globose, smaller than those of the preceding, with the limb of the calyx caducous. Flower-bud conical, acute. Border of calyx nearly entire.

Round-fruited Memecylon. Shrub 3 to 4 feet.

7 M. LAXIFLÒRUM (D. C. prod. 2. p. 6.) branches nearly terete; leaves on short petioles, ovate, acutish, 1-nerved; peduncles axillary, twice the length of the petiole; flowers umbellate. ♄. S. Native of the Mauritius. Rheed. mal. 5. t. 19.? M. tinctòrium, Willd. spec. 2. p. 347.? Blum. bijdr. p. 1094.? Fruit ovate. Leaves 12-15 lines long and 6-7 lines broad. Border of calyx repandly toothed.

Loose-flowered Memecylon. Shrub 3 to 5 feet.

8 M. RAMIFLÒRUM (Lam. dict. 4. p. 88.) branches nearly terete; leaves on short petioles, elliptic, bluntish, 1-nerved; flowers in umbellate fascicles, borne in the axils and beneath the leaves; style twice the length of the stamens. ♄. S. Native of the Mauritius and Ceylon. M. umbellàtum, Blum. bijdr. p. 1094.? Melaleùca bícolor, Poir. suppl. 3. p. 624. The figure in Burm. zeyl. t. 31. agrees well with this species, but the flowers are there represented as tetrandrous, not octandrous.

Branch-flowered Memecylon. Shrub 4 to 5 feet.

9 M. EXCE'LSUM (Blum. bijdr. p. 1094.) branches?; leaves on short petioles, elliptic-oblong, bluntly acuminated, glabrous, and rather veiny, pale beneath; fascicles of flowers corymbose, axillary; fruit oval. ♄. S. Native of Java, on Mount Salak.

Tall Memecylon. Tree 30 feet.

10 M. OVA'TUM (Smith, in Rees' cycl. vol. 23. no. 3.) branches nearly terete? leaves on long petioles, ovate, bluntly acuminated; peduncles rising on the naked parts of the branches, aggregate, umbelliferous; base of calyx 8-nerved. ♄. S. Native of the East Indies. Petioles half an inch long. Leaves 3 inches long.

Ovate-leaved Memecylon. Shrub 4 to 6 feet.

11 M. EDU'LE (Roxb. cor. 1. t. 82.) branches terete; leaves on short petioles, broadly ovate, obtuse, 1-nerved; peduncles tetragonal, usually rising from the knots beneath the leaves, umbellately racemose, many-flowered; style about equal in length to the stamens. ♄. S. Native of Coromandel, in every jungle. Fruit juicy, crowned by the 4-toothed limb of the calyx; when ripe they are eaten by the natives; they have much pulp of a bluish-black colour, and of an astringent quality.

Edible Memecylon. Clt. 1820. Tree 10 to 12 feet.

12 M. ACUMINA'TUM (Smith, in Rees' cycl. no. 4.) branches terete? leaves on short petioles, elliptic, acute; peduncles axillary, very short, umbelliferous; style about equal in length to the petals. ♄. S. Native country unknown.

Acuminated-leaved Memecylon. Tree.

13 M. GRA'NDE (Retz, obs. 4. p. 26.) arboreous; leaves ovate, acuminated, 1-nerved, on short petioles; peduncles axillary, 4-5-cleft, many-flowered. ♄. S. Native of the East Indies. Blum. bijdr. p. 1095. Nedum-Schatti, Rheed. mal. 2.

t. 15. Flowers purple. Fruit globose, ex Blum. Perhaps many species are confused under this name.

Great Memecylon. Tree 10 to 12 feet.

14 M. CORDA'TUM (Lam. dict. 4. p. 89. ill. t. 284. f. 2.) branches nearly terete; leaves sessile, cordate at the base, stem-clasping, ovate; peduncles axillary, branched; fruit crowned by the largish, bluntly 4-toothed limb of the calyx. ♄. S. Native of the East Indies and the Mauritius.

Var. a, pedunculòsum (D. C. prod. 2. p. 7.) peduncles nearly equal in length to the leaves; leaves smaller. ♄. S. Native of the East Indies.

Var. β, brèvipes (D. C. l. c.) peduncles much shorter than the leaves; leaves larger. ♄. S. Native of the Mauritius.

Cordate-leaved Memecylon. Shrub 4 to 5 feet.

15 M. FE'RREUM (Blum. bijdr. p. 1095.) branches terete? leaves petiolate, oval, very blunt, sometimes retuse, attenuated at the base, coriaceous, veinless; umbels corymbose, axillary; fruit globose. ♄. S. Native of Java, on the mountains.

Iron Memecylon. Shrub 4 to 5 feet.

16 M. CINNAMOMIOI'DES; leaves elliptic, obtusely acuminated, 3-nerved, glabrous, attenuated at the base; peduncles axillary, aggregate, longer than the petioles, umbellate, few-flowered. ♄. S. Native of Sierra Leone. (v. s. herb. Lamb.)

Cinnamon-like Memecylon. Shrub 5 to 6 feet.

17 M. AFZE'LII; leaves elliptic, attenuated at both ends, coriaceous, 1-nerved, ending in a long acumen at the apex; peduncles twin or tern, axillary; flowers umbellate. ♄. S. Native of Sierra Leone. (v. s. herb. Lamb.)

Afzelius's-leaved Memecylon. Shrub 5 to 6 feet.

18 M. BLACKIOI'DES; leaves large, sessile, very broad, coriaceous, strongly 3-nerved, the lateral veins running into a marginal nerve; corymbs compound, pedunculate, axillary. ♄. S. Native of Sierra Leone, in the woods in the low lands.

Blackia-like Memecylon. Shrub 6 to 10 feet.

Cult. A mixture of sand, loam, and peat suits the species of *Memècylon*. Young cuttings, planted in a pot of sand, with a hand-glass placed over them in heat root freely.

II. SCU'TULA (from *scutula*, a little saucer; form of the limb of the calyx). Lour. coch. p. 235. D. C. prod. 3. p. 7.

LIN. SYST. *Octo-Decándria, Monogýnia.* Calyx with the tube adhering to the ovary, and with a truncate, spreading, fleshy, saucer-formed limb. Petals 4-5, connivent, seated on the border of the calyx. Stamens 8-10, with inflexed filaments and curved oblong anthers. Style filiform, simple at the apex. Berry 8-celled; cells 1-seeded. Seed compressed.—Small smooth trees, with opposite, lanceolate, quite entire leaves; and axillary and terminal peduncles, bearing blue or violaceous flowers. This genus is probably not distinct from *Memècylon*.

1 S. SCUTELLA'TA (Lour. l. c.) peduncles axillary, many-flowered; berries compressed. ♄. G. Native of Cochin-china. Flowers and fruit violaceous.

Saucer-calyxed Scutula. Shrub 8 feet.

2 S. UMBELLA'TA (Lour. l. c.) umbels terminal; berries roundish. ♄. G. Native of Cochin-china. Flowers white and party-coloured.

Umbellate-flowered Scutula. Shrub 4 feet.

Cult. See *Memècylon* for culture and propagation,

III. MOURI'RIA (*Mouririchira* is the Guiana name of *M. Guianénsis*). Juss. gen. 320. Lam. ill. t. 360. D. C. prod. 2. p. 7.—Mourìri, Aubl. guian. 1. p. 452. t. 180.—Petalòma, Swartz, prod. p. 73. fl. ind. occ. 2. p. 831. t. 14.

LIN. SYST. *Decándria, Monogýnia.* Calyx furnished with 2 scales at the base; tube adhering to the ovary; limb urceolate, 5-cleft. Petals 5, broad at the base, inserted near the apex of the calyx, and alternating with its teeth, twisted in æstivation. Stamens 10, rather unequal. Anthers oblong, opening by 2 pores at the apex. Ovary nearly globose. Style filiform. Stigma capitate. Berry globose, crowned by the coarctate toothed tube of the calyx, 1-4-celled, 1-4-seeded.—Glabrous shrubs with nodose branches, opposite, feather-nerved, acute, quite entire, coriaceous leaves, and axillary peduncles. This genus is allied to *Melastomàceæ*, according to Richard, but according to R. Brown and E. Meyer it is intermediate between *Myrtàceæ* and *Melastomàceæ;* with the first it agrees in the elevated dots and feather nerves of the leaves, and with the last in the structure of the anthers.

1 M. MYRTILLOI'DES (Poir. dict. sc. nat. 33 p. 163.) leaves almost sessile, ovate, attenuated, oblique at the base; pedicels solitary, 1-flowered. ♄. S. Native of Hispaniola and Jamaica, in woods in the lowlands. Petalòma myrtilloides, Swartz, fl. ind. occ. 2. p. 833. t. 14.—Sloane, hist. 2. p. 78. t. 87. f. 3. Flowers white. Berry ovate, black, 1, rarely 2-seeded, and 1-celled, ex Swartz. The bark is smooth and grey, with some very white spots, whence its name of *silver-wood*. The wood is hard, tough, heavy, and good for looms, handles, staves for oars, &c.

Myrtle-like Silver-wood. Clt. 1823. Shrub 2 to 3 feet.

2 M. GUIANE'NSIS (Aubl. guian. 1. p. 453. t. 180.) leaves on short petioles, ovate, acuminated, feather-nerved; peduncles crowded in the axils of the leaves, 1 or few-flowered; style filiform. ♄. S. Native of Guiana, in woods at the river Sinimari, where it is called *Mourichira*. Lam. ill. t. 360. Petalòma Mourìri, Swartz, fl. ind. occid. 835. Flowers yellow. Berry globose, yellow, dotted with red, 1-celled, 4-seeded. ex Aubl. Wood hard and whitish.

Guiana Silver-wood. Clt. 1817. Shrub 3 to 4 feet.

3 M. CAULIFLÒRA (D. C. prod. 2. p. 7.) leaves nearly sessile, ovate, much acuminated, somewhat cordate at the base; peduncles rising in umbellate fascicles from the old trunk. ♄. S. Native of Brazil, in woods. Petalòma caulifl òra, Mart. mss. Trunk straight; branches horizontal. Petals white. Filaments of a rose white colour. ex Mart. Young fruit 5-celled, or only 2-4-celled from abortion.

Stem-flowered Silver-wood. Tree 10 to 12 feet.

4 M. GRANDIFLÒRA (D. C. prod. 2. p. 8.) leaves on short petioles, ovate, acuminated, feather-nerved; peduncles short, few-flowered, crowded at the axils along the branches; style compressed. ♄. S. Native of Para, in Brazil. Petals oval, attenuated at the base, thick, rather coriaceous. Anthers large.

Great-flowered Mouriria. Shrub 3 to 4 feet.

† *Species not sufficiently known.*

5 M. MEXICA'NA (Moc. et Sesse, fl. mex. icon. ined. ex D. C. prod. 3. p. 8.). ♄. S. Native of Mexico. Like *M. Guianénsis*, but the petals are rose-coloured; anthers hardly acute at the base, and the berries are red and 4-celled.

Mexican Silver-wood. Shrub.

Cult. See *Memècylon* for culture and propagation.

ORDER LXXXIX. COMBRETA'CEÆ (plants agreeing with *Combretum* in important characters). R. Br. nov. holl. 1. p. 351. in a note, Rich. in dict. class. 4. p. 353. D. C. diss. ined. in soc. hist. nat. gen. prod. 3. p. 9.—Myrobalàneæ, Juss. dict. sci. nat. 31. p. 458.

Flowers hermaphrodite, rarely polygamous from abortion. Calyx with the tube adhering to the ovary (f. 88. *a.*); and with a 4-5-lobed (f. 88. *c. c.* f. 89. *a.*) limb, which falls off as the flower decays. Petals sometimes wanting (f. 88. *e.*), but usually

4-5 (f. 89. *b.*), inserted near the top of the tube of the calyx, and alternating with its lobes (f. 89. *b.*). Stamens inserted in the tube of the calyx (f. 88. *c.* f. 89. *a.*), usually double the number of the lobes of the calyx (f. 89. *c.*), rarely equal or triple that number; filaments exserted, free, filiform or subulate; anthers 2-celled, bursting lengthwise. Ovary 1-celled, 2 (f. 88. *a.*)-5 (f. 89. *c.*) -ovulate; ovula pendulous from the apex of the ovarium. Style 1, slender (f. 88. *d.* f. 89. *d.*). Stigma simple. Fruit drupaceous, baccate or nucamentaceous, 1-celled, indehiscent, 1-seeded from abortion, and usually furnished with longitudinal wings. Seed pendulous, filling the cavity of the pericarp, exalbuminous. Embryo straight, having the radicle directed to the hylum, with an inconspicuous plumule, and foliaceous cotyledons, which are sometimes flattish and reflexed by a middle plait, but usually convolute, that is, spirally folded round the axis, continuous with the radicle.—Trees or shrubs, for the most part natives within the tropics, with alternate or opposite, exstipulate, feather-nerved, entire leaves, and axillary or terminal spikes or racemes of flowers.

Combretàceæ agrees with *Myrtàceæ*, in the structure of the embryo; in this respect it also accords with *Rhizophòreæ;* and with *Alangièæ*, and *Onagrarièæ*, in the general structure of the flower. With *Eleágneæ* and *Santalàceæ*, the apetalous genera agree in many important particulars. The properties are mostly astringent.

Combrètum and *Quisquàlis* are among the most splendid of the climbing plants of the tropics, adorning the trees from which they hang with garlands of white, crimson, and yellow flowers. The bark of *Bucìda Bùceras* is used with success in Guiana for tanning leather. The juice of *Terminàlia vérnix* is employed by the Chinese as a varnish; it is, however, caustic, and its exhalation dangerous; benzoin is the produce of *Terminàlia Benzòin.* The kernel of several species is eaten as a nut, and the expressed oil has the remarkable quality of not becoming rancid.

Synopsis of the genera.

Tribe I.

Terminalie'æ. Flowers apetalous.

1 Buci'da. Flowers hermaphrodite, apetalous. Calyx with an urceolate 5-toothed limb. Stamens 10. Drupe baccate, containing an angular putamen.

2 Agathisa'nthes. Flowers dioecious, apetalous. Calyx 5-parted. Stamens 10. Drupe baccate, umbilicate, containing a compressed 1-seeded nut.

3 Termina'lia. Flowers usually polygamous from abortion, apetalous. Calyx campanulate, 5-cleft (f. 88. *a.*) Stamens 10 (f. 88. *c.*). Drupe crowned by the calyx, usually dry and 1-seeded (f. 87. *a. b.*).

4 Penta'ptera. All as in *Terminàlia*, but differs in the fruit being furnished with 5-7 vertical exserted wings.

5 Getònia. Flowers hermaphrodite, apetalous. Calyx campanulate, 5-parted. Stamens 10. Fruit ovate, oblong, crowned by the calyx, pentagonal.

6 Chuncòa. Flowers apetalous, some hermaphrodite, and some male. Calyx 5-cleft. Stamens 10. Fruit drupaceous, 5-angled; angles winged, two of the wings larger than the rest.

7 Ramatue'lla. Flowers unknown. Fruit 5-angled; angles winged at the apex.

8 Conoca'rpus. Flowers hermaphrodite, apetalous. Calyx 5-cleft. Stamens 5-10. Fruit corky, scale-formed, closely imbricated into a head resembling a cone.

Tribe II.

Combre'teæ. Flowers with 4 to 5 petals.

9 Laguncula'ria. Flowers hermaphrodite. Calyx 5-cleft, permanent. Petals 5, minute. Stamens 10, inclosed. Fruit marginate, coriaceous, crowned by the calyx.

10 Guil'ra. Flowers hermaphrodite. Calyx tubular, 5-toothed. Petals 5, small. Stamens 10. Capsule narrow, pentagonal.

11 Combre'tum. Flowers hermaphrodite. Calyx cylindrical (f. 89. *a.*) or campanulate, 4-5-toothed. Petals 4-5 (f. 89. *b.*). Stamens 8-10. Fruit narrow, oval, furnished with 4-5 vertical wings (f. 89. *e.*).

12 Cacou'cia. Flowers hermaphrodite. Calyx campanulate, 5-toothed. Petals 5. Stamens 10-14. Fruit ovate, 5-angled, pulpy inside.

13 Lumni'tzera. Flowers hermaphrodite, with 2 bracteas under each. Calyx tubular, 5-toothed. Petals 5. Stamens 10. Fruit dry.

14 Quisqua'lis. Flowers hermaphrodite. Calyx tubular, 5-cleft. Petals 5. Stamens 10. Fruit dry, 5-angled.

† *Genera not sufficiently known.*

15 Cerato'stachys. Flowers hermaphrodite. Calyx with an entire limb. Petals 8, small. Stamens 8-16, unequal. Drupe baccate, crowned by the limb of the calyx.

16 Bruguie'ra. Flowers hermaphrodite. Tube of calyx furnished with 2 scales in the middle. Petals 5. Stamens 10. Ovarium adnate to the calyx, containing 4 pendulous ovula. Fruit unknown.

17 Bobu'a. Flowers hermaphrodite. Calyx 5-cleft. Petals 5. Stamens 20-30. Fruit ovate, few-seeded.

Tribe I.

TERMINALIEÆ (plants agreeing with *Terminàlia* in having apetalous flowers). D. C. prod. 3. p. 9.—Myrobalàneæ, Juss. in ann. mus. 5. p. 222.—Terminaliàceæ, Jaum. exp. fam. 1. p. 178. t. 29.—Eleagnòrum, gen. Juss. gen. p. 75. Flowers apetalous, usually dioecious or polygamous.

I. BUCI'DA (from *βους*, *bous*, an ox; Dr. Browne had named this tree *buceras*, from *βους* and *κεραs*, from the shape of the process terminating the spike of flowers resembling a bull's horn). Lin. gen. 541. Lam. ill. t. 356. Gærtn. fruct. 3. p. 208. t. 217.—Bùceras, P. Browne, jam. t. 23. f. 1.—Hudsònia, Robins, in Lun. hort. jam. 2. p. 310. but not of Lin.

Lin. syst. *Decándria, Monogýnia.* Flowers hermaphrodite. Limb of calyx urceolately-campanulate, 5-toothed, deciduous. Petals wanting. Stamens 10, inserted by 2 series, 5 at the base of the limb, and the 5 longest inserted between the incisures of the calyx. Anthers didymous. Style subulate, acute. Drupe baccate, containing an angular putamen. Ovula 3. Seed 1, cylindrically oblong.—West India trees, with scattered leaves, crowded at the tops of the branches. Peduncles axillary. Flowers disposed in spikes or heads.

1 **B. BU'CERAS** (Lin. spec. 556.) leaves ovate-cuneiform, obtuse, glabrous; flowers disposed in cylindrical spikes, densely clothed with adpressed silky pubescence. ♄. S. Native of the West Indies, in low swampy clayey lands near the coast. Flowers small, yellowish. Sloane, hist. 2. t. 189. f. 3. Browne, jam. t. 23. f. 1. Lam. ill. t. 356. The ends of the branches sometimes shoot out into a monstrous spongy excrescence, like an ox's horn, probably formed by insects; hence the specific name. Browne says this tree is remarkable for its slender crooked branches, and the tufted disposition of the leaves, that it grows to a considerable size, is reckoned an excellent timber tree, and that the bark is greatly esteemed by tanners. In Jamaica it is called *Black olive*, in Antigua *French oak*, and in the French Islands *Grignon*.

Ox-horn Olive-bark-tree. Fl. Aug. Sept. Clt. 1793. Tr. 20 to 30 feet.

2 **B. ANGUSTIFÒLIA** (D. C. prod. 2. p. 10.) leaves cuneiform, obtuse, glabrous; flowers disposed in cylindrical spikes, clothed with rufous velvety down. ♄. S. Native of Guiana. This species comes very near to *Bùcida bùceras*, but the leaves are not half so broad, and on shorter petioles, and the spikes are more numerous from the same knot, and the stamens are more exserted.

Narrow-leaved Olive-bark-tree. Tree 20 feet.

3 **B. CAPITA'TA** (Vahl. ecl. 1. p. 50. t. 8.) leaves cuneiform, bluntish, with villously ciliated margins; flowers disposed in subglobose capitate spikes. ♄. S. Native of Mont Serrat, Porto Rico, St. Domingo, and Jamaica. Hudsònia, Robins in Lun. hort. jam. 2. p. 310. and Sloan. hist. 2. p. 176. t. 228. f. 3. Flowers yellowish. Bracteas villous. Calyxes glabrous.

Capitate-flowered Olive-bark-tree. Tree 20 to 30 feet.

4 **B. MEGAPOTA'MICA** (Spreng. syst. append. p. 177.) racemes subcorymbose; bracteas silky; calyxes woolly; leaves oblong-lanceolate, obtuse, rather mucronate. ♄. S. Native of Brazil, at the Rio Grande.

Rio Grande Olive-bark-tree. Tree.

Cult. The species of *Bùcida* grow best in a mixture of loam and peat, and cuttings of well-ripened wood strike freely, if planted in a pot of sand, with a hand-glass placed over them, in heat.

II. AGATHISA'NTHES

(from *αγαθις*, *agathis*, a round head, and *ανθος*, *anthos*, a flower; in reference to the flowers being disposed in pedunculate heads). Blum. bijdr. p. 645. D. C. prod. 3. p. 10.

LIN. SYST. *Diœ̀cia*, *Decándria*. Flowers dioecious, apetalous. Calyx of the male flowers 5-parted, with the lobes conniving imbricately. Stamens usually 10; filaments very short, inserted in a flat disk; anthers didymous. Calyx of the female flowers with a short 5-toothed limb. Style short, bifid, perforating the flat disk. Ovary 1-ovulate. Drupe baccate, umbilicate, containing a 1-seeded compressed nut. Embryo exalbuminous, inverted.—A tree 120 feet high, with crowded, oblong, quite entire, coriaceous leaves; and axillary and lateral, solitary or twin stalked heads of flowers. This genus is intermediate between *Bùcida* and *Ceratóstachys*.

1 **A. JAVA'NICA** (Blum. l. c.). ♄. S. Native of Java, in woods on the higher mountains on the west side of the island, where it is called by the natives *Hirung*.

Java Agathisanthes. Tree 120 feet.

Cult. See *Bùcida* for culture and propagation.

III. TERMINA'LIA

(from *terminus*, end; so named from the leaves being in bunches at the ends of the branches, intermixed with spikes of flowers). Lin. mant. 21. Jacq. coll. 1. p. 130. D. C. prod. 2. p. 10.—Catáppa, Myrobálanus, and Badàmia, Gærtn.—Terminàlia, Pàmia, Taniboúca, and Fatræ'a, Juss.

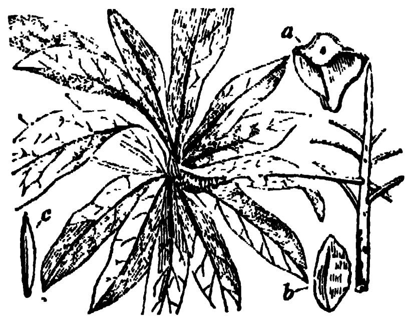
LIN. SYST. *Polygàmia*, *Monœ̀cia*. Flowers usually polygamous from abortion. Limb of calyx campanulate (f. 88. *c. e.*), deciduous, 5-cleft; lobes acute. Petals wanting. Stamens 10, inserted by 2 series, longer than the calyx. Ovary biovulate (f. 88. *a.*). Style filiform, acutish (f. 88. *d.*). Drupe not crowned by the calyx, usually dry, indehiscent, 1-seeded. Seed amygdalaceous. Cotyledons spirally convolute (f. 88. *b.*).—Tropical trees and shrubs, with alternate leaves, usually crowded at the tops of the branches. Flowers disposed in spikes; spikes racemose or panicled; the flowers in the lower part of the spikes hermaphrodite, in the upper part male. This genus is divisible by the fruit, but that in most of the species being unknown, the greater part of them remain in uncertain divisions. Those species with a 4-cleft calyx and 8 stamens ought probably to be excluded from the genus.

SECT. I. CATA'PPA (the Molucca name of *T. Catáppa*). Gærtn. fruct. 2. p. 206. t. 127. and 3. p. 207. t. 217.—Terminàlia, Lam. ill. t. 848. Drupe compressed, winged at the margins (f. 87. *a.*), or much attenuated, containing a woody putamen.

1 **T. TANIBOU'CA** (Smith in Rees' cycl. vol. 35. no. 11.) leaves elliptic, acuminated at both ends, quite entire, when young rather pubescent, when adult smooth; petioles glandless. ♄. S. Native of French Guiana. Lam. ill. 848. f. 3. R. Br. prod. nov. holl. 1. p. 351. Taniboúca Guianénsis, Aubl. guian. 1. t. 178. Catáppa Guianénsis, Gærtn. fruct. 3. p. 207. t. 217. *Tanibouca* is the Guiana name of the tree.

Tanibouca Terminalia. Tree 25 feet.

FIG. 87.



2 **T. ANGUSTIFÒLIA** (Jacq. hort. vind. 3. t. 100.) leaves linear-lanceolate, rather repand, attenuated at both ends, pubescent beneath and on the petioles, or pilose; petiole furnished with 2 glands at the apex. ♄. S. Native of the East Indies. Cròton Benzòe, Lin. mant. 297. T. Benzòin, Lin. fil. suppl. Lam. dict. 1. p. 349. Catáppa Benzòin, Gærtn. fr. 2. p. 206. t. 127. T. Benzòe, Pers. Branches in whorles. This tree produces one kind of benzoin; it is procured by wounding the tree; it is composed of large white and light brown pieces, breaking very easily between the hands. When gently dried it forms a white powder, formerly in great request as a cosmetic. Its scent is one of the most agreeable. But the most striking ingredient of this resin is the benzoic acid.

Narrow-leaved Terminalia. Clt. 1692. Tree 30 to 40 feet.

3 **T. VE'RNIX** (Lam. dict. 1. p. 350.) leaves linear-lanceolate, tapering to both ends, glabrous as well as the branches and petioles. ♄. S. Native of the Moluccas. A'bor vernicis, Rumph. amb. 2. p. 259. t. 86. Perhaps the petiole is furnished with 2 glands. The juice of the tree is employed in the countries of its natural growth as a varnish.

Varnish Terminalia. Tree 15 feet.

4 **T. MAURITIA'NA** (Lam. dict. 1. p 349. ill. t. 848. f. 2.) leaves oblong-lanceolate, attenuated at both ends, rather repand, glabrous; petiole furnished with 2 glands at the top. ♄. S. Native of the Mauritius and Bourbon, where a resin is collected

from the tree similar to Benzoin. T. angustifòlia, Pet. Th. obs. pl. afr. austr. 19. Catáppa Mauritiàna, Gærtn. fil. 3. p. 207. exclusive of the synonyme of Aublet.

Mauritian Terminalia. Tree 40 to 50 feet.

5 T. Cata'ppa (Lin. mant. 519.) leaves obovate, tapering to the base, pubescent beneath; glands small, situated at the base of the leaves on the under surface at the sides of the middle nerve. ♄. S. Native of the East Indies, and now cultivated in many of the West India islands. Jacq. icon. rar. 1. t. 197. Lam. ill. t. 848. f. 1. Adamàrum, Rheed. mal. 4. t. 3. and 4. Fruit ovate-roundish, compressed. Leaves obtuse, and somewhat acuminated. Drupe about 3 inches long, egg-shaped, containing an oblong kernel, which has the taste of an almond, and may be used for the same purposes, but it does not contain so much oil. Within the tropics the trees are commonly planted near houses in avenues, and seats are placed under them, for the enjoyment of the close extensive shade they afford. The timber is light and lasting, and is useful for many purposes. The bark and leaves yield a black pigment, with which the Indians dye their teeth, and Indian ink is made. Blume describes his *T. Catáppa* (bijdr. p. 610.) as having the leaves cordate at the base, obsoletely crenulated, glabrous, and rather pubescent on the mid-rib beneath.

Var. β, subcordàta (Willd. spec. 4. p. 968.) leaves obovate, rather cordate at the base, obtuse, pubescent beneath, or glabrous in the adult state; glands small, situated at the base of leaves beneath, at the sides of the middle nerve. ♄. S. Native of the West Indies, but only perhaps cultivated there. H. B. et Kunth, nov. gen. amer. 6. p. 113. T. intermèdia, Bert. ex Spreng. syst. 2. p. 359. Hardly distinct from the species.

Catappa Terminalia. Clt. 1778. Tree 20 to 40 feet.

6 T. Molluca'na (Lam. dict. 1. p. 349.) leaves obovate, obtuse at the base, and biglandular, quite entire, glabrous on both surfaces in the adult state, standing on short petioles. ♄. S. Native of the Moluccas and East Indies. Catáppa, Rumph. amb. 1. p. 174. t. 68. This species differs from *T. Catáppa* in the flowers being usually double the size, in the disk being large and villous, and in the drupe being larger and hardly crested.

Molucca Terminalia. Clt. 1804. Tree 30 to 40 feet.

7 T. glabra'ta (Forst. prod. p. 389. pl. escul. p. 52.) leaves obovate, cuneated at the base, quite entire, glabrous on both surfaces; petioles longish, pubescent. ♄. S. Native of the Friendly and Society Islands. Spreng. antiq. bot. t. 2. According to Forster, this species differs from *T. Catáppa* in the leaves being glabrous beneath, and not above half the size, and in the nut being very much smaller, oval, less furrowed, never marginate, but acute, compressed, and membranous, and as if it was appendiculated at the apex. In the South Sea islands this tree is cultivated near the huts and in the burial-places. In the language of Otaheite it is named *Auwira* or *e-Tara-iri* and *e-Tara-heimi*, and is accounted sacred to their idols. The wood is used in building boats, and in making drums, benches, &c. The kernels are eaten and have the flavour of almonds.

Smooth Terminalia. Tree 30 to 50 feet.

8 T. Januare'nsis (D. C. prod. 3. p. 11.) leaves oblong-lanceolate, quite entire, or crenately repand; peduncles lateral, few-flowered; drupe compressed, quadrangular, winged. ♄. S. Native of Brazil, on Mount Cercovado, near Rio Janeiro. Catáppa Braziliénsis, Raddi, quar. piant. add. p. 26. f. 6. in act. soc. ital. 1820. vol. 18. p. 414. but not *T. Braziliénsis* of Spreng. Perhaps a species of *Combrètum.*

Rio Janeiro Terminalia. Tree 6 to 10 feet.

9 T. fagifòlia (Mart. fl. bras. 1. p. 42. t. 29.) leaves in fascicles, ovate, or oval-oblong, acutish, mucronate, glandless, clothed with silky villi on both surfaces; spikes naked at the base, axillary, crowded with flowers, shorter than the leaves; drupe large, furnished with 2 wings. ♄. S. Native of Brazil, in the province of Minas Geraes, where it is called *Caxapora de Gentio.* Nectary fleshy, plicately 5-lobed at the base of the style.

Beach-leaved Terminalia. Tree 10 to 30 feet.

10 T. lanceola'ta (Mart. l. c.) leaves in fascicles, ovate-lanceolate, acutish, mucronate, clothed with silky pubescence. ♄. S. Native of Brazil, in the province of Bahia. Said to be like the preceding, but the branches are slenderer, epidermis thinner, and the leaves are lanceolate, green, and tapering more to the base.

Lanceolate-leaved Terminalia. Shrub 3 to 10 feet.

11 T. arge'ntea (Mart. fl. bras. 1. p. 43.) leaves opposite, ovate, acuminated, pubescent above, and shining and silky beneath. ♄. S. Native of Brazil, in the province of Bahia, at Villa do Rio da Contas. A yellow resinous juice flows from this tree, which is used instead of gamboge by the inhabitants.

Silvery Terminalia. Tree.

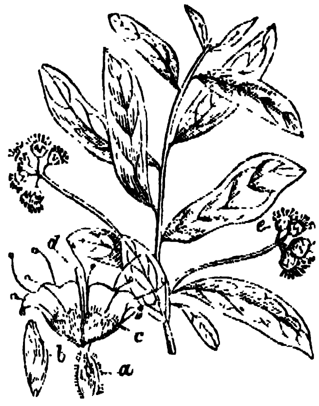
12 T. seri'cea (St. Hil. fl. bras. 2. p. 243.) leaves oblong, acuminated, quite entire, glandless, clothed with silky silvery down; flowers disposed in dense heads. ♄. S. Native of Brazil, in the provinces of Minas Geraes and Goyaz. Drupe winged.

Silky Terminalia. Tr. 20 ft.

13 T. austra'lis (St. Hil. fl. bras. 2. p. 240. t. 128.) leaves lanceolate, tapering into the petiole at the base, acute, quite entire, glandless, smoothish; flowers corymbose, on long peduncles. ♄. S. Native of Brazil, in the province of Minas Geraes. Flowers yellowish. Drupe winged on each side. (f. 88.)

Southern Terminalia. Tree. 8 to 10 feet.

FIG. 88.



Sect. II. Myroba'lanus (μυροβαλανος, a name under which Dioscorides speaks of an Egyptian tree, whose fruit yields a perfumed liquor, from μυρον, *myron*, perfume, and βαλανος, *balanos*, a nut). D. C. prod. 3. p. 12.—Myrobálanus and Badàmia, Gærtn. fruct. 2. p. 90. t. 97.—Myrobálanus, Lam. ill. t. 849. Drupe ovate or a little compressed, dry or baccate, containing a roundish, angularly-furrowed putamen.

14 T. obova'ta (St. Hil. fl. bras. 2. p. 241.) leaves obovate-oblong, narrowed into the petiole at the base, mucronulate, quite entire, glandless, smoothish; flowers corymbose, on long peduncles. ♄. S. Native of Brazil, in the province of Minas Geraes, on the mountains called Serra Negra, where it is called *Carascos.* Drupe ovoid, attenuated at both ends.

Obovate-leaved Terminalia. Tree 20 feet.

15 T. adama'ntum (St. Hil. fl. bras. 2. p. 241.) leaves oblong, narrowed at the base, rounded at the apex, and mucronulate, quite entire, glandless, pubescent; spikes naked at the base, but dense-flowered above the middle. ♄. S. Native of Brazil, in the province of Minas Geraes, in the Distrito Diamantes.

Adamant Terminalia. Tree.

16 T. latifòlia (Swartz, fl. ind. occ. 2. p. 747.) leaves alternate, obovate, tapering to the base, obtuse, and almost entire, glabrous on both surfaces, glandless. ♄. S. Native of Jamaica, in all the great inland woods. Racemes length of leaves. Drupe ovate, acuminated, boat-shaped, fleshy, coriaceous. Nerves of young leaves as well as the petioles covered with very short velvety down. Calyxes pubescent.

Var. β, dichótoma (Meyer, esseq. 177.) flowers woolly. ♄. S.

Native of Guiana, in the island of Arowabisch, in woods. Probably a distinct species.

Broad-leaved Terminalia. Clt. 1800. Tree 30 to 40 feet.

17 T. BENGALE'NSIS (Roxb. hort. beng. p. 33.) leaves alternate, obovate, obtuse, quite entire, glabrous on both surfaces, glandless as well as the petioles. ♄. S. Native of Bengal. T. rotàta, Roxb. in herb. Lamb. Perhaps *T. myrobálana*, Roth. is referrible to this species.

Bengal Terminalia. Tree 100 feet.

18 T. BELLE'RICA (Roxb. cor. 2. p. 54. t. 198.) leaves alternate, elliptic, quite entire, acutish at both ends, glabrous, on long petioles; petiole furnished with 2 small, opposite, or subalternate glands at the apex. ♄. S. Native of the East Indies, on the mountains. Myrobálanus Bellérica, Breyn. icon. 18. t. 4. Gærtn. fruct. 2. p. 90. t. 97. Tàni, Rheed. mal. 4. t. 10. Drupe ovate, bluntly pentagonal, fleshy. Flowers fetid. A quantity of insipid gum like gum-arabic issues from this tree when wounded. The kernel of the nut is reported to intoxicate if eaten in any great quantity.

Belleric Terminalia. Clt. 1818. Tree 100 feet.

19 T. CHE'BULA (Retz. obs. 5. p. 31. Roxb. cor. 2. p. 52. t. 197.) leaves nearly opposite, ovate, acutish, petiolate, glabrous above in the adult state, but when young they are clothed with silky villi on both surfaces; glands 2 at the top of the petiole, and many on the margin of the limb. ♄. S. Native of the East Indies, on the mountains. Myrobálanus Chébula, Gærtn. fruct. 2. p. 90. t. 97. Drupe ovate, bluntly angular, the alternate angles the largest; flesh hard and brittle. Nut pentagonal. The outer coat of the fruit mixed with salt of steel makes a very durable ink. The galls, called cadacay by the Tamuls, are found on the leaves of this tree, and are probably produced by the punctures of insects on the tender leaves. With them and alum the best and most durable yellow is dyed, and in conjunction with ferruginous mud a black is procured from them.

Chebula Terminalia. Clt. 1796. Tree 40 to 50 feet.

20 T. CI'TRINA (Roxb. hort. beng. p. 33.) leaves alternate, ovate, acuminated, quite entire, glabrous, petiolate; petioles furnished with 2 thick glands at the apex. ♄. S. Native of the East Indies. Myrobálanus citrina, Gærtn. fruct. 2. p. 90. t. 97. Drupe ovate-oblong, tapering downwards, yellowish.

Citron-fruited Terminalia. Clt. 1823. Tree 40 to 50 feet.

21 T. ARU'TA (Hamilt. mss. in herb. Lamb.) leaves alternate, elliptic, puberulous as well as the petioles, which are furnished with 2 or 3 opposite glands at the apex; fruit obovate. ♄. S. Native of the East Indies.

Aruta Terminalia. Tree.

22 T. NI'TIDA (Roxb. in herb. Lamb.) leaves alternate, elliptic, tapering to both ends, acuminated at the apex, glabrous; spikes axillary; calyx very woolly inside. ♄. S. Native of the East Indies.

Nitid-leaved Terminalia. Tree.

23 T. PRO'CERA (Roxb. cor. 3. t. 224.) leaves alternate, obovate, quite entire, obtuse, with an acumen, on short petioles, glabrous, but bearing hairs in the axils of the lateral nerves, and bearing 2 glands on the under surface at the base at the sides of the middle nerve. ♄. S. Native of Coromandel. Branches horizontal, whorled. Limb of calyx rotate. Drupe oblong, obscurely 5-angled.

Tall Terminalia. Clt. 1816. Tree 50 to 100 feet.

24 T. FATRÆ'A (D. C. prod. 3. p. 12.) leaves alternate, hardly petiolate, oval, quite entire, obtuse, or mucronate, glabrous on both surfaces. ♄. S Native of Madagascar. Fatræ'a, Juss. dict. sci. nat. 16. p. 206. Pet. Th. obs. pl. afr. aust. p. 19. Myrobálanus Fatræ'a, Poir. suppl. 3. p. 708. T. Madagascariénsis, Spreng. syst. 2. p. 358. Drupe ovate, olive-formed, obsoletely angular.

Fatræa Terminalia. Clt. 1826. Tree 20 to 40 feet.

25 T. RHOMBOI'DEA (Spreng. syst. 2. p. 358.) leaves alternate, oblong-lanceolate, acutish at both ends, quite entire, glabrous, on short petioles. ♄. S. Native of Madagascar. Myrobálanus, Lam. ill. t. 849. f. 1. Myrobálanus rhomboídea, Poir. suppl. 3. p. 708. Drupe dry, oval, rather rhomboid, acutish at both ends, with 6-7 acute deep angles.

Rhomb-fruited Terminalia. Shrub 6 to 10 feet.

26 T. BADA'MIA (D. C. prod. 3. p. 12.) leaves obovate; drupe dry, elliptic, smooth; flesh spongy; putamen with 6 wings. ♄. S. Native of Madagascar. Badàmia Commersònii, Gærtn. fruct. 2. p. 90. t. 97. Myrobálanus, Lam. ill. t. 849. f. 2. Myrobálanus Terminàlia, Poir. suppl. 3. p. 707. Flowers unknown. *Badamier* is the name of the tree in the Isle of France.

Badamia Terminalia. Tree 30 feet.

27 T. PA'MEA (D. C. prod. 3. p. 13.) leaves alternate, oblong, attenuated at the base, acutish at the apex, petiolate, glabrous; drupes oblong, bluntly trigonal, rather baccate. ♄. S. Native of French Guiana, in woods. Pâmea Guianénsis, Aubl. guian. 2. p. 946. t. 359. Leaves crowded at the tops of the branches. Flowers unknown. *Pame* is the Guiana name of the tree.

Pame Terminalia. Tree 4[illegible] feet.

† *Fruit of the following species unknown, or very doubtful.*

* *Flowers 4-cleft, octandrous.*

28? T. ERYTHROPHYLLA (Burch. cat. no. 1749. trav. 1. p. 400.) leaves alternate and opposite, quite entire, elliptic, acuminated, glabrous, rather ciliated, glandless; petioles very short, pubescent as well as the branches. ♄. G. Native of the Cape of Good Hope. Peduncles axillary, shorter than the leaves. Spikes ovate, capitate. Flowers hermaphrodite. Perhaps a species of *Combrètum*.

Red-leaved Terminalia. Tree 40 feet.

29 T.? VILLÒSA (Spreng. neue. entd. 2. p. 111.) leaves alternate, oblong, attenuated at both ends, denticulated, petiolate, glabrous above, villous beneath; panicles axillary, clothed with rusty villi. ♄. S. Native of Brazil. Calyx corolline, villous inside. Stamens 8, exserted. Perhaps a species of *Combrètum*.

Villous Terminalia. Shrub.

30 T.? DI'SCOLOR (Spreng. l. c.) leaves obovate-oblong, quite entire, glabrous, rufous beneath; panicle terminal; branches angularly-compressed, glabrous. ♄. S. Native of Brazil. Calyx 5-lobed. Stamens said to be 8.

Discoloured-leaved Terminalia. Tree.

* * *Flowers 5-cleft, decandrous.*

31 T. ARBU'SCULA (Swartz, fl. ind. occ. 750.) leaves scattered, ovate-lanceolate, entire, on short petioles, pubescent when young, at length glabrous; spikes length of the leaves. ♄. S. Native of the north of Jamaica. Limb of calyx urceolate, 5-toothed, villous inside. Stamens 10, exserted. Fruit unknown.

Shrubby Terminalia. Clt. 1822. Shrub 6 to 10 feet.

32 T. SERI'CEA (Burch. cat. geogr. afr. austr. no. 2399.) leaves alternate, crowded at the tops of the branches, oblong, mucronate, sessile, quite entire, clothed with silky adpressed villi on both surfaces; spikes shorter than the leaves, pedunculate, ovate, clothed with silky villi. ♄. S. Native of the Cape of Good Hope. Limb of calyx 5-cleft. Stamens inclosed in the specimen examined, but they were probably not mature.

Silky Terminalia. Shrub 6 to 8 feet.

33 T.? MONA'PTERA (Roth. nov. spec. 382.) leaves alternate, oblong-ovate, acutish, obtuse at the base, wrinkled above and pubescent, but tomentose beneath, and biglandular at the base; drupe ovate, tomentose, furnished with 1 or 3 wings. ♄. S.

Native of the East Indies. Perhaps a species of *Pentáptera* or *Combrètum*.

One-winged-fruited Terminalia. Tree.

34 T. PANICULA'TA (Roth. nov. spec. p. 383.) leaves petiolate, oblong-oval, obtuse at both ends, rather pilose, quite entire, biglandular beneath at the base; spikes densely panicled, tomentose. ♄. S. Native of the East Indies. Fruit unknown.

Panicled Terminalia. Tree.

* * * *Species whose fruit and stamens remain undescribed.*

35 T. CILIA'TA (Spreng. syst. 2. p. 359.) leaves obovate-oblong, obtuse, attenuated at the base, ciliated, quite glabrous on both surfaces, glandless at the base; peduncles racemose, elongated, biglandular at the base. ♄. S. Native of the East Indies.

Ciliated-leaved Terminalia. Tree.

36 T.? RETICULA'TA (Roth. nov. spec. 381.) leaves opposite, oval, obtuse at both ends, quite entire, clothed with silky pili, dotted above, and reticulated with black beneath. ♄. S. Native of the East Indies. Petioles 3 lines long, clothed with rufous velvety down. Spikes compound. Stamens exserted. Fruit unknown. Perhaps a species of *Pentáptera*.

Reticulated-leaved Terminalia. Shrub or tree.

37 T. PUNCTA'TA (Roth. nov. spec. p. 381.) leaves alternate, elliptic, attenuated at both ends, glandless, quite entire, obtuse at the apex, pubescent, dotted above, on long petioles. ♄. S. Native of the East Indies. Spikes simple, a little longer than the petioles. Stamens longer than the calyx. Fruit unknown.

Dotted-leaved Terminalia. Shrub or tree.

38 T. ELLI'PTICA (Willd. spec. 4. p. 969.) leaves oblong-elliptic, obtuse, quite entire, glabrous above, and rather pilose beneath, biglandular at the base. ♄. S. Native of the East Indies. Glands of leaves cup-shaped, somewhat pedicellate. Spikes panicled, terminal. Stamens and fruit unknown.

Elliptic-leaved Terminalia. Shrub or tree.

39 T. TRIFOLIA'TA (Spreng. syst. 2. p. 358.) leaves ternate, lanceolate, bluntish, glabrous, of a different colour beneath; racemes panicled, smooth. ♄. S. Native of Brazil. The rest unknown.

Trifoliate Terminalia. Shrub or tree.

40 T. MACROSTE'MON (Spreng. syst. 2. p. 14.) leaves oblong-lanceolate, acuminated, coriaceous, veiny, quite glabrous on both surfaces; branches of panicle verticillate, pubescent; stamens elongated. ♄. S. Native of Brazil. The rest unknown.

Long-stamened Terminalia. Shrub or tree.

41 T. LU'CIDA (Hoffmansegg. ex Mart. fl. bras. 1. p. 43.) leaves opposite, ovate-oblong, acute, coriaceous, glabrous on both surfaces, and glandless at the base; spikes numerous, aggregate, pubescent. ♄. S. Native of Brazil in moist woods, in the province of Para. Fruit unknown.

Shining-leaved Terminalia. Shrub or tree.

42 T. FI'RMA (Mart. ex Spreng. syst. 2. p. 358.) leaves in bundles, obovate, mucronate, coriaceous, with revolute margins, glabrous on both surfaces and reticulated; spikes terminal, aggregate, villous. ♄. S. Native of Brazil on high mountains, in the province of the Rio-Negro. The rest unknown.

Firm Terminalia. Tree.

43 T. BRASILIE'NSIS (Spreng. syst. 2. p. 358.) leaves oblong, membranous, glandularly crenated, veiny, smoothish; flowers in fascicled racemes. ♄. S. Native of Brazil. The rest unknown.

Brazil Terminalia. Shrub or tree.

Cult. See *Bùcida* for culture and propagation. p. 657.

IV. PENTA'PTERA (from πεντε, *pente*, five, and πτερον, *pteron*, a wing; in reference to the fruit being furnished with 5 wings). Roxb. hort. beng. p. 34. D. C. prod. 2. p. 14.

LIN. SYST. *Polygàmia, Monœ'cia.* All as in *Terminàlia*, except the drupe, which is coriaceous and ovate, furnished with 5-6 regular vertical wings.—East Indian trees, with opposite or sub-opposite petiolate leaves, which are biglandular at the base. Spikes of flowers axillary and terminal, usually so close together as to form a brachiate panicle. Flowers 5-cleft, decandrous. Perhaps only a section of *Terminàlia*, or perhaps numbers of the Indian species of *Terminàlia*, whose fruit are unknown, are referrible to this genus.

1 P. TOMENTÒSA (Roxb. l. c. D. C. diss. t. 1.) leaves nearly opposite, on short petioles, ovate, repandly crenulated, obtuse at both ends, mucronate at the apex, somewhat dotted beneath, and velvety on the nerves, and bearing 2 thick cup-shaped glands at the base. ♄. S. Native of the East Indies, where it is called *Usun* or *Usuna*. Terminàlia alàta, Roth. nov. spec. 378. Leaves 7-9 inches long, and 3 broad. Spikes disposed in a brachiate panicle. Flowers hairy. Fruit glabrous, with the wings coriaceous and much extended.

Tomentose Pentaptera. Tree 40 ft.

2 P. PANICULA'TA (Roxb. l. c.) leaves nearly opposite, petiolate, oval-oblong, acutish, obtuse at the base, quite entire, glabrous on both surfaces, coriaceous, bearing 2 thick cyathiform glands at the base beneath. ♄. S. Native of Coromandel, where it is called *Ninmeeri* and *Pokarakai*. Leaves 5-6-inches long, and 2 inches broad. Spikes clothed with adpressed velvety down, forming a brachiate panicle. Flowers hairy.

Panicled Pentaptera. Tree 40 ft.

3 P. ARJU'NA (Roxb. l. c. D. C. diss. t. 2.) leaves nearly opposite, petiolate, oblong, acute, bluntish at the base, quite glabrous on both surfaces, entire, bearing 2 small glands at the origin of the pagina. ♄. S. Native of the East Indies, where it is called *Urjoon*, whence the trivial name. Leaves glaucescent, 3-5 inches long, and an inch broad. Spikes usually tern, panicled. Drupe furnished with 6-7 thick coriaceous wings.

Urjoon Pentaptera. Tree 50 ft.

4 P. OBOVA'TA (D. C. prod. 3. p. 14.) leaves opposite, on short petioles, obovate, very blunt at the apex or emarginate, and rather narrowed at the base, quite entire, glabrous on both surfaces, bearing 2 marginal concave glands at the origin of the limb. ♄. S. Native of the East Indies, where it is called *Mardemarum*. Terminàlia alàta, Leschen. herb. Leaves 3 inches long, and 1 broad, sometimes glandless. Spikes usually tern, panicled. Flowers in fascicles along the rachis.

Obovate-leaved Pentaptera. Tree 40 feet.

5 P. CUNEA'TA (D. C. prod. 3. p. 14.) leaves opposite, petiolate, oblong, cuneate-elliptic, acutish, quite entire, glabrous above, and clothed with rufous pubescence beneath, bearing 2 small glands at the base. ♄. S. Native of the East Indies. Terminàlia cuneàta, Roth. nov. spec. p. 379. Spikes constituting a terminal panicle. Flowers in fascicles along the rachis. Drupe ovate, 5-angled, 5-furrowed; angles winged. Leaves sometimes glandless.

Cuneate-leaved Pentaptera. Tree 50 ft.

6 P. CRENULA'TA (D. C. prod. 3. p. 15.) leaves nearly opposite, on short petioles, oblong-oval, acutish, but somewhat cordate at the base, crenulated, dotted above, rufous beneath, and furnished with 2 glands at the base. ♄. S. Native of the East Indies. Terminàlia crenulàta, Roth. nov. spec. p. 380. Perhaps the same as P. crenulàta, Roxb. hort. beng. p. 34. Spikes opposite, superior ones tern. Flowers pubescent, in fascicles. Fruit unknown.

Crenulated-leaved Pentaptera. Tree 40 ft.

7 P. MARA'DU; leaves nearly opposite, long, oblong, glabrous above; fruit large, 5-winged. ♄. S. Native of the East Indies. Terminàlia Maràdu, Hamilt. mss. in herb. Lamb.

Muradu Pentaptera. Tree 50 ft.

8 P. GLA'BRA (Roxb. hort. beng. p. 34.) leaves nearly opposite, oblong or obovate-oblong, obtuse, glabrous, furnished with 2 glands at the base on the middle nerve, discoloured beneath; panicle terminal, composed of spikes. ♄. S. Native of the East Indies, where it is called *Della-madoo*.

Glabrous Pentaptera. Tree 50 ft.

9 P. ALA'TA (Banks, herb.) leaves elliptic-obovate, obtuse, and mucronate, glabrous, furnished with 2 glands at the base of the limb; branches, rachis, and calyxes drooping; spikes on long peduncles, axillary or terminal, simple. ♄. S. Native of Tranquebar.

Winged-fruited Pentaptera. Tree 40 ft.

† *Species only known by name from Roxb. hort. beng. p.* 34.

10 P. CORIA'CEA (Roxb.) Native of Coromandel, where it is called *anemutti*. Perhaps the same as *Terminàlia coriàcea* of Rottl.

Coriaceous-leaved Pentaptera. Tree 40 ft.

11 P. BIALA'TA (Roxb.) Native of the East Indies.

Two-winged-fruited Pentaptera. Tree 40 ft.

Cult. See *Bùcida* for culture and propagation, p. 657.

V. GETO'NIA (the author does not say from whence this name is derived). Roxb. cor. 1. t. 87. Gærtn. fruct. 3. p. 210. t. 217. D. C. prod. 2. p. 15.—Calycópteris, Lam. ill. t. 357. Poir. suppl. 2. p. 41.

LIN. SYST. *Decándria, Monogýnia*. Limb of calyx permanent, campanulate, cleft almost to the base into 5 parts; lobes lanceolate, 3-nerved. Petals wanting. Stamens 10, exserted, disposed in 2 series, shorter than the calycine lobes, 5 inserted at the recesses of the lobes, and the other 5 inserted in the bottom of the calyx. Anthers orbicular, didymous. Style filiform, obtuse, pubescent. Nut roundish, pentagonal, crowned by the calyx, 1-celled, 1-seeded.—Climbing shrubs, with opposite ovate acuminated leaves, on short petioles, full of small resinous dots beneath. Racemes axillary, or constituting a terminal panicle.

1 G. FLORIBU'NDA (Roxb. cor. 1. t. 87.) leaves ovate, acute, pubescent above, and clothed with rusty tomentum beneath; panicle terminal. ♄. ◡. S. Native of Malabar. Roth. nov. spec. 216. Perhaps the same as Calycópteris floribúnda, Lam. ill. t. 357. a native of Madagascar, which, according to Poir. suppl. 2. p. 41. has glabrous leaves.

Bundle-flowered Getonia. Clt. 1815. Shrub cl.

2 G. NU'TANS (Roxb. hort. beng. p. 33.) leaves ovate, ending in a long abrupt acumen, glabrous above except the nerve, pubescent beneath; racemes for the most part axillary, longer than the leaves. ♄. ◡. S. Native of the East Indies. G. nítida, Roth. nov. spec. 217. Flowers nearly twice the size of those of the preceding species.

Var. β, *brachystàchya* (D. C. prod. 3. p. 15.) leaves ovate, acute, glabrous above except the nerve, pubescent beneath; racemes axillary, shorter than the leaves. ♄. S. Native country unknown. Perhaps a variety of *G. floribúnda*, or perhaps a species.

Nodding-racemed Getonia. Clt. 1816. Shrub cl.

Cult. See *Combrètum* for culture and propagation, p. 670.

VI. CHUNCO'A (*Arbol del Chunchu* is the name of the first species in Peru). Pav. in Juss. gen. p. 76. (1789.) Poir. suppl. 2. p. 258. Gimbernàtia, Ruiz et Pav. fl. per. prod. p. 138. t. 36. (1794).

LIN. SYST. *Decándria, Monogýnia*. Flowers some of them hermaphrodite, and others male. Limb of calyx 5-toothed, deciduous. Petals wanting. Stamens 10, filiform, length of the calyx; anthers roundish. Style filiform. Fruit drupaceous, oblong, coriaceous, 5-angled; angles winged, the 2 opposite ones the largest. Seed one, pendulous.—Peruvian trees, with alternate scattered leaves, and axillary spikes or racemes of flowers; those flowers at the base of the spikes hermaphrodite, and those at the apex male. The internal structure of the seeds is scarcely known. Ventenat doubts if the cotyledons are truly convolute. The genus is probably distinct from *Terminàlia*.

1 C. OBOVA'TA (Poir. l. c.) leaves obovate, acuminated; spikes pendulous; fruit 5-winged. ♄. S. Native of Peru, at Cuchera and Macora, where it is called *Arbol del Chunchu*. Gimbernàtia obovàta, Ruiz et Pav. prod. 138. syst. 174. and Spreng. syst. exclusive of the synonyme of Aublet.

Obovate-leaved Chuncoa. Tree 40 feet.

2 C. OBLO'NGA (Poir. l. c.) leaves oblong; spikes crowded; fruit furnished with 2 wings. ♄. S. Native of Peru, in woods at Pozuzo. Gimbernàtia oblónga, Ruiz et Pav. l. c.

Oblong-leaved Chuncoa. Tree.

3 C. BRASILIE'NSIS (St. Hil. fl. bras. 2. p. 244.) leaves obovate-oblong, quite entire, biglandular at the base; spikes nearly sessile, many-flowered; fruit pubescent. [illegible]. S. Native of Brazil, in the provinces of Minas Gera[illegible] and Goyaz.

Brazilian Chuncoa. Tree 20 ft.

Cult. See *Bùcida* for culture and propagation, p. 657.

VII. RAMATUE'LLA ([illegible]*aturelle* is the vernacular name of the tree). D. C. prod. 3. [illegible] 16.—Ramatuèla, H. B. et Kunth, nov. gen. amer. 7. p. 253. [illegible] 656.

LIN. SYST. and flowers unknown. Fruit coriaceous and woody, indehiscent, 1-seeded, 5-angled; angles winged above, and ending in a tapering beak at the apex. Seed ovate-subconical, marked by the raphe on one side. Cotyledons convolute.—A shrub, having the leaves crowded by threes or fours at the tops of the branches, quite entire, coriaceous. Peduncles terminal, but at length lateral. Fruit sessile, crowded into heads.

1 R. ARGE'NTEA (H. B. et Kunth, l. c.) ♄. S. Native of South America, on the banks of the river Atabapo. Leaves obovate-cuneated, glabrous above, and silky beneath.

Silvery Ramatuella. Shrub 5 to 6 feet.

Cult. See *Bùcida* for culture and propagation, p. 657.

VIII. CONOCA'RPUS (from κωνος, *konos*, a cone, and καρπος, *karpos*, a fruit; in reference to the scale-formed fruit being so closely imbricated in a head as to resemble a small fir-cone). Gærtn. fruct. 2. p. 470. t. 177. H. B. et Kunth, nov. gen. amer. 6. p. 113. but not of Adans.—Conocárpus spec. Jacq. and Lin. —Rudbèchia, Adans. fam. p. 80. but not of Lin.

LIN. SYST. *Penta-Decándria, Monogýnia*. Tube of calyx 5-cleft, deciduous. Petals wanting. Stamens 5-10, exserted; anthers cordate. Ovarium compressed, biovulate. Style 1. Fruit corky, scale-formed, closely imbricated, indehiscent, 1-seeded. Seed pendulous. Cotyledons involute.—Shrubs, with alternate quite entire leaves, rarely nearly opposite ones. Heads of flowers pedunculate; flowers crowded.

SECT. I. EUCONOCA'RPUS (from ευ, *eu*, well or good, κωνος, *konos*, a cone, and καρπος, *karpos*, a fruit; this section contains those species whose fruit is so densely imbricated as to appear like a fir-cone). D. C. prod. 3. p. 16. Fruit somewhat boat-shaped, hardly winged on the margins, awnless at the apex, imbricated backwards. Tube of calyx not drawn out beyond the ovarium, with a sessile limb seated obliquely on the ovary.

1 C. ERE'CTA (Jacq. amer. 78. t. 52. f. 1. H. B. et Kunth, nov. gen. amer. 6. p. 118.) leaves oblong-lanceolate, tapering to both ends, thickish, glabrous, or when young rather downy, usually biglandular at the base; heads of flowers panicled. ♄. S. Native of South America, West Indies, Tropical Africa, and Asia, in sandy places near the sea or on banks of rivers, as far up as the tide reaches, and usually growing along with mangroves. —Sloane, hist. 2. p. 161. f. 2.—Cat. car. t. 33.

Erect Conocarpus. Clt. 1752. Shrub 6 to 8 feet.

2 C. PROCU'MBENS (Jacq. amer. 79. t. 51. f. 2.) stems much branched, procumbent; leaves obovate, glabrous; heads panicled. ♄. S. Growing along with the last, and lying flat on the ground. C. erécta var. β, procúmbens, D.C. prod. 3. p. 16.

Procumbent Conocarpus. Clt. 1730. Pl. prostrate.

3 C. ACUTIFÒLIA (Willd. in Rœm. et Schultes. syst. 5. p. 574.) stems erect; leaves lanceolate, acute at both ends; heads of flowers solitary and axillary, or aggregate at the tops of the branches; branches pubescent. ♄. S. Growing along with the two preceding species.

Acute-leaved Conocarpus. Clt. 1820. Shrub 5 to 8 feet.

4 C. SERI'CEA (Forst. in herb. Lher.) leaves oblong, acuminated at both ends, clothed with silky villi on both surfaces even in the adult state; heads panicled. ♄. S. Native of South America? C. erécta var. γ serícea, D.C. prod. 3. p. 16.

Silky Conocarpus. Shrub.

SECT. II. LEIOCARPUS (from λειος, *leios*, smooth, and καρπος, *karpos*, a fruit). Fruit loosely imbricated backwards, amply winged on the margins, and ending in a short acumen at the apex. Tube of calyx stretched out a little beyond the ovarium. —African species.

5 C. LEIOCA'RPA (D. C. prod. 2. p. 16.) leaves oval, glandless, glabrous, hardly pubescent on the nerve beneath; heads axillary, pedunculate, solitary; fruit quite glabrous. ♄. S. Native of Senegal and Gambia.

Smooth-fruited Conocarpus. Shrub 5 to 6 feet.

SECT. III. ANOGEI'SSUS (from ανα, *ana*, upwards, and γεισσον, *geisson*, a tile; in reference to the scale-like fruit being imbricated upwards in the heads). D. C. prod. 3. p. 16. Fruit imbricated upwards, drawn out into a long acumen at the apex. Tube of calyx drawn out beyond the ovarium, and so slender as to give the limb the appearance of being pedicellate.—Indian species.

6 C. ACUMINA'TA (Roxb. hort. beng. p. 34.) leaves glandless; heads axillary, pedunculate, solitary; fruit clothed with adpressed villi. ♄. S. Native of the East Indies, where it is called *panch-maun*. Andersònia acuminàta, Roxb. herb. Leaves elliptic, acute, glabrous above, and clothed with adpressed down beneath. Heads globose, shorter than the leaves.

Acuminated Conocarpus. Shrub.

† *A species not sufficiently known.*

7 C. LATIFÒLIA (Roxb. hort. beng. p. 34.) ♄. S. Native of the East Indies. Leaves glandless, quite glabrous, elliptic, apiculated by a mucrone. Heads solitary, globose, on short velvety peduncles. Perhaps the same as C. latifòlia, Roxb.

Broad-leaved Conocarpus. Shrub.

Cult. See *Bùcida* for culture and propagation, p. 657.

Tribe II.

COMBRETEÆ (plants agreeing with *Combrètum* in the flowers being furnished with petals). Flowers hermaphrodite, with 4-5 petals and 8-10 stamens.

IX. LAGUNCULA'RIA (meaning not explained). Gærtn. fruct. 3. p. 209. t. 217. D. C. prod. 3. p. 17.—Spenocárpus, Rich. anal. fr. p. 92.—Conocárpus species of Lin.

LIN. SYST. *Decándria, Monogýnia.* Limb of calyx permanent, somewhat campanulate, 5-toothed; teeth obtuse. Petals 5, minute, spreading, caducous. Stamens 10, disposed in two series, inclosed. Style subulate. Stigma capitate. Fruit with 5 unequal ribs, coriaceous, crowned by the calyx, valveless, 1-seeded. Cotyledons convolute. Radicle very long.—A tree or shrub, with opposite leaves and opposite spikes of bractless flowers. Seed germinating within the nut.

1 L. RACEMÒSA (Gærtn. l. c.) leaves elliptic, obtuse, glabrous; flowers racemose; calyxes clothed with white tomentum. ♄. S. Native of Guiana, Brazil, and the West Indies, in marshes by the sea side. Conocárpus racemòsa, Lin. spec. 251. Jacq. amer. 80. t. 53. Swartz, obs. 79. Schousbòa commutàta, Spreng. syst. 2. p. 332.—Sloane, hist. t. 187. f. 1.

Racemose-flowered Laguncularia. Clt. 1822. Sh. or tree.

Cult. See *Bùcida* for culture and propagation, p. 657.

X. GUIE'RA (*Guier* is the name of the tree in Senegal). Juss. gen. 320. Lam. ill. t. 360. D. C. prod. 3. p. 17.

LIN. SYST. *Decándria, Monogýnia.* Tube of calyx oblong, slender, somewhat cylindrical, with a tubular campanulate 5-toothed limb. Petals 5, oblong-linear, small. Stamens 10, exserted; anthers globose. Ovary oblong. Style 1, filiform. Capsule narrow, pentagonal, 1-celled, 1-5-seeded. Seeds hanging by a thread, oblong. Cotyledons convolute?—A shrub, with opposite ovate entire leaves. Flowers crowded into spicate heads, sessile along the rachis, with large foliaceous bracteas at the base of the head of flowers, and other small ones at the base of the flowers.

1 G. SENEGALE'NSIS (Lam. ill. t. 360. Poir. suppl. 2. p. 861.) ♄. S. Native of Senegal. Leaves dotted beneath. Heads of flowers girded by a 4-leaved involucrum. Calycine tube or fruit bearded.

Senegal Guiera. Shrub 5 to 6 feet.

Cult. See *Bùcida* for culture and propagation, p. 657.

XI. COMBRE'TUM (a name given by Pliny to a climbing plant, but to what plant is not at present known). Lœfl. itin. p. 308. Lin. gen. no. 457. Gærtn. fruct. 1. p. 176. t. 36. G. Don, in Lin. trans. 15. p. 413. D. C. prod. 2. p. 18. Ætia, Adans. fam. 2. p. 84.—Poivrea, Comm.—Cristària, Sonn. voy. ind. 2. t. 140. but not of Cav.

LIN. SYST. *Octo-Decándria, Monogýnia.* Calyx with a 4-5-toothed (f. 89. *a.*) deciduous limb. Petals 4-5 (f. 89. *b.*), inserted at the top of the calyx. Stamens 8-10, exserted. Ovary 2-5- (f. 89. *c.*) -ovulate. Style filiform (f. 89. *d.*). Fruit 4-5-winged. Seed 1, pendulous.—Climbing or erect shrubs, rarely herbs, with entire, opposite or tern, rarely alternate leaves. Spikes solitary or twin, axillary, and terminal, opposite, or 3 or 4 in a whorl, usually disposed in a terminal panicle. Flowers bracteate, almost sessile, rarely pedicellate. Petals scarlet, red, white, rarely orange.

SECT. I. EUCOMBRE'TUM (from *eu*, well or good, and *combretum;* this section contains what are considered the genuine species of the genus). Calyx 4-toothed. Corolla 4-petalled. Stamens 8. Fruit 4-winged. Cotyledons reflexed by a plait in the middle?

§ 1. *Calyx campanulate. Spikes axillary and terminal. Flowers secund.*

1 C. SECU'NDUM (Jacq. amer. 103. t. 176. f. 30. ed. pict. p. 53. t. 260. f. 26. G. Don, in Lin. trans. 15. p. 419.) climbing, glabrous; branches sub-quadrangular; leaves ovate-lanceolate; calyxes and ovaries covered with resinous dots; petals scale-formed, elliptic, mucronate, cucullate. ♄. ◡. S. Native of Guiana and the Island of Trinidad. Lam. ill. t. 282. f. 1. C. élegans, H. B. et Kunth, nov. gen. amer. 6. p. 109. C. láxum, Aubl. guian. 1. p. 251. t. 137. Flowers large, secund. Petals yellow, a little shorter than the calycine teeth. Calyx covered with rusty dots outside. Stamens scarlet, disposed in one series, nearly an inch long.

Secund-flowered Combretum. Clt. 1818. Sh. cl.

2 C. OXYPE'TALUM (G. Don, in Lin. trans. 15. p. 420.) climbing, glabrous; branchlets somewhat quadrangular; leaves ob-

long, membranous, attenuated at both ends, covered with resinous rusty dots beneath, as well as the calyxes; petals scale-formed, obovate-lanceolate, acuminated; stamens very long. ♄ . ◡. S. Native of Guayaquil. Very like the preceding, but differs in the membranous leaves tapering to both ends, and in the shape of the petals.

Sharp-petalled Combretum. Shrub cl.

3 C. FORMÒSUM (G. Don, in Lin. trans. 15. p. 420.) climbing; leaves oblong-elliptic, acuminated, beset with resinous rusty dots beneath, but when in a young state clothed with rusty down, as well as the calyxes; flowers crowded; petals scale-formed, cuneate-lanceolate, acuminated. ♄ . ◡. S. Native of Brazil, near Rio Janeiro. Very like the two preceding species, but differs in the young leaves and calyx being clothed with rusty down.

Beautiful Combretum. Shrub cl.

4 C. MICROPE'TALUM (D. C. prod. 3. p. 19. St. Hil. fl. bras. 2. p. 249.) leaves elliptic-oblong, acuminated, smoothish above, and lepidotted beneath; spikes simple, dense-flowered, on short peduncles, about equal in length to the leaves; calyx rubiginose, with a tetragonal tube; petals obovate-lanceolate; stamens very long. ♄ . ◡. S. Native of Brazil, in the provinces of Minas Geraes and Minas Novas. Petals yellow.

Small-petalled Combretum. Shrub cl.

5 C. ROTUNDIFÒLIUM (Rich. act. soc. hist. nat. par. I. 791. p. 108.) climbing; leaves ovate-roundish, mucronate, glabrous; spikes opposite, bractless; flowers secund? calyx glabrous on the inside. ♄ . ◡. S. Native of Cayenne. Leaves of the branches oval, of the branchlets roundish. Calyx lepidotted on the outside. Stamens very long, purple? Fruit with ample membranous wings.

Round-leaved Combretum. Shrub cl.

6 C. MACROCA'RPUM (Beauv. fl. d'ow. 2. p. 90. t. 118. f. 2.) fruit large, 4-winged; wings deeply cordate at the apex. ♄ . ◡. S. Native of the west coast of Africa, at Benin.

Large-fruited Combretum. Sh. cl.

§ 2. *Calyx tubular. Flowers disposed in terminal fascicles or umbels.*

7 C. LEUCOPHY'LLUM (G. Don, in edinb. phil. journ. 1824. p. 344. and in Lin. trans. 15. p. 421.) erect, clothed with fulvous villi; leaves oblong, mucronate; racemes corymbose or umbellate; floral leaves white, and constituting an involucrum to the head of flowers, and with a linear white bractea to each flower; petals lanceolate, obtuse, 4 times longer than the calyx. ♄ . S. Native of Sierra Leone, not far from Free-town, and of Senegal at St. Louis. C. trigonoides, Perr. in litt. ex D. C. prod. 3. p. 20. Flowers pedicellate, scarlet. Stamens scarlet, much longer than the petals, bearing black anthers.

White-leaved Combretum. Sh. 4 to 6 feet.

8 C. LANUGINÒSUM (G. Don, in Lin. trans. 15. p. 422.) erect; leaves orbicular, emarginate; flowers in fascicles; petals oval, crenulated, a little longer than the calyx. ♄ . S. Native of Abyssinia. Shrub branched, woolly. Stamens long.

Woolly Combretum. Sh. 4 to 6 feet.

9 C. PUNCTA'TUM (Blum. bijdr. p. 640.) climbing; leaves elliptic-oblong, acuminated, dotted on both surfaces; spikes capitate, panicled, axillary, and terminal; calyx villous inside. ♄ . ◡. S. Native of Java, on the mountains.

Dotted-leaved Combretum. Sh. cl.

§ 3. *Calyx tubular. Spikes axillary, never terminal.*

10 C. EXTE'NSUM (Roxb. hort. beng. p. 28. G. Don, in Lin. trans. 15. p. 422.) climbing, glabrous; leaves oblong or obovate, coriaceous; spikes slender, short, solitary, dense-flowered; petals ovate, acute, shorter than the calyx. ♄ . ◡. S. Native of the Moluccas. Flowers small, white. Stamens white, disposed in one series, much exserted. Stigma subcapitate.

Extended Combretum. Sh. cl.

11 C. HERBA'CEUM (G. Don, in edinb. phil. journ. 1824. p. 344. and Lin. trans. 15. p. 423.) herbaceous, humble; stems simple, pubescent; leaves alternate, lanceolate, mucronate, clothed with silky villi beneath, but glabrous above in the adult state; peduncles twin, few-flowered; petals ovate, acute, a little longer than the calyx. ♃. S. Native of Sierra Leone, common in the low lands. Root woody. Flowers small, white. Stamens not much exserted.

Herbaceous Combretum. Fl. Feb. Pl. 1 foot.

12 C. DUARTEA'NUM (St. Hil. fl. bras. 2. p. 248.) leaves elliptic, acuminated, lepidotted on both surfaces; spikes shorter than the leaves; tube of calyx tetragonal; branches glabrous; petals lanceolate, very narrow at the base. ♄ . ◡. S. Native of Brazil. Limb of calyx funnel-shaped.

Duarte's Combretum. Sh. cl.

§ 4. *Calyx turbinately-campanulate. Racemes axillary and terminal, panicled. Flowers pedicellate.*

13 C. PANICULA'TUM (Vent. choix. p. 58.) leaves oblong, obtuse; panicle terminal, bracteated, hairy; calyxes pubescent; bracteas very short; flowers pedicellate. ♄ . ◡. S. Native of Senegal and Sierra Leone. Flowers scarlet.

Panicled-flowered Combretum. Sh. cl.

14 C. SPINÒSUM (G. Don, in edinb. phil. journ. 1824. p. 345.) erect, glabrous; branches spinescent; leaves on long petioles, oval, membranous; flowers pedicellate; calycine teeth nearly obsolete; petals oval, obtuse; stamens not much exserted. ♄ . S. Native of Sierra Leone, in the low lands. Flowers small, scarlet, collected into fascicles. Anthers black.

Spinose Combretum. Shrub 6 to 8 feet.

15 C. SMEATHMA'NNI (G. Don, in Lin. trans. 15. p. 425.) climbing, hairy; leaves elliptic, acuminated, floral ones yellow; bracteas very large; racemes elongated; flowers pedicellate. ♄ . ◡. S. Native of Sierra Leone. Flowers solitary, in the axils of large bracteas. Stamens exserted.

Smeathmann's Combretum. Shrub cl.

§ 5. *Calyx turbinately campanulate. Spikes axillary and terminal, usually disposed in the manner of a panicle.*

16 C. E'LEGANS (St. Hil. fl. bras. 2. p. 277. t. 129.) climbing; leaves elliptic, acute, acuminated, puberulous above, and clothed with yellowish tomentum beneath; spikes simple, on short peduncles; petals lanceolate, acute, hairy; calycine tube cylindrical. ♄ . ◡. S. Native of Brazil, in the province of Minas Geraes. Branches covered with yellowish tomentum. Petals yellow.

Elegant Combretum. Shrub cl.

17 C. FARINÒSUM (H. B. et Kunth, nov. gen. amer. 6. p. 110. G. Don, in Lin. trans. 15. p. 425.) climbing, glabrous; leaves elliptic-oblong, obtuse, rather coriaceous, rounded at the base, mealy beneath; spikes usually twin, many-flowered; petals scale-formed; stamens very long. ♄ . ◡. S. Native of Mexico, between Acapulco and Venta del Exido. Flowers subsecund, orange-coloured.

Mealy Combretum. Fl. April, July. Clt. 1825. Sh. cl.

18 C. FRANGULÆFÒLIUM (H. B. et Kunth, nov. gen. amer. 6. p. 109. t. 538.) climbing, glabrous; leaves elliptic, lepidotted on both surfaces; spikes solitary, rarely twin; bracteas oblong, acute, villous; petals crenated, rather fan-shaped. ♄ . ◡. S. Native on the banks of the Orinoco, near Angustura, and Carichana. Stamens long.

Frangula-leaved Combretum. Shrub cl.

19 C. LA'XUM (Jacq. amer. p. 104. and pict. p. 53.) climbing, glabrous; leaves ovate; spikes erect, loose-flowered; calyx pubescent; petals roundish, shorter than the calyx. ♄ . ◡. S.

Native of the West India Islands. Lam. ill. t. 282. f. 1.—Lœfl. itin. p. 308. Flowers small, white. Stamens long, inserted in the bottom of the calyx.

Loose-flowered Combretum. Shrub cl.

20 C. MEXICA'NUM (Humb. et Bonpl. pl. æquin. 2. p. 156. t. 132.) humble, glabrous; young branches compressed; leaves elliptic, membranous, rather cordate at the base; spikes disposed in the manner of a panicle, clothed with rusty tomentum, short, many-flowered; petals somewhat reniform, shorter than the calyx. ♄. S. Native of Mexico, near Acapulco, by the sea-side. Flowers sub-secund, with the petals and stamens white and the anthers yellow. Stamens 3-times the length of the calyx.

Mexican Combretum. Shrub 6 feet.

21 C. OBTUSIFÒLIUM (Rich. act. soc. hist. nat. par. 1791. p. 108.) leaves obovate, obtuse, quite glabrous; peduncles terminal and axillary, of many spikes; branches clothed with rufous pubescence; calyx pubescent; stamens hardly exserted. ♄. S. Native of Cayenne. Leaves almost elliptic. Very like *C. Mexicànum.*

Obtuse-leaved Combretum. Shrub.

22 C. PULCHE'LLUM (Mart. ex G. Don, in Lin. trans. 15. p. 428.) climbing, puberulous; leaves elliptic, oblong, brownish beneath; spikes disposed in the manner of a panicle; calyxes and peduncles clothed with fuscous villi; petals rather reniform, reflexed. ♄. ◡. S. Native of Brazil, at the Rio Negro. Flowers small, scarlet. Petals a little longer than the calyx, reflexed. Stamens 3-times the length of the calyx.

Neat Combretum. Shrub cl.

23 C. BU'GI (St. Hil. fl. bras. 2. p. 247. t. 130.) climbing; leaves elliptic, bluntly acuminated, glabrous; calycine tube cylindrical; spikes disposed in the manner of a panicle, on short peduncles; petals roundish. ♄. ◡. S. Native of Brazil, on the banks of the Rio St. Francisco, in the western part of the province of Minas Geraes, in the Certao or great desert, where it is called *Bugi.* Flowers polygamous; calyx downy; petals yellow.

Bugi Combretum. Shrub cl.

24 C. RACEMÒSUM (Beauv. fl. d'ow. 2. p. 90. t. 118. f. 1.) climbing, glabrous; leaves ovate-oblong, acute, shining; panicle of many spikes; spikes elongated, tufted at the apex; petals lanceolate, obtuse. ♄. ◡. S. Native of Benin, on the west coast of Africa. Flowers middle-sized, white, on short pedicels. Petals much longer than the calyx. Stamens very long.

Racemose-flowered Combretum. Fl. Feb. Jul. Clt. 1826. Sh. cl.

25 C. A'LBIDUM (G. Don, in Lin. trans. 15. p. 429.) climbing, glabrous; leaves on long petioles, oblong, obtuse, or somewhat orbicular, dotted and green above, and white beneath; panicle of many spikes; spikes crowded with flowers; calyxes pubescent; petals small. ♄. ◡. S. Native of the East Indies. C. láxum, Roxb. hort. beng. p. 88. Stamens very long.

White-leaved Combretum. Shrub cl.

26 C. NA'NUM (Hamilt. mss. in D. Don, prod. fl. nep. p. 219.) humble, erect; leaves oblong or ovate, obtuse, glabrous; spikes simple and sometimes branched at the base; calyxes pubescent; petals ovate, obtuse. ♄. S. Native of Nipaul. Flowers small, white. Stamens very long.

Dwarf Combretum. Clt. 1825. Shrub ½ to 1 foot.

27 C. ROXBU'RGHII (G. Don, in Lin. trans. 15. p. 429.) climbing, glabrous; leaves ovate, obtuse; panicle composed of many loose-flowered spikes; rachis and calyxes pubescent. ♄. ◡. S. Native of the East Indies. Leaves pubescent when young.

Roxburgh's Combretum. Shrub cl.

28 C. ODORA'TUM (Pav. mss. in herb. Lamb. G. Don, in Lin. trans. 15. p. 430.) climbing; branchlets puberulous; leaves oblong or obovate-oblong, rounded, and somewhat emarginate at the apex, coriaceous, glabrous; panicle composed of many spikes; spikes crowded with flowers; petals reniform. ♄. ◡. S. Native of Guayaquil. Flowers red or scarlet. Stamens 3-times the length of the calyx.

Sweet-scented Combretum. Shrub cl.

29 C. GLUTINÒSUM (Perr. in litt. D. C. prod. 3. p. 21.) unarmed, erect, arboreous, glabrous; leaves somewhat verticillate, ovate, petiolate, coriaceous, mucronate; racemes branched at the base or twin, elongated, bractless. ♄. S. Native of Senegal. Flowers yellow, on different branches from the leaf-bearing ones. Branches as well as the young leaves clammy.

Clammy Combretum. Shrub.

30 C. PYRAMIDA'TUM (Desv. in Hamilt. prod. fl. ind. occ. p. 35.) branches complanate, rather greyish; leaves obovate, somewhat emarginate, mucronulate; capsule pyramidal, with acute angles, not winged. ♄. S. Native of Guiana. The rest unknown.

Pyramidal-capsuled Combretum. Shrub.

31 C. PU'BERUM (Rich. in act. soc. hist. nat. par. 1791. p. 108.) climbing, glabrous; leaves oblong, coriaceous, rather cordate at the base, shining above; panicle terminal, composed of many spikes; branches, rachis, and calyxes clothed with rusty down; stamens short; bracteas setaceous. ♄. ◡. S. Native of Cayenne. Flowers small.

Downy Combretum. Shrub cl.

32 C. GLA'BRUM (D. C. prod. 3. p. 19.) climbing, glabrous; leaves elliptic, acuminated; spikes disposed in a terminal panicle; bracteas setaceous. ♄. ◡. S. Native of French Guiana.

Glabrous Combretum. Shrub cl.

§ 6. *Calyx turbinately campanulate. Spikes axillary, never terminal.*

33 C. TOMENTÒSUM (G. Don. in edinb. phil. journ. 1824. p. 346. and in Lin. trans. 15. p. 430.) climbing, clothed with fuscous tomentum; leaves oval, mucronate, smoothish above in the adult state; spikes loose-flowered; petals oval, obtuse, a little shorter than the calyx; stamens short. ♄. ◡. S. Native of Sierra Leone. Flowers small, white.

Tomentose Combretum. Shrub cl.

34 C. MICRA'NTHUM (G. Don, in edinb. phil. journ. 1824. p. 347.) erect; branches pubescent; leaves oblong, bluntly mucronate, glabrous in the adult state; spikes slender; petals linear-cuneated, 4-times the length of the calycine teeth; stamens not much exserted. ♄. S. Native of Sierra Leone. C. parviflòrum, Rchb. in Sieb. pl. exsic. seneg. no. 35. hort. bot. t. 62. Flowers small, red or scarlet, on short pedicels. Stamens very little longer than the petals.

Small-flowered Combretum. Shrub 5 to 6 feet.

35 C. MÓLLE (R. Br. in append. to Salt. trav. G. Don, in Lin. trans. 15. p. 431.) climbing, villous; leaves oblong-lanceolate, acuminated, cordate at the base; spikes elongated; calycine teeth very short; petals small; stamens twice the length of the calyx. ♄. ◡. S. Native of Abyssinia.

Soft Combretum. Shrub cl.

36 C. LATIFÒLIUM (G. Don, in Lin. trans. 15. p. 432.) climbing, glabrous; leaves ample, coriaceous, oblong, acuminated, sometimes rounded; spikes short, crowded with flowers; calyxes pubescent; petals obovate, obtuse; stamens twice the length of the calyx. ♄. ◡. S. Native of the East Indies. C. macrophýllum, Roxb. hort. beng. p. 88.? Flowers small, red.

Broad-leaved Combretum. Shrub cl.

37 C. CHINE'NSE (Roxb. hort. beng. p. 28. G. Don, in Lin. trans. 15. p. 432.) climbing, and covered with rusty scales or dots; leaves elliptic, acute at both ends, green above; spikes loose-flowered; petals small; stamens but little exserted. ♄. ◡. G. Native of China. Flowers middle-sized, scarlet?

Chinese Combretum. Shrub cl.

38 C. VELUTI'NUM (D. C. prod. 3. p. 20.) leaves ovate, acuminated, clothed with soft villi on both surfaces as well as the branches and peduncles; spikes axillary, solitary, simple; pedicels very short. ♄. S. Native of Brazil. Terminàlia argéntea, Mart. bras. 1. p. 43.? Fruit large, 4-winged, pubescent; wings glabrous. Petioles hardly 2 lines long.

Velvety Combretum. Shrub cl.?

39 C. PEDICELLA'RE (D. C. prod. 3. p. 20.) leaves oval-oblong, velvety, but especially beneath, as well as the branches, petioles, and peduncles; racemes axillary, solitary, simple; pedicels about one half the length of the fruit. ♄. ◡? S. Native of Brazil. Very like the preceding species, but the petioles and pedicels are half an inch long. Fruit ovate, acuminated, 4-winged, clothed with short, rufescent, lepidotted down.

Pedicelled Combretum. Shrub cl.?

40 C. A'LTUM (Perr. in litt. D. C. prod. 3. p. 20.) quite glabrous; leaves elliptic, attenuated at both ends, smooth, quite entire, on short petioles; racemes at the base of the branches; fruit solitary, 4-winged, pruinose, or brownish purple between the wings, and lepidotted. ♄. ◡? S. Native of Senegal, at the lake called Du Panier, 28 miles from St. Louis.

Tall Combretum. Shrub cl.

41 C. MUCRONA'TUM (Thonn. in herb. Vahl. ex herb. Puer. D. C. prod. 3. p. 20.) climbing? branchlets pubescent; leaves on short petioles, elliptic, somewhat obovate, obtuse at the base, and acuminately mucronate at the apex, glabrous, but with the petiole and nerve rather pubescent; racemes pedunculate, elongated, bractless. ♄. ◡. S. Native of Guinea. Calyxes and racemes velvety. Fruit glabrous, with membranous wings. Not known whether it belongs to the present division of the genus or not.

Mucronate-leaved Combretum. Shrub cl.

42 C. WALLI'CHII (D. C. prod. 3. p. 21.) erect, glabrous; leaves opposite, petiolate, mucronately acuminated; spikes pedunculate, axillary, simple, shorter than the leaves, bractless. ♄. S. Native of Nipaul. Flowers small, glabrous on the outside and villous inside.

Wallich's Combretum. Shrub.

SECT. II. POI'VREA (in honour of N. Poivre, intendent of the Mauritius in 1766, a patron of botany). Poívrea. Comm. ined. Pet. Th. obs. pl. afr. aust. p. 28. D. C. prod. 3. p. 17. Cristària, Sonn. voy. ind. 2. t. 140. but not of Cav.—Gonocárpus, Hamilt. prod. but not of Thunb. Calyx 5-toothed. Petals 5. Stamens 10, exserted. Ovary 2-5, ovulate. Fruit with 5 wings. Cotyledons truly convolute.

§ 1. *Calyx tubular. Spikes axillary and terminal, usually disposed in the manner of a panicle.*

43 C. COMÒSUM (G. Don, in edinb. phil. journ. 1824. p. 344. and in Lin. trans. 15. p. 433.) climbing; branches pubescent; leaves elliptic, acute, somewhat cordate at the base, pubescent when young, but glabrous in the adult state; panicle of many spikes; spikes bearing a tuft of flowers at the apex; bracteas lanceolate, acute; petals spatulate, obtuse; stamens long. ♄. ◡. S. Native of Sierra Leone; very common. Lindl. bot. reg. 1105. Flowers crimson or red.

Tufted-flowered Combretum. Fl. Feb. Ju. Clt. 1822. Sh. cl.

44 C. INTERME'DIUM (G. Don, l. c.) climbing; branches pubescent; leaves elliptic-obovate, mucronate, pubescent when young, but glabrous in the adult state: bracteas ovate, mucronate; petals spatulate, obtuse. ♄. ◡. S. Native of Sierra Leone. Very like *C. comòsum*, but the flowers are larger and denser.

Intermediate Combretum. Clt. 1822. Shrub cl.

45 C. PILÒSUM (Roxb. hort. beng. p. 28. G. Don, in Lin. trans. 15. p. 434.) climbing, pilose; leaves oblong-lanceolate, acuminated, auricled at the base; panicle of many spikes; spikes short; calyxes and peduncles beset with fuscous pili; petals obovate, oblong, ciliated. ♄. ◡. S. Native of the East Indies. Flowers crowded, white, about the size of those of *C. comòsum*. Stamens twice the length of the petals.

Pilose Combretum. Shrub cl.

46 C. BARBA'TUM (Newman, mss. G. Don, in Loud. hort. brit. p. 157.) hairy in every part; leaves ovate-oblong; panicle of many spikes; spikes long; petals obovate, bearded at the apex. ♄. ◡. S. Native of Maranham. Flowers white, rather large.

Bearded-petalled Combretum. Clt. 1820. Shrub cl.

47 C. OVA'LE (R. Br. in append. to Salt. trav. in abyssin. G. Don, in Lin. trans. 15. p. 435.) erect; leaves oval-oblong, obtuse, white beneath, when young pubescent, but glabrous in the adult state; branches and calyxes pubescent; spikes axillary and terminal, short, loose-flowered; petals obovate-oblong, obtuse; stamens exserted. ♄. S. Native of Abyssinia. Flowers probably white.

Oval-leaved Combretum. Shrub erect?

48 C. ALTERNIFÒLIUM (Jacq. amer. p. 104.) climbing, glabrous; branches spinescent; spines recurved; leaves alternate, oblong, glabrous, shining above; panicle of many spikes; spikes short; flowers crowded; petals lanceolate, obtuse, twice the length of the calyx; stamens exserted. ♄. ◡. S. Native of South America. C. decándrum, Jacq. amer. ed. pict. p. 53. t. 260. f. 27. C. spinòsum, Humb. et Bonpl. pl. æquin. 2. p. 161. Poívrea alternifòlia, D. C. prod. 3. p. 17. Flowers small, white, on short pedicels. The juice is very clammy, and is used as a substitute for glue.

Alternate-leaved Combretum. Shrub cl.

49 C. PAVÒNII (G. Don, in Lin. trans. 15. p. 436.) climbing; branches pilose; leaves oblong or ovate, acuminated, mucronate, somewhat cordate at the base, clothed with rusty villi beneath; panicle of many spikes, elongated; petals lanceolate; stamens a little longer than the petals. ♄. ◡. S. Native of Guayaquil. C. decándrum, Ruiz, et Pav. mss. in herb. Lamb. Flowers scattered, middle-sized, probably scarlet.

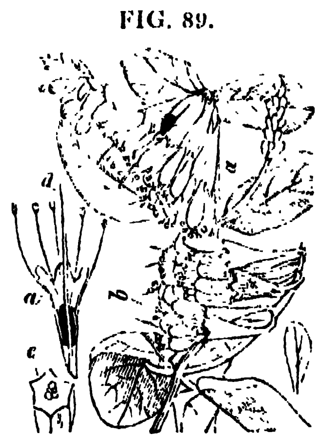
Pavon's Combretum. Shrub cl.

50 C. ERIOPE'TALUM; shrub bushy; leaves oval, quite glabrous, attenuated at both ends; spikes opposite, slender, rather velvety; flowers distant, bractless; calyxes glabrous; petals oblong, hairy. ♄. S. Native of St. Domingo and Cuba, about the Havannah. Poivrea eriopétala, D. C. prod. 3. p. 18.

Woolly-petalled Combretum. Shrub.

§ 2. *Calyx tubular. Panicle of several spikes. Flowers secund.*

FIG. 89.



51 C. PURPU'REUM (Vahl. symb. 3. p. 51.) climbing, glabrous; leaves oblong-lanceolate, acute, dark green, shining; panicle of many spikes; flowers loose; petals elliptic-oblong, obtuse; stamens long. ♄. ◡. S. Native of Madagascar. Ker. bot. reg. 429. Sims, bot. mag. 2102. C. coccíneum, Lam. dict. 1. p. 734. ill. 282. f. 2. Cristària coccínea, Sonn. itin. 2. p. 247. t. 140. Poívrea coccínea, D. C. prod. 3. p. 18. Flowers scarlet, secund.

Purple Combretum. Fl. June, Dec. Clt. 1818. Shrub cl.

52 C. GRANDIFLÒRUM (G. Don,

in edinb. phil. journ. 1824. p. 340. and Lin. trans. 15. p. 421.) climbing, hairy; leaves oblong; spikes short, axillary, and terminal; calyx pubescent; petals obovate, obtuse; stamens long. ♄ . ◡. S. Native of Sierra Leone, in the low lands. Hook, bot. mag. t. 2944. C. Afzeliànum, G. Don, in Lin. trans. 15. p. 437. Flowers large, scarlet, secund. Anthers yellow. (f. 89.)

Great-flowered Combretum. Fl. May, Jul. Clt. 1824. Sh. cl.

§ 3. *Calyx turbinately-campanulate. Spikes numerous, terminal, disposed in the manner of a panicle.*

53 C. DECA'NDRUM (Roxb. cor. 1. p. 43. t. 59.) climbing, clothed with fuscous down; leaves oblong, acuminated, floral ones yellowish; panicle composed of numerous close-flowered spikes; petals ovate, mucronate; stamens short. ♄. ◡. S. Native of the East Indies. C. Roxbúrghii, Spreng. syst. 2. p. 331. Poívrea Roxbúrghii, D. C. prod. 3. p. 18. Flowers small, white, shorter than the bracteas.

Decandrous Combretum. Fl. Feb. Jul. Clt. 1826. Sh. cl.

54 C. SQUAMÒSUM (Roxb. hort. beng. p. 88. G. Don, in Lin. trans. 15. p. 438.) climbing, lepidotted; leaves ovate, acuminated, coriaceous, rusty beneath and on the calyxes; panicle of many spikes; spikes loose-flowered; petals small; stamens short. ♄ . ◡. S. Native of the East Indies. Flowers small, inconspicuous.

Scaly Combretum. Shrub cl.

55 C. ACULEA'TUM (Vent. choix. t. 58. in a note) erect, bushy, spinose; spines a little hooked, solitary, under the leaves; leaves almost opposite, ovate, pubescent, on short petioles, and are as well as the calyxes and branches pubescent; racemes short; flowers pedicellate; bracteas oblong-linear. ♄ . S. Native of Senegal. Guièra nudiflòra, Rchb. in Sieb. pl. exsic. seneg. no. 35. C. secúndum, Mirb. elem. t. 44. f. 5.? but not of Jacq. Poívrea aculeàta, D. C. prod. 3. p. 18. Flowers white. Petals hairy.

Prickly Combretum. Shrub 4 to 6 feet.

§ 4. *Calyx turbinately campanulate. Spikes axillary, never terminal.*

56 C. SERI'CEUM (G. Don, in edinb. phil. journ. 1824. p. 347. and in Lin. trans. 15. p. 21.) suffruticose, erect; leaves nearly opposite, lanceolate, bluntish, clothed with silky villi beneath; spikes dense-flowered; rachis, ovaries, and calyxes clothed with villous tomentum; petals about equal in length to the calyx; stamens short. ♄ . S. Native of Sierra Leone. Flowers white, on short pedicels.

Silky Combretum. Shrub 2 to 3 feet.

† *Species not sufficiently known.*

57 C. FERRUGÍNEUM (G. Don, in Lin. trans. 15. p. 440.) leaves on short petioles, lanceolate, acuminated, glabrous, attenuated at the base, rusty beneath; spikes axillary and terminal. ♄ . S. Native of South America.

Rusty Combretum. Shrub.

58 C. CORDA'TUM (G. Don, in Lin. trans. p. 440.) leaves on short petioles, large, roundish-cordate, pubescent when young; panicle terminal, composed of spikes. ♄ . S. Native of Hispaniola. Flowers small.

Cordate-leaved Combretum. Shrub.

† *Species only known by name from Roxburgh's Hortus Bengalénsis.*

1 *C. ovalifòlium* (Roxb. l. c. p. 28.). ♄ . ◡. S. Native of Coromandel.

2 *C. acuminàtum* (Roxb. l. c.). ♄ . ◡. S. Native of Bengal.

3 *C. costàtum* (Roxb. l. c.). ♄ . ◡. S. Native of the East Indies.

4 *C. rotundifòlium* (Roxb. l. c. p. 88.). ♄ . ◡. S. Native of Bengal.

Cult. As few plants surpass the *Combrèta* in the elegance and brilliancy of their blossoms, so their species have become great favourites with collectors. A few, as the *C. purpùreum*, *C. comòsum*, and *C. grandiflòrum*, are the greatest ornaments of our stoves; but some of the species, not yet introduced to our gardens, outvie them in beauty. All of them thrive well in a mixture of loam and peat, and young cuttings root readily if planted in a pot of sand; placed in a moist heat, with a hand-glass over them. The climbing species are well fitted for training up the rafters, or covering trellis-work in a stove.

XII. CHRYSO'STACHYS (χρυσος, *chrysos*, gold, and σταχυς, *stachys*, a spike; in reference to the dense spikes of golden yellow flowers). Pohl. pl. bras. 2. p. 65.

LIN. SYST. *Decándria, Monogýnia.* Calyx campanulate, obsoletely 5-toothed; teeth short, bluntish. Petals 5, alternating with the teeth of the calyx, roundish and bluntly emarginate, unguiculate at the base. Stamens 10, very long, rather flexuous, inserted in the base of the calyx. Ovary ovate.—A climbing shrub, with opposite, coriaceous, entire leaves. Spikes dense, terminal, and axillary, panicled, opposite, bracteate. Flowers small, golden yellow.

1 C. OVATIFÒLIA (Pohl. pl. bras. 2. p. 66. t. 143.) leaves ovate-elliptic, glabrous; ovaries and rachis of the spike clothed with yellow down. ♄ . ◡. S. Native of Brazil, in the northern part of the province of Goyaz.

Ovate-leaved Chrysostachys. Shrub cl.

Cult. This is a fine stove climber. Its culture and propagation are the same as that for *Combrètum*, which see.

XIII. CACOU'CIA (Guiana name of *C. coccínea*). Aubl. guian. 1. p. 450. t. 179. Juss. gen. 320. Lam. ill. t. 359. D. C. prod. 3. p. 22.—Schousbœ'a, Willd. spec. p. 578.—Hambérgera, Scop. int.—Hambérgia, Neck. elem.

LIN. SYST. *Decándria* and *Dodecándria, Monogýnia.* Limb of calyx tubularly campanulate, acutely 5-toothed, deciduous. Petals 5, alternating with the calycine teeth, and larger than them. Stamens 10-14, inserted in the base of the limb of the calyx, filiform, long. Ovary, according to Kunth, containing 3 pendulous ovula. Style filiform, acute. Berry or drupe ovate, quadrangular, acute at both ends, not crowned by the calyx, pulpy inside, 1-2-seeded. Cotyledons thick and fleshy.—Climbing shrubs, with alternate and opposite leaves, sometimes the lower ones are verticillate; they are ovate, acuminated, standing on short petioles. Flowers scarlet, alternate, bracteate at the base, disposed in long terminal spikes.

1 C. COCCI'NEA (Aubl. l. c.) fruit ovoid, acute at both ends, somewhat pentagonal. ♄ . ◡. S. Native of Guiana, on the banks of the river Sinemari. Schousbœ'a coccínea, Willd. l. c. Flowers scarlet.

Scarlet-flowered Cacoucia. Shrub cl.

2 C. CHINE'NSIS (Adr. Juss. ined. ex D. C. prod. 3. p. 22.) fruit acutely pentagonal. ♄ . ◡. S. Native of China, where it is called *Koinze.* Pet. gazoph. t. 37. f. 8. ex Juss. Fruit one half smaller than those of the first species, bearing 2 seeds near the apex. Spermaderm blackish, membranous. Cotyledons large, fleshy.

China Cacoucia. Shrub cl.

3 C.? TRIFOLIA'TA (D. C. prod. 3. p. 22.) fruit oblong, 5-winged; wings stiff. ♄ . ◡. S. Native of Java. Combrètum trifoliàtum, Vent. choix. t. 58. Cacoùcia lùcidum, Blum. bijdr. p. 641. Leaves opposite or 3 in a whorl, oval-oblong, glabrous. Panicle of many spikes. Flowers greenish, decandrous. Bracteas linear. Fruit sometimes 6-winged, according to Blum.

Trifoliate Cacoucia. Shrub cl.
Cult. See *Combrètum* for culture and propagation, p. 666.

XIV. LUMNI'TZERA (in honour of Stephen Lumnitzer, author of Flora Posoniensis, 1 vol. 8vo. Leipzig, 1791). Willd. nov. act. nat. cur. berl. 4. (1803) p. 186. but not of Jacq. (1817). D. C. prod. 3. p. 22.

Lin. syst. *Decándria, Monogýnia.* Bracteoles 2, very short, under each flower. Limb of calyx tubular, 5-toothed; teeth obtuse. Petals 5, inserted in the calyx and longer than it, reflexed. Stamens 10, 5 of which are shorter than the petals, and the longest 5 about the length of the petals. Ovary oblong, compressed. Style subulate. Drupe dry, 1-seeded.—A shrub, with alternate leaves, and intra-foliaceous racemes of flowers. The structure of the seed is hardly known, and therefore the genus may not be distinct from *Cacoùcia.*

1. L. racemòsa (Willd. l. c.). ♄ . ◡. S. Native of the East Indies. Jussieuæ'a racemòsa, Rottl. herb. Branches cinereous, glabrous. Leaves obovate, quite entire, rather fleshy, glabrous, tapering into the petiole. Racemes naked.
Racemose-flowered Lumnitzera. Shrub cl.
Cult. See *Combrètum* for culture and propagation, p. 666.

XV. QUISQUA'LIS (from *quis,* who, and *quàlis,* what kind; when the name was given to this genus it was uncertain to what class or order it belonged). Rumph. amb. 5. p. 71. Lin. gen. no. 539. Lam. ill. t. 357. Blum. bijdr. p. 638. D. C. prod. 3. p. 22.

Lin. syst. *Decándria, Monogýnia.* Tube of calyx slender, lengthened out much above the ovarium, deciduous, with a 5-cleft border. Petals 5, oval-oblong, obtuse, longer than the calycine teeth. Stamens 10, exserted, inserted in the throat of the calyx, alternate ones shorter than the others. Ovarium ovate-globose, containing 4 ovula. Style filiform, obtuse, exserted. Drupe dry, 5-angled, 1-seeded. Cotyledons fleshy, large, plano-convex, ex Blume.—Climbing shrubs, with opposite, rarely alternate, ovate, quite entire leaves; and axillary and terminal spikes of changeable-coloured flowers, usually varying from white to red.

1 Q. I'ndica (Lin. spec. 556.) pubescent; bracteas ovate-rhomboid, aristately acuminated, one under each flower; leaves ovate, acuminated; petals oval, oblong, clothed with adpressed pubescence. ♄ . ◡. S. Native of Java. Amboyna, Lam. ill. t. 257. Sims, bot. mag. 2033. Ker. bot. reg. 492. Flowers beautiful, changeable in colour from orange to red, sweet-scented.
Indian Quisqualis. Fl. May, Aug. Clt. 1815. Shrub cl.

2 Q. pube'scens (Beauv. fl. d'ow. 1. p. 67.) pubescent; leaves cordate or oblong, acuminated, with a rounded base; bracteas ovate, acuminated. ♄ . ◡. S. Native of Guinea. Flowers like those of *Q. I'ndica.*
Pubescent Quisqualis. Clt. 1815. Shrub cl.

3 Q. ebractea'ta (Beauv. fl. d'ow. 1. p. 57. t. 34.) smoothish; flowers bractless; petals oblong, glabrous. ♄ . ◡. S. Native of Guinea, in the kingdom of Waree. Leaves oval-oblong, lower ones smaller and roundish. Flowers white.
Bractless-flowered Quisqualis. Shrub cl.

4 Q. gla'bra (Burm. fl. ind. 104. t. 28. f. 2.) leaves ovate, acute, and are as well as the minute bracteas quite glabrous. ♄ . ◡. S. Native of Java. Flowers in spikes; spikes all opposite.
Smooth Quisqualis. Clt. 1815. Shrub cl.

5 Q. Loure'iri; leaves ovate, acute, glabrous; corymbs terminal. ♄ . ◡. G. Native of Cochin-china. Q. I'ndica, Lour. coch. p. 274. Racemes corymbose. Flowers from white to red. The seeds are astringent and anthelmintic.
Loureiro's Quisqualis. Shrub cl.

6 Q. villòsa (Roxb. hort. beng. p. 90.) leaves oblong, somewhat cordate, villous as well as the linear-lanceolate bracteas; flowers pubescent. ♄ . ◡. S. Native of the East Indies.
Villous Quisqualis. Shrub cl.
Cult. Some of the species of *Quisquàlis* are equal in elegance to the species of *Combrètum* when in flower: their culture and propagation are the same, see p. 666.

† *Genera belonging to Combretàceæ, but are not sufficiently known.*

XVI. CERATO'STACHYS (from κερας, *keras,* a horn, and σταχυς, *stachys,* a spike; in reference to the heads of flowers being intermixed with spongy processes). Blum. bijdr. p. 644. D. C. prod. 3. p. 23.

Lin. syst. *Octo-Dodecándria, Monogýnia.* Limb of calyx entire. Petals usually 8, small. Stamens 8-16, unequal. Ovary biovulate. Style short, crowned by a [illegible] stigma. Drupe baccate, crowned by the limb of the calyx, containing a 1-seeded compressed nut. Embryo exalbuminous? inverted.—A tall tree, with scattered, oblong, [illegible] entire leaves; and axillary spikes of flowers. Flowers disposed in dense heads, intermixed with spongy, filiform processes. The place which this genus should occupy in the order is uncertain, from the embryo being unknown.

1 C. arbòrea (Blume l. c.). ♄ . S. Native of Java, on Mount Salak.
Tree Ceratostachys. Tree 40 feet.
Cult. See *Bùcida* for culture and propagation, p. 657.

XVII. BRUGUIE'RA (in honour of Bruguiere, the well-known French botanist). Pet. Th. dict. sc. nat. 5. p. 375. gen. nov. mad. no. 70. p. 21. but not of Lam. D. C. prod. 3. p. 23.

Lin. syst. *Decándria, Monogýnia.* Tube of calyx furnished with 2 scales in the middle; limb 5-lobed, obtuse. Petals 5, oblong-lanceolate, spreading. Stamens 10, equal in length to the petals. Style acute. Ovary adnate to the calyx, containing 4 pendulous ovula. Fruit unknown.—A small tree, with alternate, oval, smooth, succulent leaves, tapering into the petiole. Racemes axillary. Flowers small, white. The genus, according to Petit Thours, is nearly allied to *Combrètum.*

1 B. Madagascarie'nsis (D. C. prod. 3. p. 23.). ♄ . S. Native of Madagascar, in places inundated with salt water.—Kada-kandel, Rheed. mal. 6. t. 37.
Madagascar Bruguiera. Tree.
Cult. See *Combrètum* for culture and propagation, p. 666.

XVIII. BOBU'A (*Bobu* or *Bombu* is the name of the tree in Ceylon). D. C. prod. 3. p. 23.—Bòbu, Adans. fam. pl. 2. p. 11.—Eugenioìdes, Lin. fl. zeyl. p. 192.

Lin. syst. *Icosándria, Monogýnia.* Tube of calyx ovate, adnate to the ovary; limb 5-cleft, with very short blunt lobes. Petals 5, alternate with the lobes of the calyx, and longer than them. Stamens 20-30, free, longer than the petals. Style filiform. Stigma subcapitate. Fruit (berry?) ovate, indehiscent, few-seeded. Seed unknown.—A tree, with alternate, obovate-oblong, acute, glabrous, dotless, usually serrated leaves; and axillary, simple peduncles, bearing subspicate distant flowers; pedicels very short, each propped by 2 or 3 bracteas just under the calyx. This is a very doubtful genus.

1 B. lau'rina (D. C. prod. 2. p. 24.) spikes simple and panicled, shorter than the leaves; leaves serrated. ♄ . S. Native of Ceylon. Laùrus, Burm. zeyl. p. 139. t. 62.—Eugenioìdes, Lin. fl. zeyl. 192. no. 409. Bòbu, Herm. zeyl. 9. Burm. zeyl. 26. Bómbu, Petiv. mus. p. 39. ex Lin. Mýrtus

laúrina, Retz. obs. 4. p. 27. Mýrtus serràta, Kœnig. Eugènia laúrina, Willd. spec. no. 30. Flowers 4 or 5-cleft.

Laurel-like Bobu. Tree.

Cult. See *Bùcida* for culture and propagation, p. 657.

XC. VOCHYSIE'Æ (plants agreeing with *Vochýsia* in important characters). St. Hil. mem. mus. 6. p. 265. E. Meyer in nov. act. bonn. 2. p. 812. D. C. prod. 3. p. 25.—Vochysiànæ, Juss. herb.—Vochysiàceæ, Mart. nov. gen. 1. p. 123, 124.

Calyx of 4-5 sepals (f. 90. *d.* f. 91. *a.*). Sepals connected at the base, imbricate in æstivation (f. 91. *a.*), unequal; the upper one drawn out into a spur (f. 90. *d.* f. 91. *b.*). Petals 1- (f. 90. *b. a.*) 2-3 (f 91. *d. c.*) or 5, alternating with the calycine lobes, and inserted at their base. Stamens 1 (f. 90. *c.*) -5, usually opposite the petals, rarely alternating with them, and inserted in the bottom of the calyx, the most of them usually sterile and small, only one fertile and bearing an ovate (4-celled, ex Martins) anther. Ovarium free, or adhering to the calyx, 3-celled (f. 91. *h.*); ovula 1-2, or few in each cell, attached to the base of the axis. Style 1 (f. 90. *g.* f. 91. *r.*). Stigma 1. Capsule trigonal (f. 91. *h.*), 3-celled, 3-valved; valves opening along their middle. Seeds exalbuminous. Embryo straight, inverted. Cotyledons large, foliaceous, plicate, convolute. Radicle short, superior. South American trees, with opposite tetragonal branches. Leaves opposite or verticillate, but sometimes alternate at the tops of the branches, quite entire, feather-nerved, bistipulate at the base. Flowers racemose, panicled or thyrsoid, usually terminal; pedicels bracteate.

This order agrees with *Guttiferæ* and *Marcgraviàceæ* in the habit and flowers, but is distinguished from them in the stamens being inserted in the calyx. It agrees with *Combretàceæ* in the cotyledons being convolute, and in the inverted seeds; and with some of the genera of *Onagràriæ*, especially with *Lopèzia*, in the stamens being solitary from abortion. Perhaps this order comes nearer to *Violarieæ* than to any other, an affinity which is pointed out by the irregular flowers, trilocular ovarium, and stipulas; in fact, in every plant of that order the stamens are also perigynous.

Synopsis of the genera.

Sect. I. *Ovarium free. Calyx 5-parted.*

1 Callisthe'ne. Upper sepal drawn out into a large spur at the base (f. 90. *d.*). Petal 1, obcordate (f. 90. *b.*). Stamen 1 (f. 90. *c.*), without any rudiments of sterile ones. Valves of capsule without a dissepiment; cells 1-2-seeded (f. 89. *c.*).

2 Amphilòchia. Upper sepal drawn out into a short spur at the base. Petal 1, obcordate. Fertile stamen 1, usually without any rudiments of sterile ones. Valves of capsule bent in so much as to form dissepiments; cells 1-2-seeded.

3 Vochy'sia. Upper sepal drawn out into a long spur at the base (f. 91. *b.*). Petals 3 (f. 91. *d.*), middle one the largest (f. 91. *c. i. k.*). Stamens 3, lateral ones sterile. Valves of capsule opening in the middle. Seed solitary in the cells, winged.

4 Salve'rtia. Upper lobe of calyx furnished with a spur at the base. Petals 5, upper 2 very narrow. Stamens 3, lateral ones sterile. Valves of capsule opening in the middle; cells 2-seeded.

5 Qua'lea. Upper sepal furnished with a spur at the base. Petals 1, rarely 2. Stamens 1, rarely 2. Valves of capsule opening in the middle. Seeds winged.

Sect. II. *Ovary adnate to the calyx. Calyx 4-parted.*

6 Eri'sma. One of the lobes of the calyx furnished with a spur at the base. Petal 1. Fertile stamen 1, sterile 4.

† *Genera doubtful whether they belong to the present order.*

7 Loza'nia. Calyx with a ventricose tube, and a 5-parted permanent limb. Petals wanting. Disk quadrangular, filling the bottom of the calyx. Stamen 1, small, inserted under the ovary. Capsule trigonal, 3-celled, 3-valved. Seeds 6. Stigmas 3, small, capitate.

8 Aga'rdhia. Calyx of 3 sepals. Petals 5, convolute. Stamen 1, bearing a large 2-celled anther. Style 1. Drupe oval, 3-celled, 3-valved.

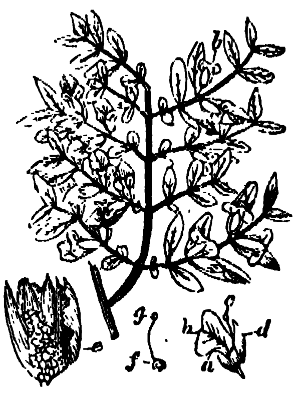
9 Schweigge'ria. Calyx of 3 sepals. Petals 3, one of which is spurred. Stamen 1. Pistil none. Fruit unknown.

§ 1. *Ovarium free from the calyx. Calyx 5-parted.*

I. CALLISTHE'NE (to the memory of Callisthenes, an ancient philosopher). Mart. bras. 1. p. 123. D. C. prod. 2. p. 25.

Lin. syst. *Monándria, Monogýnia.* Calyx of 5 unequal parts (f. 90. *d.*), upper one large, and drawn out into a spur (f. 90. *d.*). Petal one (f. 90. *a. b.*), obcordate. Stamen 1 (f. 90. *c.*), alternating with the petal, without any rudiments of sterile stamens. Anther 4-celled; cells separating by pairs. Ovary free, 3-celled; cells containing few ovula. Capsule 3-celled (f. 90. *e.*), 3-valved; valves without a dissepiment; cells 1-2-seeded. Seeds adnate to the angles of the central, thick, trigonal placenta.—Resinous trees; with minute axillary buds, covered with white grains. Leaves and branches opposite and distich, coetaneous, stipulate, deciduous. Flowers axillary and lateral. Petals yellowish.

FIG. 90.



1 C. ma'jor (Mart. l. c. t. 75.) glabrous; leaves elliptic or ovate-oblong, obtuse or acute; flowers solitary in the axils of the leaves, and therefore opposite. ♄. S. Native of Brazil, in hot sandy places. Petals yellow, lined with scarlet. (f. 90.)

Larger Callisthene. Tree 10 to 12 feet.

2 C. mìnor (Mart. l. c. t. 76.) pubescent; leaves linear-oblong, obtuse, ending in a glandular mucrone; flowers solitary in the axils, and therefore opposite. ♄. S. Native of Brazil, in the high plains called Chepada de Parana. Petals cream-coloured.

Smaller-Callisthene. Tree 15 to 26 feet.

3 C. fascicula'ta (Mart. l. c. p. 126.) leaves ovate-oblong, obtuse, rather emarginate, glabrous above, and villous beneath; flowers axillary, in fascicles. ♄. S. Native of Brazil, in the desert between Serra de St. Antonio, and the river St. Francisco, in the province of Minas Geraes. Petals cream-coloured.

Fascicled-flowered Callisthene. Tree.

Cult. See *Voschýsia* for culture and propagation, p. 670.

II. AMPHILO'CHIA (to the memory of Amphilochus, an Athenian philosopher, and writer on agriculture). Mart. bras. 1. p. 127. D. C. prod. 3. p. 26.

Lin. syst. *Monándria, Monogýnia.* Calyx of 5 unequal coriaceous parts; upper part large, and drawn out into a short horn. Petal one, deeply obcordate. Fertile stamen one, alternate with the petal, usually without any rudiments of sterile ones. Anther 4-celled; cells in distinct pairs. Ovary free, with the cells containing few ovula. Capsule having the epicarp separable, corticate, 3-celled, 3-valved, opening at the dissepiments; the valves are bent inwards so much as to form the dissepiments to the capsule. Seeds 1-2 in each cell.—Trees, with opposite petiolate coriaceous, reticulately-veined leaves. Leaf-buds covered with white grains, which remain afterwards permanent at the base of the branches. Flowers terminal, disposed in somewhat interrupted spikes. Petal pubescent.

1 A. dichótoma (Mart. l. c. t. 77.) leaves roundish and somewhat cordate at the base, narrow-oblong, and bluntish, pubescent beneath. ♄. S. Native of Brazil, in the province of Minas Geraes. Petal sulphur-coloured, marked with a blue spot at the base.

Dichotomous Amphilochia. Tree.

2 A. corda'ta (Mart. l. c. p. 129.) leaves deeply cordate at the base, rather ovate-lanceolate, acutish, glabrous and glaucescent on both surfaces. ♄. S. Native of the south of Brazil. Quàlea cordàta, Spreng. syst. 2. p. 17. Flowers like the last.

Cordate-leaved Amphilochia. Tree.

Cult. See *Vochysia* for culture and propagation, p. 670.

III. VOCHY'SIA (*Vochy* is the Guiana name of one of the species). Juss. gen. p. 426. St. Hil. mem. mus. 6. p. 166. Mart. bras. 2. p. 139. D. C. prod. 3. p. 26.—Vòchy, Aubl. guian. 1. p. 18. t. 6.—Vòchya, Vand. fl. bras. in Rœm. scrip. t. 6.—Salmònia, Neck. elem. no. 808.—Cucullària, Schreb. gen. no. 11.

Lin. syst. *Monándria, Monogýnia.* Calyx coloured, 5-parted (f. 91. *a.*), with 4 of the lobes small (f. 91. *a.*), and the fifth or superior one large, and drawn out into a spur at the base (f. 91. *b.*). Petals 3 (f. 91. *c. d.*), unequal, inserted in the calyx, the 2 lateral ones not half the size of the middle one (f. 91. *d. c.*). Stamens 3, opposite the petals, 2 lateral ones sterile and small; and the middle one larger and fertile, bearing a continuous immoveable anther, which is cucullate at the apex. Stigma terminal, obtuse. Capsule trigonal (f. 91. *h.*), 3-celled; the valves opening in the middle. Seeds furnished with a wing, exalbuminous, solitary in the cells. Cotyledons large. Radicle superior.—South American trees, with opposite or verticillate, ovate, entire, feather-nerved, bistipulate leaves, standing on short footstalks. Flowers of all yellow, disposed in terminal racemes; pedicels 1-2-4-flowered, bibracteolate at the base.

1 V. Guiane'nsis (Lam. ill. no. 97. t. 11.) leaves opposite, obovate-oblong, ending in a short acumen each, glabrous on both surfaces; racemes simple, erect, terminal, dense-flowered; spur of flower spreading. ♄. S. Native of Guiana and Maranham, in woods. Vòchy Guianénsis, Aubl. guian. 1. p. 18. t. 6. Cucullària excélsa, Willd. spec. 1. p. 17. but not of Vahl.

Guiana Vochysia. Tree 20 to 40 feet.

2 V. tomentòsa (D. C. prod. 3. p. 26.) leaves opposite, oblong-oval, ending each in a long taper-point, attenuated at the base, glabrous above, but clothed with rusty tomentum beneath; racemes terminal, loose, nodding. ♄. S. Native of Guiana, in woods. Cucullària excélsa, Vahl. enum. 1. p. 4. exclusive of the synonymes. Cucullària tomentòsa, Meyer, esseq. p. 12.

Tomentose Vochysia. Tree 20 to 30 feet.

3 V. citrifòlia (Poir. suppl. 5. p. 491.) leaves opposite, ovate, bluntly acuminated, glabrous; racemes terminal, panicled. ♄. S. Native of Brazil. Cucullària citrifòlia, Rœm. et Schultes, mant. 1. p. 52.

Citron-leaved Vochysia. Tree 20 to 30 feet.

4 V. emargina'ta (Poir. dict. 8. p. 682.) leaves 4 in a whorl, petiolate, oblong, bluntly emarginate, attenuated at the base, rather coriaceous, glabrous on both surfaces; racemes numerous, ascending, elongated, terminal, erect; peduncles usually 3-flowered. ♄. S. Native of Brazil, about Rio Janeiro. Vòchya, Vand. fl. bras. in Rœm. script. 69. t. 6. f. 1. Cucullària emarginata, Vahl. enum. 1. p. 5.

Emarginate-leaved Vochysia. Tree 20 feet.

5 V. tetraphy'lla (D. C. prod. 3. p. 27.) leaves 4 in a whorl, linear-oblong, acuminated, coriaceous, glabrous on both surfaces; racemes axillary, very simple. ♄. S. Native of Guiana, in humid woods. Cucullària tetraphýlla, Meyer, esseq. p. 12. There is a variety of this species mentioned by Meyer in nov. act. bonn. 12. p. 813. with 3 leave[illegible] a whorl.

Four-leaved Vochysia. Tree 20 fe[illegible]

6 V. rotundifòlia (Mart. bras [illegible] p. 140. t. 83.) quite glabrous; leaves 3 or 4 in a whor[illegible]most sessile, cordate at the base, orbicular and emargina[illegible] glaucescent, coriaceous, firm; racemes terminal, solitary; p[illegible]ncles usually 2-flowered: ovaries glabrous. ♄. S. Nativ[illegible] Brazil, in the province of Minas Geraes, on mountains.

Round-leaved Vochysia. Tree 40 feet.

7 V. herba'cea (Pol[illegible] pl. bras. 2. p. 27. t. 118.) leaves obovate, mucronate, pilose, on[illegible]hort petioles, 5-6 in a whorl; racemes elongated; peduncles clothed with villous tomentum, usually 5-flowered. ♄. S. Native of Brazil, in the province of Goyaz.

Herbaceous Vochysia. Shrub 2 feet.

8 V. seri'cea (Pohl. pl. bras. 2. p. 28. t. 119.) leaves crowded, in cumulated whorles, usually 6 in each whorl, petiolate, obversely-oblong, emarginate at the apex; racemes clothed with silky tomentum; peduncles usually 3-flowered. ♄. S. Native of Brazil, in the province of Goyaz.

Silky Vochysia. Shrub 6 to 8 feet.

9 V. cinnamòmea (Pohl. pl. bras. 2. p. 29. t. 120.) leaves cumulated in whorles, 6 or 8 in each whorl, nearly sessile, oblong, obtuse, emarginate, clothed with brown tomentum beneath; racemes very long, whorled; peduncles tomentose. ♄. S. Native of Brazil, in the province of Goyaz.

Cinnamon-like Vochysia. Shrub 6 to 8 feet.

10 V. elli'ptica (Mart. bras. 1. p. 141. t. 84.) leaves opposite, or 3 or 4 in a whorl, almost sessile, rounded and emarginate at both ends, glabrous, coriaceous, finely veined, glaucescent; racemes terminal, solitary; peduncles 2-flowered, and are, as well as the calyxes, pubescent; ovaries villous. ♄. S. Native of Brazil, in the province of Minas Geraes, in the diamond district. (f. 91.)

Elliptic-leaved Vochysia. Tree 10 to 12 feet.

11 V. Tucanòrum (Mart. bras. 2. p. 142. t. 85.) leaves 3 to 8 in a whorl, lanceolate-oblong, or obovate-oblong, attenuated at the base, obtuse or rounded at the apex, and emarginate, glabrous on both surfaces; veins of leaves rather remote, combined a considerable way from the margin; racemes terminal, solitary; ovaries glabrous. ♄. S. Native of the south of Brazil.

Var. α, fastigiàta (D. C. prod. 3. p. 27.) leaves 3 or 4 in a whorl, approximate, lanceolate; racemes short, fastigiate, very simple, few-flowered; spur of flower bent downwards, and adpressed to the calyx.

Var. β, macrostàchya (D. C. l c.) leaves 4 in a whorl, oblong or obovate-oblong; racemes terminal, solitary, compound, tapering much to the apex; spur of flowers bent.

Var. λ, *hexaphýlla* (D. C. prod. l. c.) leaves 4-6 in a whorl, linear-oblong, tapering much to the base; racemes terminal, very long, straight; spur straightish, spreading downwards.

Var. ζ, *vulgàris* (D. C. l. c.) leaves 3-6 in a whorl, oblong-lanceolate, tapering to both ends, emarginate; racemes terminal, middle-sized, cylindrical, loose-flowered; spur of flower straightish, spreading downwards.

Toucan's Vochysia. Tree 15 to 20 feet.

12 V. ru'fa (Mart. bras. 1. p. 144. t. 86.) branches thickened, tomentose; leaves 4-8 in a whorl, petiolate, oblong, obtuse, clothed with rusty tomentum beneath, especially when young, reticulated with veins, coriaceous; racemes terminal, solitary, very long, loose-flowered; peduncles and calyxes tomentose; ovaries very hairy. ♄. S. Native of Brazil, in the province of Minas Geraes.

Rufous Vochysia. Tree 20 feet.

13 V. dive'rgens (Pohl. pl. bras. 2. p. 19. t. 111.) leaves 3 in a whorl, diverging; petiolate, oblong-elliptic, hardly emarginate at the apex; racemes very long; peduncles 3-flowered, rather pilose. ♄. S. Native of Brazil, in the province of Goyaz.

Diverging-leaved Vochysia. Tree.

14 V. micra'ntha (Pohl. pl. bras. 2. p. 20. t. 112.) leaves 3 in a whorl, petiolate, oblong, bluntish at the apex and a little emarginate, rather attenuated at the base; racemes elongated; pedicels simple. ♄. S. Native of Brazil, in the province of Goyaz.

Small-flowered Vochysia. Tree 12 feet.

15 V. pu'mila (Pohl. pl. bras. 2. p. [illegible]. t. 113.) leaves 3-4 in a whorl, on short petioles, oblong, narrow at the base, obtuse at the apex and mucronate, glaucous beneath; racemes very long; peduncles 2-flowered, rather pilose. ♄. S. Native of Brazil, in the province of Minas Geraes.

Dwarf Vochysia. Shrub 2 feet.

16 V. thyrsoi'dea (Pohl. pl. bras. 2. p. 24. t. 115.) leaves 4 in a whorl, on short petioles, oblong-elliptic, retuse, hardly attenuated at the base; racemes pyramidal; peduncles usually 4-flowered. ♄. S. Native of Brazil, in the province of Minas Geraes.

Thyrse-like-flowered Vochysia. Tree 20 to 30 feet.

17 V. alpe'stris (Mart. bras. 1. p. 145. t. 87.) leaves opposite, on short petioles, elliptic or oblong-elliptic, rounded, glabrous on both surfaces, finely veined; racemes terminal, solitary, long, cylindrical; ovaries glabrous. ♄. S. Native of Brazil, in the province of Minas Geraes, on the mountains.

Alp Vochysia. Tree 15 to 25 feet.

18 V. gra'ndis (Mart. bras. 1. p. 146. t. 88.) leaves 4 in a whorl, petiolate, ovate-oblong, rounded, or somewhat truncate, and rather emarginate at the apex, glabrous on both surfaces and finely veined, membranous; racemes terminal, long, cylindrical, aggregate; ovaries glabrous. ♄. S. Native of Brazil, in the province of Rio Negro, in woods.

Great Vochysia. Tree 80 to 100 feet.

19 V. Hænkea'na (Mart. bras. 1. p. 147. t. 89.) leaves 4 in a whorl, on long footstalks, oblong-lanceolate, rather cuspidate, bluntish and emarginate at the apex, glabrous on both surfaces and finely veined; racemes terminal, compound, aggregately panicled; ovaries tomentose. ♄. S. Native of Peru.

Hænke's Vochysia. Tree 20 feet.

20 V. pyramida'lis (Mart. bras. 1. p. 148. t. 90.) leaves opposite or 4 in a whorl, subcordate or rounded at the base, oblong-lanceolate, acuminated, costately veined beneath, and clothed with fine cinereous tomentum, as well as the branches, petioles, and peduncles; racemes terminal, solitary, pyramidal; ovaries glabrous. ♄. S. Native of Brazil, in the province of Minas Geraes.

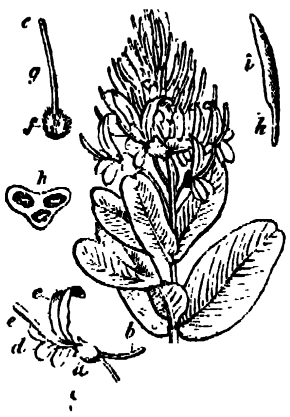
Pyramidal Vochysia. Tree 20 to 30 feet.

21 V. floribu'nda (Mart. l. c. p. 149. t. 91.) leaves opposite or 3-4 in a whorl, oblong, cuspidate, costately veined beneath, and strigose and roughish at the veins; racemes terminal, aggregate; spur of calyx short, straight, and conical; ovary glabrous. ♄. S. Native of Brazil at Ega, in the province of Rio Negro. Allied to *V. Guianénsis.*

Bundle-flowered Vochysia. Tr. 30 to 40 feet.

22 V. pruinòsa (Pohl. pl. bras. 2. p. 22. t. 114.) leaves 4 in a whorl, cumulated, nearly sessile, oval-elliptic, rather cordate at the base, emarginate at the apex, pruinose; racemes elongated, tomentose; peduncles usually 3-flowered, tomentose. ♄. S. Native of Brazil, in the province of Goyaz.

FIG. 91.



Frosted Vochysia. Shrub 6 to 12 feet.

23 V. cunea'ta (Pohl. pl. bras. 2. p. 26. t. 117.) leaves usually 5 in a whorl, on short petioles, rather cuneated or obversely oblong-ovate, obcordate at the apex; racemes pyramidal; peduncles usually 4-flowered. ♄. S. Native of Brazil, in the province of Minas Geraes.

Cuneated-leaved Vochysia. Tree 24 feet.

24 V. elonga'ta (Pohl. pl. bras. 2. p. 25. t. 116.) leaves 3 or 4 in a whorl, on short petioles, oblong or oblong-elliptic, rounded and emarginate at the apex, attenuated at the base, reticulated; racemes elongated, straight; peduncles 2-5-6-flowered. ♄. S. Native of Brazil, in the province of Minas Geraes.

Var. α, *nìtida* (Pohl. l. c.) leaves 4 in a whorl, elliptic, attenuated at the base; peduncles 5-6-flowered.

Var. β, *opàca* (Pohl. l. c.) leaves 4 in a whorl, oblong, attenuated at the base; peduncles 2-flowered.

Var. γ, *ternàta* (Pohl. l. c.) leaves 3 in a whorl.

Elongated Vochysia. Tree 24 feet.

25 V. ferrugi'nea (Mart. bras. 1. p. 151. t. 92.) leaves opposite, ovate-oblong or oblong, acuminated, glabrous above, and costately veined beneath; the middle nerve and veins clothed with white tomentum, as well as the branches; racemes terminal, erect, straight; peduncles usually 4-flowered; spur of calyx hooked; ovaries glabrous. ♄. S. Native of Brazil, in the province of Rio Negro, in woods.

Rusty Vochysia. Tree 20 to 30 feet.

† *A doubtful species.*

26 V.? racemòsa (Poir. dict. 8. p. 682.) leaves opposite, ovate-lanceolate, acute, glabrous, membranous; racemes axillary. ♄. S. Native of Cayenne. Cucullària racemòsa, Rœm. et Schultes, syst. 1. p. 36. Capsule glabrous, size of a pea, 1-valved, 3-celled; cells 2 from abortion. Flowers unknown.

Racemose-flowered Vochysia. Tree.

Cult. A mixture of peat and loam will suit the species of this genus, and ripened cuttings will strike root if planted in a pot of sand, with a hand-glass placed over them.

IV. SALVE'RTIA (Auguste St. Hilaire, does not say to whom he has dedicated this name, but it is evidently dedicated to some person of the name of Salvert or Salverti). St. Hil. mem. mus. 6. p. 266. and 9. p. 340. Mart. bras. 1. p. 152. D. C. prod. 3. p. 28.

Lin. syst. *Monándria, Monogýnia.* Calyx of 5 nearly equal obtuse elliptic lobes, the upper one furnished with a spur at the base. Petals 5, the 2 superior ones very narrow. Stamens 3, inserted in the calyx, opposite the 3 lower petals, the lateral 2 sterile, the middle one only antheriferous. Style clavate. Stigma saucer-shaped, obtuse, lateral, situated beneath the apex of the style. Capsule 3-celled, 3-valved, trigonal; cells 1-seeded; valves opening in the middle. Seeds exalbuminous, drawn out at one side into a woolly wing. Embryo with convolute cotyledons, and a superior radicle.—Trees, with oval, obtuse, exstipulate, feather-nerved leaves, which are crowded in whorles of 6 or 8. Flowers thyrsoid, sweet-scented, white, but at length becoming orange-coloured.

1 S. convallariodòra (St. Hil. l. c.) leaves in whorles, oval, obtuse; flowers thyrsoid. ♄. S. Native of Brazil, in fields, in the province of Minas Geraes.

Lily of the valley-scented Salvertia. Tree 30 feet.

2 S. thrysiflòra (Pohl. pl. bras. 2. p. 16. t. 110.) leaves in whorles, obversely oblong-oval or oblong, obtuse, mucronate; thyrse large, panicled; flowers small. ♄. S. Native of Brazil, in the province of Goyaz. Petals white, spotted with red.

Thryse-flowered Salvertia. Tree 20 feet.

Cult. See *Vochysia* for culture and propagation, p. 670.

V. QUA'LEA (a name given to one of the species by the Indians of Guiana). Aubl. guian. 1. p. 7. t. 1-2. Juss. gen. 424. Lam. ill. t. 4. St. Hil. mem. mus. 6. p. 265. and 269. Mart. bras. 1. p. 130. D. C. prod. 3. p. 28.

Lin. syst. *Monándria, Monogýnia.* Calyx 5-parted; lobes very unequal, rounded, the largest one petaloid, and furnished with a spur at the base. Petal 1, rarely 2, inserted in the bottom of the calyx, or perhaps inserted in the torus. Stamen 1, rarely 2, alternating with the petal; filament linear; anther oblong. Ovary free. Capsule woody, 3-celled, 3-valved; the valves opening in the middle. Seeds exalbuminous, furnished with a wing. Embryo with large convolute cotyledons, and a superior radicle.—South American trees, with opposite branches, opposite coriaceous glabrous entire ovate feather-nerved leaves. Stipulas deciduous. Cymes of flowers terminal, trichotomous, panicled, furnished with 2 bracteas at each ramification. Flowers sweet-scented, rose-coloured or blue. The lateral veins of the leaves are the same as in *Calophýllum*, parallel, and approximate, running into a marginal nerve.

1 Q. ròsea (Aubl. guian. 1. p. 5. t. 1.) leaves elliptic, acuminated, glabrous on both surfaces; lateral veins approximate; petal entire; spur shorter than the calyx. ♄. S. Native of Guiana, in woods. Petal, as well as the large segment of the calyx, white on the outside, and rose-coloured on the inside.

Rose-coloured-flowered Qualea. Tree 60 feet.

2 Q. cæru'lea (Aubl. guian. 1. p. 7. t. 2.) leaves oval, ending in a short taper-point each, glabrous on both surfaces; lateral veins approximate; petal emarginate; spur length of the calyx. ♄. S. Native of Guiana, in woods. Petal cinereous on the outside, and rather bluish on the inside.

Blue-petalled Qualea. Tree 60 to 80 feet.

3 Q. Gestasia'na (St. Hil. mem. mus. 6. p. 254.) leaves lanceolate, acuminated, glabrous; petioles and peduncles pubescent; calyx ciliated, the superior lobe emarginate; petal cordate. ♄. S. Native of Brazil, in the mountains near Rio Janeiro. Petal sulphur-coloured, with the veins purplish at the base.

Gestas's Qualea. Tree 100 feet.

4 Q. ecalcara'ta (Mart. bras. 1. p. 130. t. 78.) leaves oblong, acuminated, glabrous above, but costately veined and clothed with fulvous pubescence beneath; racemes lateral, subcorymbose, few-flowered; calyx without a spur. ♄. S. Native of Brazil, on mountains, in the province of Minas Geraes. Stamen 1 in the flowers, with 2 petals, and 2 in the flowers, with 1 petal. Petal cream-coloured, veined.

Spurless Qualea. Tree 20 feet.

5 Q. grandiflòra (Mart. bras. l. c. p. 133. t. 79.) leaves oblong, rather acuminated, glabrous above, tomentose and costately-veined beneath, but with the nerves and veins glabrous; flowers axillary or terminal, solitary or racemose; calyx clothed with silky pubescence on the outside, furnished with an elongated acutish spur. ♄. S. Native of Brazil, in the provinces of St. Paul and Minas Geraes. Petal 1, large, white, yellow at the base, orbicular, emarginate. Stamen 1.

Great-flowered Qualea. Tree 10 to 20 feet.

6 Q. multiflòra (Mart. l. c. p. 134. t. 80.) leaves opposite or 3 in a whorl, ovate or broad-lanceolate, or oblong, acuminated, glabrous on both surfaces, costately veined beneath; peduncles pilose; racemes axillary or terminal; whorles of flowers distant; upper lobe of calyx truncate and emarginate; spur and ovaries very hairy. ♄. S. Native of Brazil, in the provinces of Minas Geraes and St. Paul. Petal 1, obcordate, cream-coloured. Stamen 1.

Var. β, *pubéscens* (Mart. l. c.) leaves pubescent beneath. ♄. S. Growing along with the species.

Many-flowered Qualea. Tree 10 to 20 feet.

7 Q. parviflòra (Mart. l. c. p. 135. t. 81.) plant clothed with powdery hoary tomentum; leaves opposite or alternate, oblong, bluntish, costately-veined beneath; racemes axillary or terminal; calyx canescent, with the spur spreading and obtuse. ♄. S. Native of the south of Brazil, in the Certao or Great Desert. Petal 1, obcordate, unguiculate, white, having the scent of violets.

Var. a, tomentòsa (D. C. prod. 3. p. 29.) leaves clothed with hoary tomentum on both surfaces, but in the adult state they are glabrous.

Var. β, *glabràta* (D. C. l. c.) leaves smoothish on both surfaces.

Var, γ, *discolor* (D. C. l. c.) leaves glabrous above and canescent beneath.

Small-flowered Qualea. Tree 12 to 20 feet.

† *Species not sufficiently known.*

8 Q. Pe'rrini (Spreng. syst. 1. p. 17.) leaves oblong, subcordate, veiny; racemes hairy; petal entire; spur equal in length to the calyx. ♄. S. Native of Guiana.

Perrin's Qualea. Tree.

9 Q. verticilla'ta (Spreng. l. c.) leaves oblong, emarginate, attenuated at the base; corolla somewhat dipetalous, unequal. ♄. S. Native of Brazil.

Whorled Qualea. Tree.

Cult. For culture and propagation see *Vochysia*, p. 670.

§ 2. *Ovary adnate to the calyx. Calyx 4-parted.*

VI. ERI'SMA (from ερισμα, *erisma*, strife; so named from the anomalous form of the genus, which is at so much variance with others). Rudge, pl. guian. 1. p. 7. t. 1. D. C. prod. 3. p. 29.—Debræ'a, Rœm. et Schult. syst. 1. p. 4.—Ditmària, Spreng. syst. 1. p. 4.

Lin. syst. *Monándria, Monogýnia.* Tube of calyx adnate to the ovary; limb 4-5-parted; the lobes unequal, the longest one parabolic, drawn out into a spur at the base, expanded into a large petaloid limb at the apex, which is bearded on the inside; it is convolute in æstivation, and incloses the genitals. Petal 1, opposite the petaloid limb of the calyx, inserted behind the filament. Stamens, 1 fertile and 4 sterile; these last are very short. Anther oblong, narrow, sagittate, 3-celled, ex Martius. Ovary 1-celled, oblong, biovulate. Style filiform. Fruit unknown.—Trees, with opposite, oval, acuminated, coriaceous, glabrous, quite entire, feather-nerved leaves; lateral nerves confluent before the margin. Stipulas 2, small, at the base of each leaf. Panicle terminal, with opposite branches and branchlets, furnished with 2 unequal membranous deciduous bracteas to each ramification.

1 E. floribu'ndum (Rudge, l. c.) leaves ovate, acutish, with 16-18 lateral nerves on each side, having the upper surfaces hardly shining; branches of panicle clothed with rusty velvety down. ♄. S. Native of French Guiana. Tratt. obs. bot. 3. p. 71. t. 105. Debræ'a floribúnda, Rœm. et Schultes, syst. 1. p. 34. Ditmària floribúnda, Spreng. syst. 1. p. 16. Petal violaceous.

Bundle-flowered Erisma. Tree 40 feet.

2 E. viola'ceum (Mart. bras. 1. p. 137. t. 82.) leaves oblong, cuspidate, with 10-12 lateral distant nerves on each side; branches of corymbose panicle smoothish. ♄. S. Native of Brazil, in moist woods in Para. Quàlea calcaràta, Link. jahrb. gew. 1. 3. p. [illegible] Schultes, mant. 1. p. 53. Petal violaceous.

Violaceous-petaled Erisma. Tree 30 to 40 feet.

3 E. ni'tidum (D. C. prod. 3. p. 30.) leaves oval, acute, with 7-9 lateral nerves on each side; shining on the upper surface; branches of panicle striated and glabrous. ♄. S. Native of Cayenne, on the mountains of Roura near Kaw. Quàlea lùtea, Martin in Desf. [illegible] Petal yellow.

Shining-leaved Erisma. Tree [illegible] to 40 feet.

Cult. See *Vochýsia* for culture and propagation, p. 670.

† *The following genera are hardly known, and very doubtful whether they belong to the present order.*

VII. LOZA'NIA (evidently a proper name, and perhaps the name of some botanist known to Mutis). Seb. Mut. in sem. nov. granad. 1810. p. 20. D. C. prod. 3. p. 30.

Lin. syst. *Monándria, Monogýnia.* Calyx with a somewhat ventricose tube, and a 4-parted limb; lobes ovate, acute, spreading, permanent. Petals wanting. Disk quadrangular, filling the bottom of the calyx. Stamen 1, small, inserted obliquely under the ovarium, and tapering to the apex; anther ovate, didymous. Ovary ovate. Stigmas 3, small, subcapitate. Capsule ovate, trigonal, acuminated, 3-celled, 3-valved. Seeds 6, with usually 3 of them abortive, angular, inserted in the bottom of the capsule.—A tree, with alternate oblong serrated leaves, and spikes of flowers; peduncles axillary, crowded; pedicels furnished each with a linear bracteole at the base.

1 L. nemora'lis (Seb. Mut. l. c.) ♄. S. Native of New Granada, in temperate parts.

Grove Lozania. Tree.

Cult. See *Vochýsia* for culture and propagation, p. 670.

VIII. AGA'RDHIA (in honour of Charles Agardh, a Swedish professor and writer upon Algæ; author of Synopsis Algarum Scandanaviæ, Lund. 1817. 8vo. and other works on the same subject). Spreng. syst. 1. p. 4. D. C. prod. 3. p. 30.

Lin. syst. *Monándria, Monogýnia.* Calyx of 3 sepals. Petals 5, convolute. Stamen 1, bearing a large, 2-celled anther. Drupe oval, 3-celled, 3-valved. The rest unknown. Perhaps more nearly allied to *Terebinthàceæ.* It is a very doubtful genus.

1 A. crypta'ntha (Spreng. syst. 1. p. 17.) leaves ovate, acute, glabrous on both surfaces; raceme terminal. ♄. S. Native of Brazil.

Hidden-flowered Agardhia. Tree.

2 A. grandiflòra (Spreng. l. c.) leaves cordate, oblong, coriaceous, with parallel veins, discoloured beneath and villously tomentose; racemes verticillate; flowers villous, as well as the petioles and peduncles, which are glandular at the base. ♄. S. Native of Brazil.

Great-flowered Agardhia. Tree.

Cult. See *Vochýsia* for culture and propagation, p. 670.

IX.? SCHWEIGGE'RIA (in honour of A. F. Schweigger, author of Flora Erlangensis). Spreng. syst. 1. p. 167. D. C. prod. 3. p. 30.

Lin. syst. *Monándria, Monogýnia.* Calyx of 3 corolline sepals. Petals 3, one of which is furnished with a spur, the other two erect and cartilaginous. Glands 5, ovate, surrounding the base of the stamen, which is columnar and triquetrous, and bearing an anther at the apex. Pistil none. Fruit unknown.—A little shrub, with the habit of *Bétula fruticòsa,* with scattered, sub-fascicled, obovate, crenulated, glabrous leaves; and axillary bibracteate pedicels. Flowers small, like those of a violet. This genus is hardly known.

1 S. fruticòsa (Spreng. l. c.) ♄. S. Native of Brazil.

Shrubby Schweiggeria. Shrub.

Cult. See *Vochýsia* for culture and propagation, p. 670.

Order XCI. RHIZOPHO'REÆ (plants agreeing with *Rhizophòra* or *Mangrove* in particular characters). R. Brown, gen. rem. p. 17. Cong. p. 18. D. C. prod. 3. p. 31.—Paletùviers, Savig. in Lam. dict. 4. p. 696.

Tube of calyx adhering to the ovarium (f. 92. *a. f.*), except in the genus *Cassipoùrea,* which is free; limb 4-13-lobed (f. 92. *e.*); lobes valvate in æstivation (but in *Olísbea* calyptriform). Petals inserted in the calyx (f. 92. *c.*), and alternating with its lobes, therefore equal to them in number. Stamens inserted with the petals (f. 92. *d.*), equal to them in number, or double or triple that number; filaments free, subulate, erect; anthers ovate, inserted by the base, erect, but somewhat incurved in the genus *Olisbea.* Ovary adnate to the calyx (f. 92. *a.*), 2-celled; cells 2 or many-ovulate; ovula pendulous. Fruit indehiscent (f. 92. *f.*), 1-celled, 1-seeded, crowned by the calyx (f. 92. *e.*). Seed pendulous, exalbuminous. Embryo with a very long radicle and 2 flat cotyledons.—Tropical trees or shrubs, with opposite, simple, entire, or toothed leaves, having the lateral nerves feathered when present. Stipulas interpetiolar. Peduncles axillary.

From a consideration of the structure of *Carállia* and *Légnotes,* Mr. Brown has been led to conclude, that we have a series of structures, connecting *Rhizophòreæ* on the one hand with certain genera of *Salicarièæ,* particularly with *Antherílium,* though that genus wants its intermediate stipulas, and on the other with *Cunoniàceæ,* especially with the simple-leaved species of *Ceratopétalum.* In the opposite leaves, interpetiolar stipulas, adnate ovarium, and polypetalous flowers, this order agrees with *Vochysièæ* and *Cunoniàceæ;* in the valvate calyx with *Lythrarièæ* and *Cunoniàceæ;* and in the pendulous ovulas with *Combretàceæ.* The genus *Olisbea* seems to come nearest to *Memecýleæ.* The species of *Rhizóphora* or *Mangrove* are remarkable in tropical countries for growing upon the shores of the sea and rivers, even as far as low water. The seeds have the singular property of germinating while inclosed within the capsule, and adhering to their parent, and pushing forth a long fusiform radicle, which lengthens till it reaches and fixes itself in the mud in which the parent grows, and forms a new individual. These young plants never separate from the parent until they are fairly fixed and rooted, as otherwise they would be washed away by the tide. Where *mangroves* grow in abundance, the situation is always considered unhealthy, from their collecting a vast quantity of filth about their roots, from the flowing and ebbing of the tide. The bark of *Rhizóphora*, which is very astringent, is used in India for dyeing black.

Synopsis of the genera.

§ 1. *A genus having its calyx in the form of a calyptra.*

1 **Oli'sbea.** Calyx undivided before the expansion of the flower, but afterwards separating transversely, in one piece. Petals 5. Stamens 10.

§ 2. *Rhizophòreæ veræ. Tube of calyx adhering to the ovarium* (f. 92. *a.*).

2 **Rhizo'phora.** Limb of calyx 4-13-lobed. Petals equal in number to the lobes of the calyx. Stamens double the number of the petals.

3 **Cara'llia.** Limb of calyx 6-7-lobed (f. 92. *e.*). Petals 6-7 (f. 92. *c.*). Stamens twice the number of the petals (f. 92. *d.*).

§ 3. *A genus with the calyx free from the ovarium.*

4 **Cassipou'rea.** Calyx campanulate, 5-cleft. Petals 3, fringed. Stamens 20-40.

§ 1. *An intermediate genus between the orders Memecyleæ and Rhizophòreæ, having a calyptriform calyx.*

I. OLI'SBEA (from ολισβος, *olisbos*, penis coriaceous; in reference to the consistence of the anthers). D. C. prod. 3. p. 31.

Lin. syst. *Decándria, Monogýnia.* Calyx closed, ovate, acute, undivided before the expansion of the flower, but afterwards bursting transversely, and falling off in one piece. Petals 5. Stamens 10; anthers rather incurved, opening by a longitudinal chink. Style filiform. Fruit and seeds unknown.—Shrub quite glabrous. Leaves oval, opposite, entire, acuminated, opaque, coriaceous, furnished with a longitudinal nerve, but without any lateral veins. Stipulas supra-axillary, connate at the base, and sheathing. Peduncles axillary, opposite, 1-flowered, articulated in the middle. This is a very doubtful but very singular genus, in the stipulas and habit being that of *Rhizóphora*, the form of the anthers that of *Mouriria*, and the calyx that of *Calyptránthis* or *Conostègia*, but from all very different.

1 O. RHIZOPORÆFÒLIA (D. C. l. c.). ♄. S. Native of the West Indies, particularly in St. Vincent, where it is probably cultivated only in the botanic garden.

Rhizophora-leaved Olisbea. Tree.

Cult. See *Carállia* for culture and propagation, p. 674.

§ 2. *Rhizophòreæ veræ. Tube of calyx adhering to the ovary.*

II. RHIZO'PHORA (ῥιζα, *rhiza*, a root, and φορεο, *phoreo*, to bear; the species of this genus throw out roots from the branches in great abundance, which lengthen out until they fix themselves in the mud, and consequently one tree may, by these supports, spread over a large space, as every branch is supported by its own roots). Lin. gen. no. 592. Gærtn. fruct. 1. p. 212. t. 45. D. C. prod. 3. p. 31.—Rhizóphora and Bruguièra, Lam. dict. et ill. t. 396. and 397.

Lin. syst. *Tetra-Icosándria, Monogýnia.* Tube of calyx obovate, adhering to the ovarium; limb with 4-13, oblong-linear, permanent lobes. Petals equal in number to the lobes of the calyx, oblong, furnished with 2 awns at the apex, convolute, and when young clasping the stamens, of which two are situated in the front of each petal, the stamens are therefore double the number of the petals. Anthers erect, ovate, inserted by the base. Ovarium 2-celled, when young containing many pendulous ovula. Style 1, bifid at the apex. Fruit indehiscent, 1-seeded, crowned by the calyx. Seed small. Embryo inverted, germinating in the seed, with the radicle gradually lengthening out until it fixes itself in the mud.—Glabrous shrubs, growing in great abundance on the shores of the sea and rivers within the tropics, throwing out numerous roots from every branch. Leaves opposite, coriaceous, quite entire. Peduncles axillary.

* *Flowers 4-petalled. Mangles, Plum. gen. t.* 15.

1 R. MA'NGLE (Lin. spec. 634.) leaves obovate-oblong, obtuse; peduncles 2-3-flowered, longer than the petioles; fruit subulately clavate. ♄. S. Native of Louisiana, Mexico, West Indies, Guiana, Brazil, and west coast of Africa, on the shores of the sea and rivers. Jacq. amer. p. 141. t. 89. ed. pict. t. 132. Catesb. car. 2. t. 63.—Plench. icon. t. 359. Flowers octandrous, pale yellow. P. Browne says the fruit germinates within the cup, and grows from the top downwards until it acquires a due degree of weight and perfection, when it falls off, and as the root is always the thickest, and hangs lowest, it drops in that direction, and is thus received into its natural position in the mud below, the leaves are immediately unfolded, and in a few minutes a perfect plant is seen, sometimes of 2 or 3 feet long, which soon begins to shoot its roots and push its growth like the parent plant. The lower branches frequently become the supporters of some species of oysters, which has given rise to the fabulous account of this shell-fish on trees as a fruit. The bark is most excellent for tanning leather. The decoction of it is a most powerful astringent. The wood is tough and durable.

Mangle or Common Mangrove. Clt. 1820. Tr. 12 to 15 ft.

2 R. CANDELA'RIA (D. C. prod. 3. p. 32.) leaves oval, acute; peduncles 1-3-flowered, very short and thickish; fruit subulately clavate. ♄. S. Native of Malabar and the Moluccas, on the shores of the sea and rivers. Pee-kandel, Rheed. mal. 6. t. 34. Mángium candalárium, Rumph. amb. 3. t. 71. and t. 72. The flowers are at first white, but at length changing to reddish, according to Rheede. Stamens 9-12. Perhaps this species is not different from *R. Mángle*.

Chandelier or Malabar Mangrove. Tree 12 to 15 feet.

3 R. RACEMÒSA (Meyer, prim. esseq. 185.) leaves obovate-oblong or obovate; racemes axillary, dichotomously panicled. ♄. S. Native on the shores of Guiana, near the Essequibo. Petals copper-coloured, pilose.

Racemose-flowered Mangrove. Tree 12 to 15 feet.

4 R. MUCRONA'TA (Lam. dict. 6. p. 169. ill. t. 396. f. 2.) leaves oval, abruptly acuminated; racemes nodding, dichotomous. ♄. S. Native of the Mauritius. Petals oblong, obtuse? Stamens 8. Ovary 4-sided, ex Poir.

Mucronate-leaved Mangrove. Tree 12 to 15 feet.

* * *Flowers of 5 petals. Kandèlia* (from *Tsjerou-Candel*, the Malabar name of R. Candel).

5 R. CA'NDEL (Lin. spec. 634.) leaves obovate-oblong, obtuse, on short petioles; peduncles twice bifid, much longer than the petioles. ♄. S. Native of Malabar, in muddy places on the sea-shore. Tsjerou-Candel, Rheed. mal. 6. t. 35. Flowers whitish. Sepals spreading, somewhat reflexed. Stamens 10-15, exserted. Fruit cylindrical, long, acute.

Candel Mangrove. Tree 10 to 15 feet.

6 R. TIMORIE'NSIS (D. C. prod. 3. p. 32.) leaves oval, obtuse, on long petioles; peduncles length of petioles, bearing 10-15 flowers in a head. ♄. S. Native of Timor. Leaves 2 to 2½ inches long. Petioles 6-12 lines long. Flowers crowded. Lobes of calyx 5, oblong, stiff. Petals 5, biaristate at the apex, when young convolute and clasping 2 stamens each.

Timor Mangrove. Tree 15 to 20 feet.

* *Flowers of* 8 *petals.—Kanìlia, (from Kanil-Kandel, the Malabar name of R. cylindrica).*

7 R. cyli'ndrica (Lin. spec. 634.) leaves oval, acuminated at both ends; peduncles axillary, 1-2-flowered; lobes of calyx at length reflexed. ♄. S. Native of Malabar, in muddy places by the sea-side. Kanil-Kandel, Rheed. mal. 6. t. 33. Flowers white. Anthers red. Fruit cylindrical, from reddish to blue, 2-3 inches long, ex Rheed.

Cylindrical-fruited Mangrove. Tree 12 to 15 feet.

8 R. caryophylloi'des (Jack, mal. misc. 1. no. 2. p. 34.) leaves ovate-lanceolate, acute at both ends; peduncles axillary, 3-flowered, rarely dichotomously 5-flowered; lobes of calyx at length spreading. ♄. S. Native of the Moluccas, Singapore, Pulo-penang. Radicle rather cylindrical, acutish.—Rumph. amb. 3. t. 78.

Clove-like Mangrove. Tree 12 to 15 feet.

* * * *Flowers of* [illegible]13 *petals.—Paletuvièra, Pet. Th.—Bruguièra, Lam. ill. t.* 397. [illegible] t. 4. *p.* 696. *but not of Pet. Th.*

9 R. sexa'ngula (Lour. coch. 297.) leaves ovate-lanceolate; pedicels 1-flowered, sub-terminal; fruit prismatic, hexagonal, obtuse. ♄. G. Native of Cochinchina, on the banks of rivers. Bruguièra sexángula, Steud. Bruguièra sexangulàris, Spreng. Flowers red, of 10 petals. Petals ciliated.

Hexagonal-fruited Mangrove. Tree 10 to 15 feet.

10 R. gymnorhi'za (Lin. spec. 634.) leaves ovate-oblong, acuminated at both ends, shining; pedicels 1-flowered, deflexed, about the length of the petioles; fruit terete, acute. ♄. S. Native of the Moluccas, East Indies, and Cochin-china.—Rheed. mal. 6. t. 31. 32.—Rumph. amb. 3. t. 63. 70, 71. Bruguièra, gymnorhìza, Lam. ill. t. 397. Flowers reddish-yellow, of 10-13 petals. Roots naked above the earth. The bark is very astringent, and is used in India for dyeing rufous or chesnut colour, which is easily changed into a fine permanent black.

Naked-rooted Mangrove. Tree 12 to 15 feet.

† *Species not sufficiently known.*

11 R. conjuga'ta (Lin. spec. 634.) leaves ovate-oblong, bluntish; flowers sessile; fruit cylindrically subulate. ♄. S. Native of Ceylon.

Conjugate Mangrove. Tree.

12 R. Pa'lun (D. C. prod. 3. p. 33.) leaves oval-oblong, acuminated at both ends, alternate; calyx 5-lobed; fruit cylindrical, striated. ♄. S. Native of the Moluccas, in marshes. —Rumph. amb. 3. t. 69.

Palun Mangrove. Tree.

13 R. deca'ndra (Roxb. hort. beng. p. 36.) Native of the East Indies, where it is called *Guran*. Not described.

Decandrous Mangrove. Tree.

14 R. ceratophylloìdes (Ræuch. nom.). Not described.

Buckhorn-leaved-like Mangrove. Shrub.

Cult. The species of *mangrove* are difficult, if not impossible, to cultivate in this country. They may be tried in a mixture of loam and sand, and kept moist with salted water.

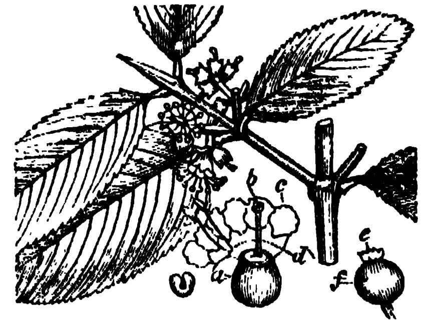
III. CARA'LLIA (*Carállie* is the name of *C. lùcida*, in the language of the Telingas). Roxb. hort. beng. p. 87. and cor. 3. t. 211. D. C. prod. 3. p. 33.

Lin. syst. *Dodecándria, Monogýnia.* Tube of calyx subglobose (f. 92. *a.*); limb 6-7-lobed (f. 92. *e.*); lobes triangular. Petals 6-7 (f. 92. *c.*), orbicular. Stamens 12-14 (f. 92. *d.*), equal in length with the petals. Ovary globose (f. 92. *a.*), adnate to the calyx. Style length of stamens, crowned by a sub-urceolate, 3-lobed stigma (f. 92. *b.*). Berry globose (f. 92. *f.*), 1-celled, crowned by the calyx (f. 92. *e.*). Seed 1, reniform, rarely 2.—Evergreen, glabrous, Indian trees, with opposite, serrated, stiffish leaves, which are shining on the upper surface. Peduncles axillary, trifid, many-flowered. The genus *Baraldèia* of Pet. Th. see vol. 1. p. 808. now inserted in *Rutàceæ*, is allied to this genus, according to R. Br. congo. p. 18.

1 C. lanceæfólia (Roxb. hort. beng. p. 87.) leaves oblong-lanceolate, acute, serrated, 3-times longer than broad. ♄. S. Native of Sumatra.

Lanceolate-leaved Cerallia. Tree 20 feet.

FIG. 92.



2 C. luci'da (Roxb. cor. 3. t. 211.) leaves oval, acuminated, serrated, twice the length of the breadth. ♄. S. Native of the East Indies, on the lower Circars. Petals yellow, rather undulated. Fruit the size of a large pea.

Lucid Carallia. Clt. 1820. Tree 20 feet.

3 C. intege'rrima (D. C. prod. 3. p. 33.) leaves oval, acuminated, quite entire, twice the length of the breadth. ♄. S. Native of the East Indies. Perhaps only a variety of *C. lucida.*

Quite-entire-leaved Carallia. Tree 20 feet.

Cult. See *Cassipoùrea* for culture and propagation, p. 675.

§ 3. *A genus with a free calyx, intermediate between Rhizophòreæ and Lythrarìeæ.*

IV. CASSIPOU'REA (Guiana name of *C. Guianénsis*). Aubl. guian. 1. p. 529. t. 211. (1775.)—Tìta, Scop. intr. p. 219. (1777.)—Legnòtis, Swartz, prod. p. 84. (1788.) fl. ind. occ. p. 968. t. 17.—Richæ'ia, Pet. Th. gen. nov. mad. no. 84. (1810.) but not of Lam. nor Browne.

Lin. syst. *Icosándria, Monogýnia.* Calyx campanulate, 5-lobed; lobes valvate in æstivation. Petals 3, inserted in the bottom of the calyx, attenuated at the base, fringed on the margins at the apex. Stamens 20-40, inserted in the bottom of the calyx and shorter than it, disposed in a single series. Ovary hemispherical. Style permanent, longer than the stamens. Stigma obtuse. Fruit 3-celled, 3-valved, girded by the calyx; cells 2-ovulate, but only 1-seeded from abortion. Seed hanging from the top of the cell, half arillate at the base. Albumen fleshy. Embryo inverted, with flat cotyledons and an oblong radicle.—Trees or shrubs, with opposite, oval, acute, feather-nerved, short-stalked, entire, or toothed leaves. Stipulas lanceolate, between the leaves. Flowers axillary, crowded; pedicels 1-flowered, bracteate at the base.—This genus agrees with *Rhizophòreæ* in the stipulas, and especially with the genus *Carállia.* It agrees with *Lythrarìeæ* in the free calyx; but from both orders it differs in the albuminous seeds. Perhaps a proper order.

1 C. macrophy'lla (D. C. prod. 3. p. 34.) leaves ovate, obtuse at the base, on short petioles, acuminated at the apex, and with the margins bluntly repand; flowers sessile; petals pinnatifidly jagged. ♄. S. Native of Brazil, in the province of Para. Legnòtis macrophýlla, Mart. herb. Leaves 6 inches long and 3 broad. Flowers larger than those of the following species, white.

Long-leaved Cassipourea. Tree or shrub.

2 C. Guiane'nsis (Aubl. guian. 1. p. 529. t. 211.) leaves ovate or oval, on short petioles, quite entire, acuminated at the apex; flowers almost sessile; petals pinnatifidly fringed. ♄. S. Native of French Guiana, in marshes, and of Brazil, in the

province of Para. Legnòtis Cassipoúrea, Swartz, fl. ind. 970. Petals white.

Guiana Cassipourea. Shrub 6 to 7 feet.

3 C. elli′ptica (Poir. suppl. 2. p. 131.) leaves elliptic, acuminated at both ends, quite entire, on short petioles; flowers distinctly pedicellate; petals rather palmately fringed. ♄. S. Native of Jamaica, on the higher mountains. Legnòtis ellíptica, Swartz, prod. 84. fl. ind. p. 969. t. 17. Petals white.

Elliptic-leaved Cassipourea. Tree 10 to 30 feet.

4 C. Madagascarie′nsis (D. C. prod. 3. p. 34.) leaves on short petioles, toothed; flowers pedicellate; pedicels rising from an urceolate bractea each; petals fringed at the apex. ♄. S. Native of Madagascar. Richæ′ia, Pet. Th. nov. gen. mad. p. 25. no. 84.

Madagascar Cassipourea. Shrub 6 to 10 feet.

† *A species not sufficiently known.*

5 C. Congoe′nsis (R. Br. congo, p. 58.). ♄. S. Native of the west coast of Africa, on the banks of the Congo. Petals less divided than the rest of the species.

Congo Cassipourea. Tree or shrub.

Cult. Loam and peat is a good soil for the species of *Cassipoúrea*, and cuttings root readily in sand, under a hand-glass, in heat.

Order XCII. ONAGRA′RIÆ (plants agreeing with *Onagros* or *Onager*, now *Œnothèra*, in important characters). Juss. ann. mus. 3. p. 315. exclusive of *Halorâgiæ*. D. C. prod. 3. p. 35.—Onàgræ, Juss. gen. 317. exclusive of numerous genera. —Epilobiàceæ, Vent. tabl. 3. p. 307.—Calecanthemàrum gen. Lin.

Tube of calyx adnate to the ovarium the whole length (f. 93. *a.*), or only adhering to it at the base (f. 94. *a.*), and drawn out beyond the ovarium at the apex (f. 94. *a.*); limb 2-4-lobed, but usually 4-lobed (f. 93. *a.* f. 94. *a.* f. 96. *a.* f. 98. *a.*); lobes valvate in æstivation. Petals equal in number to the lobes of the calyx (f. 95. *b.* f. 96. *b.* f. 97. *b.* f. 98. *d.*), and alternating with them, for the most part regular, twisted in æstivation, inserted in the top of the tube of the calyx (f. 95. *b.* f. 96. *b.* f. 97. *b.* f. 98. *d.*), rarely wanting. Stamens sometimes equal in number to the petals (f. 93. *d.* f. 99. *c.*), but usually twice that number (f. 95. *b.*); filaments free, filiform; anthers oblong or ovate. Ovary many-celled, usually crowned by a cup-shaped gland. Style filiform. Stigma capitate (f. 95. *c.*) or lobed (f. 96. *c.* f. 97. *a.*). Fruit capsular (f. 96. *d.* f. 99. *f.*), baccate or drupaceous, 2 or 4-celled. Seeds many in each cell, rarely solitary, fixed to the central placenta. Albumen wanting, but the endopleura is sometimes tumid, and appearing like albumen. Embryo straight, with a long terete radicle and 2 short cotyledons.—Herbs or shrubs. Leaves simple, alternate or opposite, entire, toothed, or pinnatifid, feather-nerved. Flowers axillary, and disposed in terminal spikes or racemes.

This order is distinguished from *Lythrarièæ* in the calyx being adnate to the ovarium, and from *Halorâgieæ* in the style being filiform, in the seeds being exalbuminous, and never pendulous in the cells. It is also distinguished from *Myrtàceæ* in the leaves being destitute of pellucid dots, in the stamens being definite in number, not indefinite; and from *Lodseæ* in the seeds being fixed to the central column, not parietal, as in that order. The order is generally known by its pollen cohering by a kind of filamentose substance, an inferior polyspermous ovarium, a tetrasepalous tetrapetalous flower, with a definite number of stamens, and a single style; from this form, however, there are some anomalous variations, such as *Circæ′a* and *Lopèzia*, which are however easily reconciled to the usual structure of the order. Most of the genera are pre-eminently beautiful, as *Epilòbium*, *Œnothèra*, and *Fúchsia*, which are old favourites among gardeners.

The properties of *Onagràriæ* are but little known. The leaves of *Jussiæ′a Peruviàna* are used as an emollient poultice, and the root of *Œnothèra biénnis* as a sort of salad. The valves and dry capsule of *Œnothèra tetráptera* contract when the atmosphere is dry, but when moist they expand.

Synopsis of the genera.

Tribe I.

Montinie′æ. *Fruit capsular. Seeds imbricate, erect, furnished with a membranous wing. Trees or shrubs, with alternate leaves.*

1 Monti′nia. Flowers diœcious from abortion. Tube of calyx adhering to the ovarium (f. 93. *a.*), with a very short 4-toothed limb (f. 93. *b.*). Petals 4 (f. 93. *d.*). Stamens 4. Style bifid (f. 93. *c.*). Capsule 2-valved.

2 Hau′ya. Calyx adhering to the ovary at the base, and drawn out into a long tube at the apex, which is 4-lobed. Petals 4. Stamens 8. Capsule 4-valved.

Tribe II.

Fuchsie′æ. *Fruit baccate. Tube of calyx drawn out beyond the ovarium* (f. 94. *a.*). *Trees or shrubs, with opposite leaves.*

3 Gongyloca′rpus. Calyx adhering to the ovarium at the base, and drawn out into a long tube at the apex, which is 4-parted. Petals 4. Stamens 8. Fruit baccate, 2-celled, 2-seeded, indehiscent.

4 Fu′chsia. Calyx 4-lobed (f. 94. *a.*). Petals 4. Stamens 8. Ovary 4-valved, 4-celled.

Tribe III.

Ona′greæ. *Fruit capsular, many-seeded* (f. 95. *d.* f. 96. *d.*). *Seeds not winged. Tube of calyx drawn out beyond the ovarium* (f. 96. *a.*). *Stamens twice the number of the petals* (f. 94. *d.* f. 95. *b.*).

5 Epilòbium. Limb of calyx 4-parted. Petals 4. Capsule tetragonal, 4-celled. Seeds pappous.

6 Gau′ra. Limb of calyx 3-4-parted. Petals 3-4. Ovary 3-4-sided, 1-celled. Seeds naked.

7 Œnothe′ra. Limb of calyx 4-parted (f. 96. *a.*). Petals 4 (f. 96. *b.*). Capsule oblong-linear (f. 96. *d.*), bluntly tetragonal or clavate, 4-celled. Seeds naked.

8 Gayophy′tum. Limb of calyx 4-parted. Petals 4. The 4 stamens opposite the petals barren. Capsule 2-celled. Seeds naked.

9 Cla′rkia. Limb of calyx 4-parted. Petals 4, tripartite (f. 97. *b.*). Capsule 4-celled. Seeds not pappous.

TRIBE IV.

JUSSIE'Æ. *Fruit capsular* (f. 99. *f.*); *cells many-seeded. Tube of calyx permanent, not drawn out beyond the ovarium, but dividing immediately* (f. 98. *a.* f. 99. *e. b.*).

10 JUSSIÆ'A. Limb of calyx 4-6-parted (f. 98. *a.*). Petals 4-6 (f. 98. *d.*). Stamens 8-12. Capsule 4-6-celled (f. 98. *b.*). Seeds naked.

11 PRIEU'REA. Limb of calyx 3-parted. Petals 3. Stamens 3.

12 LUDWI'GIA. Limb of calyx 4-parted. Petals 4. Stamens 4. Capsule turbinate or elongated, 4-celled. Style pyramidal from the apex.

13 ISNA'RDIA. Limb of calyx 4-parted (f. 99. *a. e.*). Petals 4 (f. 99. *b.*). Stamens 4 (f. 99. *e.*). Style filiform from the base. Capsule obovate or almost cylindrical, tetragonal, 4-celled (f. 99. *f.*).

TRIBE V.

CIRCÆE'Æ. *Tube of calyx not drawn out beyond the ovarium, but immediately parted and deciduous. Fruit capsular, ovate-globose. Stamens 2, one of which is sometimes converted into a petal.*

14 LOPE'ZIA. Limb of calyx 4-parted (f. 100. *a.*). Petals 4 (f. 100. *h. b.*), irregular. Stamens 2 (f. 100. *c.*), one of which is only fertile. Capsule subglobose (f. 100. *e.*), 4-celled.

15 CIRCÆ'A. Limb of calyx 2-parted. Petals 2, obcordate. Stamens 2. Capsule hispid, 2-celled, 2-valved, 2-seeded.

† *Genera not well known.*

16 PLEUROSTE'MON. Tube of calyx drawn out beyond the ovarium, bifid at the apex. Petals 4. Stamens 8. Stigma 4-lobed. Capsule oval, 4-celled.

17 ONOSU'RIS. Tube of calyx adhering to the ovarium; limb 2-parted, with the lobes reflexed. Petals 4. Stigmas 4. Capsule 4-celled, 4-valved.

Tribe I.

MONTINIE'Æ (plants agreeing with *Montinia* in important characters). D. C. prod. 3. p. 35. Fruit capsular (f. 93. *a.*). Seeds imbricate, erect, furnished with a membranous wing.—Trees or shrubs, with alternate leaves. This tribe is formed from two genera that are not very well known.

I. MONTI'NIA (in honour of Laurence Montin, an acute Swedish botanist). Lin. gen. 1132. Gærtn. fruct. 1. p. 170. t. 33. Lam. ill. t. 808. D. C. prod. 3. p. 35.

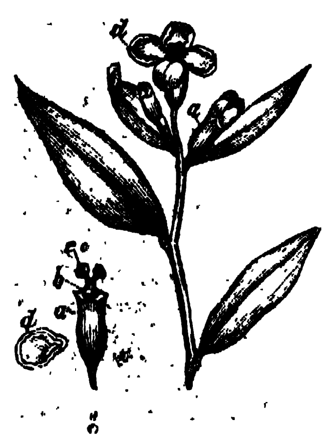
LIN. SYST. *Diœ'cia, Tetrándria.* Flowers dioecious from abortion. Tube of calyx adhering to the ovary (f. 93. *a.*); limb very short, 4-toothed (f. 93. *a.*). Petals 4 (f. 93. *d.*), roundish. Stamens 4 (f. 93. *d.*), alternating with the petals; in the female flowers barren. Anthers oblong, oscillatory. Ovary ovate; in the male flowers abortive. Style bifid (f. 93. *b.*). Capsule (f. 93. *a.*), 2-valved, 2-celled, crowned by the teeth of the calyx. Seeds 6-8 in each cell, fixed to the central placenta, which is somewhat tetragonal. Seeds girded by a wing. Albumen fleshy.—A smooth Cape shrub, with alternate leaves, and small white flowers. This genus differs from all the other genera in *Onagràriæ* in the seeds being albuminous.

1 M. A'CRIS (Lin. fil. suppl. 427.) ♄. G. Native of the Cape of Good Hope, on sandy hills.—Pluck. alm. t. 333.—Burm. afr. t. 90. f. 1-2. M. cariophyllàcea, Thunb. nov. gen. 1. p. 28. Smith, spicil. t. 15. M. frutéscens, Gærtn. fr. l. c. Leaves ovate-lanceolate, acute, glaucous, rather fleshy. Flowers terminal. Fruit with an acrid flavour. (f. 93.)

Acrid-fruited Montinia. Fl. July. Clt. 1774. Sh. 1 to 1½ ft.

Cult. *Montínia* thrives well in a mixture of loam and peat, and cuttings root readily if planted under a hand-glass.

FIG. 93.



II. HAU'YA (perhaps a name of Mexican origin). Moc. et Sesse, fl. mex. icon. ined. D. C. prod. 3. p. 36.

LIN. SYST. *Octándria, Monogýnia.* Calyx adhering to the ovarium at the base, drawn out into a long cylindrical tube, which is cleft to the middle into 4 oblong-linear, acute, dependent lobes, which are coloured on the inside. Petals 4, oval, inserted in the top of the calycine tube. Stamens 8, exserted; anthers oblong, oscillatory. Style 1, filiform, exserted. Stigma thick, capitate. Capsule 4-valved, 4-celled. Seeds numerous, expanded into an oblong wing at the apex.—A shrub, with alternate petiolate ovate leaves. Flowers large, from white to rose-coloured, sessile in the axils of the upper leaves.

1 H. E'LEGANS (Moc. et Sesse, fl. mex. icon. ined.) ♄. S. Native of Mexico. Branchlets, young leaves, and calyxes clothed with down. Tube of calyx an inch and a half long.

Elegant Hauya. Shrub.

Cult. See *Montínia* for culture and propagation.

Tribe II.

FUCHSIE'Æ (plants agreeing with *Fúchsia* in important characters). D. C. prod. 3. p. 36. Fruit baccate. Tube of calyx drawn out beyond the ovarium (f. 94. *a.*).—Elegant South American shrubs, with opposite leaves.

III. GONGYLOCA'RPUS (from γογγυλος, *gongulos*, round, and καρπος, *karpos*; in reference to the shape of the fruit). Schlecht. et Cham. in Linnæa. 5. p. 557.

LIN. SYST. *Octándria, Monogýnia.* Calyx adhering to the ovarium at the base, with the tube drawn out a long way beyond the ovarium; limb 4-parted; throat crowned by a ring of glands below the stamens. Petals 4, entire. Stigma capitate. Fruit baccate, 2-celled, 2-seeded; putamen woody.—An annual herb, with alternate, glabrous, ovate-lanceolate, acuminated leaves. Petals obovate-cuneated, caducous, shorter than the calycine segments. Fruit turbinate, about the size of a grain of pepper.

1 G. RUBRICAU'LIS (Schlecht. et Cham. l. c.) ⊙. H. Native of Mexico, about Jalapa. Stems red, furnished with short axillary branches.

Red-stemmed Gongylocarpus. Pl. 1½ foot.

Cult. The seeds of this plant will require to be sown in a hot-bed in spring, and when the plants are about 2 or 3 inches high they may be planted out into the open border in a warm sheltered situation.

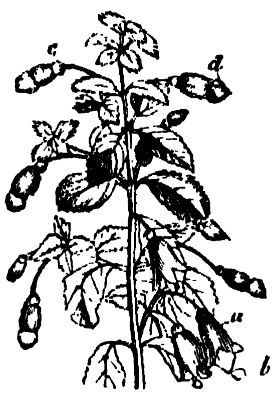
IV. FU'CHSIA (in honour of Leonard Fuchs, a celebrated German botanist, author of Historia Stirpium in 1542.) Plum. gen. 14. Lin. gen. 126. Lam. ill. t. 282. D. C. prod. 3. p. 36.

Lin. syst. *Octándria, Monogýnia.* Tube of calyx adhering to the ovarium at the base, and drawn out at the apex into a cylindrical 4-cleft tube (f. 94. *a.*), whose lobes soon fall off. Petals 4, alternating with the lobes of the calyx, and inserted in the upper part of the tube, very rarely wanting. Stamens 8. Ovarium crowned by an urceolate gland. Style filiform, crowned by a capitate stigma (f. 94. *b.*). Berry oblong or ovate-globose, 4-valved, 4-celled, many-seeded.—Shrubs, usually with opposite leaves, and axillary 1-flowered pedicels, which are sometimes disposed in racemes at the tops of the branches. Flowers usually drooping, red, rarely white, sometimes 5-cleft and decandrous.

Sect. I. Quelu'sia (an insignificant name given by Vandeli. *Quelus* is the name of a country-house of the queen of Portugal, situated about 2 leagues from Lisbon). Vand. in Rœm. script. p. 101. t. 7. f. 10.—Dorvàlia, Comm. mss.—Nahùsia, Schnev. with a figure. Tube of calyx cylindrical or obconical, attenuated or constricted above the ovarium. Ovula numerous, 2 series in each cell. Leaves opposite or verticillate, rarely subalternate.—South American shrubs.

§ 1. *Breviflòræ* (from *brevis*, short, and *flos*, a flower; flowers short). *D. C. prod.* 3. *p.* 36. *The free part of the tube of the calyx shorter than its lobes, or about equal in length to them. Stamens inclosed.*

FIG. 94.



1 F. microphy'lla (H. B. et Kunth, nov. gen. amer. 6. p. 103. t. 534.) branches pubescent; leaves opposite, small, elliptic-oblong, acutish, toothed, glabrous, but a little ciliated; pedicels axillary, shorter than the flowers; calyx funnel-shaped, with ovate acuminated lobes; petals retuse, toothed. ♄. G. Native of Mexico, on the burning mount Jorullo. Lindl. bot. reg. t. 1269. Sweet, fl. gard. new ser. t. 16. Calyx scarlet. Petals deep red. Stigma 4-lobed. (f. 94.)

Small-leaved Fuchsia. Fl. Ju. Sept. Clt. 1828. Sh. 4 to 6 ft.

2 F. thymifòlia (H. B. et Kunth, nov. gen. amer. 6. p. 104. t. 535.) branches puberulous; leaves about opposite, small, ovate or roundish-ovate, obtuse, nearly quite entire, hairy above and glabrous beneath; pedicels axillary, shorter than the flowers; calyx funnel-shaped, with oblong acute lobes; petals obovate-oblong, undulated. ♄. G. Native of Mexico, in temperate places near Pazcuaro. Lindl. bot. reg. 1284. Lopèzia thymifòlia, Bonpl. herb. Willd. ex Link, in Schultes, mant. 50. F. altérnans, Moc. et Sesse, fl. mex. ined. Flowers red. Stigma undivided.

Thyme-leaved Fuchsia. Fl. May, Oct. Clt. 1827. Shrub 4 to 6 feet.

3 F. ròsea (Ruiz et Pav. fl. per. 3. p. 88. t. 322.) stem beset with prominent pulvinate tubercles; branches glabrous; leaves opposite, petiolate, oval, quite entire; pedicels axillary, subaggregate, shorter than the flowers; calyx funnel-shaped, with oblong, acute, reflexed lobes, twice the length of the petals, which are obcordate. ♄. G. Native of Chili. T. lycioìdes, Andr. bot. rep. t. 120. Sims, bot. mag. 1024. Calyx red. Petals purple. Stigma 4-lobed.

Rose-coloured-flowered Fuchsia. Fl. April, Oct. Clt. 1796. Shrub 3 to 6 to 12 feet.

4 F. parviflòra (Lindl. bot. reg. 1048.) branches smoothish; leaves scattered and opposite, petiolate, ovate-cordate or oval, quite entire, glaucous, glabrous; pedicels sub-aggregate; lobes of calyx reflexed; stigma thick, 4-lobed. ♄. G. Native of Mexico. F. ovàta, Moc. et Sesse, fl. mex. icon. ined. but not of Ruiz et Pav. fl. per. The pedicels, according to the figure in the fl. mex., are pubescent, but according to that in bot. reg. glabrous. Calyx red. Petals purple. Very like *F. ròsea*.

Small-flowered Fuchsia. Fl. May, Oct. Clt. 1824. Shrub 3 to 6 feet.

§ 2. *Macrostemòneæ* (from *μακρος*, *makros*, long, and *στημον*, *stemon*, a stamen; in reference to the stamens which are exserted). *D. C. prod.* 3. *p.* 37. *The free part of the tube of the calyx shorter than the lobes, or equal in length to them. Stamens exserted.*

5 F. arbore'scens (Sims, bot. mag. 2620.) branches glabrous; leaves 3 in a whorl, oval-oblong, acuminated at both ends, petiolate, quite entire; panicle terminal, trichotomous, nearly naked; calyx funnel-shaped, with the lobes ovate, acute, and spreadingly reflexed; also the petals. ♄. G. Native of Mexico. Lindl. bot. reg. 943. F. amœ'na, Hort. Flowers small, red, 5-6 lines long, disposed in terminal panicles. Stamens but little exserted. F. hamellioìdes, Moc. et Sesse, fl. mex. icon. ined. F. racemòsa, Moc. et Sesse. Leaves broad.

Arborescent Fuchsia. Fl. Oct. Clt. 1824. Sh. 6 to 15 feet.

6 F. ova'lis (Ruiz et Pav. fl. per. 3. p. 87. t. 324. f. *a.*) branches pubescent; leaves opposite or 3 in a whorl, petiolate, oval, a little denticulated, acute, pubescent on both surfaces; pedicels axillary, sub-aggregate on the branchlets, erect, much shorter than the flowers; lobes of calyx villous, oblong, acute, twice the length of the petals, which are ovate and acute. ♄. G. Native of Peru, in groves about Muna. Calyx and corolla scarlet. Stamens hardly exserted.

Oval-leaved Fuchsia. Shrub 4 to 6 feet.

7 F. decussa'ta (Ruiz et Pav. fl. per. 3. p. 88. t. 323. f. b.) branches pubescent; leaves opposite or 3 in a whorl, petiolate, lanceolate, pubescent on both surfaces; pedicels axillary, pendulous, longer than the calyx; lobes of calyx oblong, acute, longer than the petals, which are also oblong and acute. ♄. G. Native of Peru, in subhumid groves about Muna. Calyx rose-coloured. Petals scarlet. Stamens not much exserted.

Decussate-leaved Fuchsia. Shrub 2 to 3 feet.

8 F. gra'cilis (Lindl. in bot. reg. t. 847.) branches finely pubescent; leaves opposite, glabrous, on long petioles, remotely denticulated; pedicels axillary, nodding, puberulous, length of the calyx; lobes of calyx oblong, acute, exceeding the petals, which are convolute and retuse; stigma undivided. ♄. G. Native of Mexico. F. decussàta, Graham in edinb. phil. journ. 11. p. 401. Sims, bot. mag. 2507. but not of Ruiz et Pav. Calyx scarlet. Petals purple. Stigma fusiform.

Var. β, multiflòra (Lindl. bot. reg. 1052.) leaves smaller, glaucous, on short petioles; stigma conical.

Slender Fuchsia. Fl. May, Oct. Clt. 1823. Sh. 6 to 10 ft.

9 F. macroste'mma (Ruiz et Pav. fl. per. 3. p. 88. t. 324. f. 6.) branches glabrous; leaves 3 in a whorl, ovate, acute, denticulated, on short petioles; pedicels axillary, nodding, longer than the flowers; lobes of calyx oblong, acute, exceeding the petals, which are obovate and spreading; stigma 4-lobed. ♄. G. Native of Chili, in marshes. Lodd. bot. cab. 1062. Thìleo, Feuill. obs. 3. p. 64. t. 47. This species differs from *F. coccinea* in the petals being blue and spreading, not convolute, in the stigma being 4-lobed, not undivided. Calyx scarlet.

Var. β, tenélla (D. C. prod. 3. p. 38.) flowers smaller; leaves opposite. ♄. G. F. gràcilis var. tenélla, Lindl. bot. reg. 1052.

Long-crowned Fuchsia. Fl. July, Oct. Clt. 1823. Shrub 6 to 12 feet.

10 F. co'nica (Lindl. bot. reg. 1062.) leaves 3 or 4 in a

whorl, ovate, flat, denticulated, glabrous; petioles pubescent; flowers pendulous, solitary; petals about equal in length to the calyx; tube of corolla conical. ♄. G. Native of Chili. Calyx scarlet. Corolla purple. Stigma ovate.

Conical-calyxed Fuchsia. Fl. June, Oct. Clt. 1824. Shrub 3 to 6 feet.

11 F. cocci'nea (Ait. hort. kew. 2. p. 8.) branches glabrous; leaves opposite or 3 in a whorl, ovate, acute, denticulated, on short petioles; pedicels axillary, drooping, longer than the flowers; lobes of calyx oblong, acute, exceeding the petals, which are obovate and convolute. ♄. G. Native of Chili, in marshes, and as far south as the Straits of Magellan. Curt. bot. mag. 97. Duham. arbr. ed. nov. 1. t. 13. F. péndula, Salisb. st. rar. t. 7. F. Magellánica, Lam. dict. Nahùsia coccínea, Schnevoogt, icon. no. 21. Skinnèra coccínea, Mœnch. Quelùsia, Vand. l. c. Calyx scarlet. Petals violaceous.

Scarlet Fuchsia. Fl. May, Oct. Clt. 1788. Sh. 3 to 6 feet.

12 F. monta'na (St. Hil. fl. bras. 2. p. 275. t. 135.) branches sulcate and puberulous at the apex; leaves 3 in a whorl, oblong, acute, obsoletely denticulated, glabrous, but when young puberulous; calycine tube funnel-shaped, about equal in length to the lobes, which are lanceolate and acute; petals obovate, convolute; stigma 4-toothed; fruit oblong. ♄. S. Native of Brazil, in the province of Minas Geraes, on the mountain called Serra da Caraca. Calyx scarlet. Corolla violaceous.

Mountain Fuchsia. Shrub 1 to 2 feet.

13 F. pube'scens (St. Hil. fl. bras. 2. p. 275. t. 134.) branches sulcate, puberulous; leaves 3-4 in a whorl, ovate-oblong, acute, denticulated, puberulous; tube of calyx (funnel-shaped, about equal in length to the lobes, which are lanceolate and acute; petals obovate, convolute; fruit ovate-roundish. ♄. G. Native of Brazil, in the province of Minas Geraes, on the high mountain called Serra da Piedade, and in that part of the province of St. Paul called Campos Geraes. Calyx scarlet. Corolla violaceous.

Pubescent Fuchsia. Shrub 5 feet.

§ 3. *Longiflòræ* (from *longus*, long, and *flos*, a flower; in reference to the flowers, which are long). *D. C. prod.* 3. *p.* 38. *Free part of the tube of the calyx twice or thrice the length of its lobes. Stamens exserted.*

14 F. petiola'ris (H. B. et Kunth, nov. gen. amer. 8. p. 104.) branches glabrous; leaves 3 in a whorl, or the upper ones are opposite, on long petioles, lanceolate-oblong, acute, remotely denticulated, glabrous; pedicels axillary, shorter than the flowers; lobes of calyx ovate-oblong, acuminated, longer than the petals, which are nearly of the same shape. ♄. G. Native of South America, at Santa Fe de Bogota. Calyx downy, an inch and a half long.

Petiolar Fuchsia. Shrub 4 to 6 feet.

15 F. Quindiue'nsis (H. B. et Kunth, nov. gen. amer. l. c.) branches clothed with adpressed pili; leaves 3 in a whorl, small, approximate, oblong, acute, remotely denticulated, rather pilose above, and glabrous beneath; pedicels axillary, shorter than the flowers; lobes of calyx ovate, acuminately mucronate, a little longer than the petals, which are lanceolate and acute. ♄. G. Native of the Andes of Quindiu. Shrub probably procumbent. Pedicels and calyxes puberulous.

Quindiu Fuchsia. Shrub proc.?

16 F. venu'sta (H. B. et Kunth, l. c.) branches downy; leaves opposite and 3 in a whorl, elliptic, acute, entire, glabrous, and rather shining; pedicels axillary, a little shorter than the flowers, the upper ones disposed in a raceme; lobes of calyx ovate-lanceolate, acuminated, about equal in length to the petals, which are oblong-lanceolate, acute, with undulated margins. ♄. G. Native of New Granada, near Guayavalito. Calyx purple, glabrous. Petals scarlet. Perhaps the same as F. multiflòra, Lin. which is scarcely known.

Beautiful Fuchsia. Shrub 4 to 6 feet.

17 F. Loxe'nsis (H. B. et Kunth, nov. gen. amer. l. c. t. 536.) branches hairy; leaves 3 in a whorl, oblong-elliptic or lanceolate-oblong, acute, obsoletely and remotely denticulated, glabrous, but hairy on the veins beneath; pedicels axillary, a little shorter than the flowers; lobes of calyx ovate-oblong, acute, a little shorter than the petals, which are ovate-roundish. ♄. G. Native of New Granada, near Loxa. Calyx purplish, glabrous. Petals scarlet.

Loxa Fuchsia. Shrub 4 to 6 feet.

18 F. Ayavace'nsis (H. B. et Kunth, l. c.) branches hairy; leaves 3 in a whorl, oblong, acuminated, remotely denticulated, hairy on both surfaces; pedicels axillary, longer than the flowers; lobes of calyx ovate-lanceolate, ending in a narrow taper-point each, exceeding the petals, which are roundish-ovate. ♄. G. Native of Peru, near Ayavaca. Calyx smoothish and purplish.

Ayavaca Fuchsia. Shrub 3 to 6 feet.

19 F. hirtélla (H. B. et Kunth, l. c.) branches hairy; leaves 3-4 in a whorl, on short petioles, oblong-lanceolate, obsoletely and remotely denticulated, hairy on both surfaces; flowers sub-racemose; lobes of calyx lanceolate, acuminated, a little longer than the petals, which are lanceolate-oblong and acutish. ♄. G. Native of New Granada. Flowers nearly 2 inches long.

Hairy Fuchsia. Shrub 3 to 6 feet.

20 F. triphy'lla (H. B. et Kunth, l. c.) branches downy; leaves 3 in a whorl, oblong, acute, quite entire, stiffish, smooth except the veins beneath, which are pubescent; pedicels axillary, shorter than the flowers, upper ones forming a raceme; lobes of calyx ovate-lanceolate, acuminated, a little longer than the lanceolate-oblong cuspidate petals. ♄. G. Native of New Granada. F. triphýlla, Lin. spec. 159. ex Mutis, but exclusive of the synonyme.

Three-leaved Fuchsia. Shrub 3 to 6 feet.

21 F. integrifòlia (St. Hil. fl. bras. 2. p. 273.) branches glabrous; leaves 3-4 in a whorl, oblong, acute, almost quite entire, glabrous; tube of calyx cylindrical, 3 times shorter than the lobes, which are lanceolate and acute; petals obovate, convolute; stigma 4-toothed; fruit elliptic. ♄. G. Native of Brazil, in the province of Minas Geraes, on the mountain called Serra da Caraca. This species differs from *F. macrostémma* in the leaves being entire, and in the tube of the calyx being short, compared with the lobes.

Entire-leaved Fuchsia. Shrub 3 to 4 feet.

22 F. affìnis (St. Hil. fl. bras. 2. p. 274.) branches glabrous; leaves 3 in a whorl, oblong or ovate-oblong, acute, nearly quite entire, glabrous; calycine tube funnel-shaped, twice the length of the lobes, which are lanceolate and acute; petals obovate, convolute; fruit ovate oblong; stigma 4-toothed. ♄. G. Native of Brazil, in the province of Rio Janeiro, on the mountains called Serra da Boa Vista and Serra da Estrada Nova, and in the southern part of the province of St. Paul in the Distrito de Curityba. Calyx scarlet. Corolla violaceous. Nearly allied to *F. integrifòlia*, from which it differs in the calyx being more deeply cleft.

Allied Fuchsia. Shrub 6 feet.

23 F. racemòsa (Lam. dict. 2. p. 565. ill. t. 282. f. 1.) branches downy; leaves opposite or 3 in a whorl, on short petioles, oval, acute, denticulated, puberulous on both surfaces; pedicels axillary, about equal in length to the flowers, upper ones racemose; lobes of calyx lanceolate-oblong, acute; tube of calyx widened at the base. ♄. S. Native of St. Domingo.

Plum. ed. Burm. t. 133. f. 1. gen. p. 34. Flowers scarlet. Pedicels velvety. This species agrees with section second in the tube of the calyx being dilated at the base.

Racemose-flowered Fuchsia. Shrub 4 to 6 feet.

24 F. FU'LGENS (Moc. et Sesse, fl. mex. icon. ined. D. C. prod. 3. p. 39.) branches glabrous; leaves opposite, petiolate, ovate-cordate, acute, denticulated, glàbrous; pedicels axillary, shorter than the flowers, upper ones racemose; lobes of calyx ovate-lanceolate, acute, exceeding the petals, which are acutish. ♄. G. Native of Mexico. Branches and pedicels red. Flowers reddish scarlet, 2 inches long. Racemes drooping at the apex.

Fulgent Fuchsia. Sh. 4 to 6 feet.

25 F. DENTICULA'TA (Ruiz et Pav. fl. per. 3. p. 87. t. 325. f. *b.*) branches trigonal; leaves 3 in a whorl, petiolate, oblong-lanceolate, acuminated at both ends, denticulated, having the middle nerve villous behind; pedicels axillary, rather shorter than the flowers; lobes of calyx lanceolate, acuminated, nearly twice the length of the obovate petals. ♄. G. Native of Peru, among rocks about Huassa-huassi and Cheuchin, where it is called *mollo-cantu*, which signifies a beautiful plant. Flowers purple, nodding.

Denticulated-leaved Fuchsia. Sh. 6 to 12 feet.

26 F. CORYMBIFLÒRA (Ruiz et Pav. fl. per. 3. p. 87. t. 325. f. *a.*) branches somewhat tetragonal; leaves opposite, petiolate, oblong-lanceolate, almost quite entire; pedicels 3, nearly terminal, nodding, shorter than the flowers; lobes of calyx lanceolate, acute, twice the length of the petals, which are oblong-lanceolate. ♄. G. Native of Peru, about Chincao and Muna, in shady groves. Flowers scarlet, nearly 2 inches long. Berry ovate-oblong, reddish-purple.

Corymb-flowered Fuchsia. Sh. 6 ft.

27 F. SERRATIFÒLIA (Ruiz et Pav. fl. per. 3. p. 86. t. 323. f. *a.*) branches furrowed; leaves opposite or verticillate, petiolate, oblong, serrated, pubescent beneath; pedicels axillary, shorter than the flowers, drooping; lobes of calyx lanceolate, acuminated, exceeding the petals, which are ovate-oblong. ♄. G. Native of Peru, in humid, rather shaded places at Muna. Calyx red, rather villous, an inch and a half long, somewhat tumid at the base. Petals scarlet.

Saw-leaved Fuchsia. Sh. 6 to 8 ft.

28 F. SIMPLICICAU'LIS (Ruiz et Pav. fl. per. 3. p. 89. t. 322. f. *a.*) stem simple, quite smooth; leaves 4 in a whorl, lanceolate-linear, on short petioles; pedicels 4 together, very short, terminal, sub-corymbose; lobes of calyx lanceolate, exceeding the petals. ♄. G. Native of Peru, in woods at Muna. Suffruticose. Whorles remote. Involucrum 4-leaved, rather downy. Flowers pendulous, with a rose-coloured calyx, and scarlet petals.

Simple-stemmed Fuchsia. Sh. 1 to 2 feet.

29 F. APE'TALA (Ruiz et Pav. fl. per. 3. p. 89. t. 322. f. *b.*) stem villous, climbing, rooting; branches warted; leaves alternate, petiolate, ovate, acuminated, quite entire; petioles, branches, pedicels, and young leaves rather villous; pedicels sub-corymbose, shorter than the flowers; lobes of calyx ovate; petals wanting. ♄. G. Native of Peru, about Huassa-huassi and Muna, in groves. Calyx red, but the lobes are pale yellow. Flowers drooping, an inch and a half long. Berry oblong.

Apetalous Fuchsia. Sh. 1 to 2 ft.

SECT. II. SKINNE'RA (named by Mr. Forster in honour of Mr. Skinner, an Oxfordshire gentleman, whom Forster terms an acute and clear-sighted botanist). Forst. gen. t. 29. D. C. prod. 3. p. 39. Tube of calyx strumose and ventricose at the base above the ovarium. Ovula very minute, crowded on the central placenta, without order. Leaves alternate.—A shrub from New Zealand.

30 F. EXCORTICA'TA (Lin. fil. suppl. 217.) branches smooth, at length excoriate; leaves alternate, petiolate, ovate-lanceolate, acuminated, denticulated, glabrous, whitish beneath; pedicels axillary, somewhat shorter than the flowers; lobes of calyx lanceolate, 3-nerved, longer than the tube and twice the length of the petals, which are ovate. ♄. G. Native of New Zealand. Lindl. bot. reg. 857. Link. et Otto. abb. t. 46. Skinnèra excorticàta, Forst. prod. p. 163. Calyx green and purple. Petals violaceous.

Excoriated Fuchsia. Fl. June, Oct. Clt. 1824. Sh. 2 to 3 ft.

Cult. The elegance of the flowers and foliage of all the species of *Fùchsia* are well known to every lover of plants. They all thrive well in rich light soil, and young cuttings of them strike root readily in the same kind of soil, with a hand-glass over them; the glass to be taken off occasionally, to give the cuttings air, so as to keep them free from damp. Most of the species only require to be protected from frost, and many of them will survive the winter in the open air, with a very slight protection. Some of them, as *F. gràcilis*, *F. microphýlla*, *F. thymifòlia*, *F. cónica*, and *F. coccinea* have a fine effect all the summer, when planted in clumps on lawns, or in borders; in this situation the plants only require to be mulched at the root to preserve them through the winter, and in spring the ground is cleared, and the stems of the preceding year, which are generally dead, are cut off quite close to the ground, to allow the young shoots to spring from the root.

Tribe III.

ONA'GREÆ (plants agreeing in important characters with *Onagros* or *Onager*, now *Œnothèra*. D. C. prod. 3. p. 40. Fruit capsular (f. 95. *d.* f. 96. *d.*); cells many-seeded. Seeds not winged. Tube of calyx drawn out beyond the ovarium (f. 96. *a.*). Stamens twice the number of the petals.—Herbs usually suffruticose at the base.

V. EPILO'BIUM (*επι*, *epi*, upon, and λοβος, *lobos*, a pod; the flower is seated as if it were on the top of the pod). Lin. gen. 471. Gærtn. fr. 1. p. 157. t. 31. f. 6. D. C. prod. 3. p. 40.—Chamænèrion, Tourn. inst. p. 302. t. 157. f. A, B, C.

LIN. SYST. *Octándria*, *Monogýnia*. Calyx of 4 sepals; sepals connected into a long tetragonal tube; the limb falling off when the flower begins to decay. Petals 4. Stamens 8; pollen not clammy. Capsule linear, bluntly tetragonal, 4-celled, 4-valved, many-seeded, inseparable from the calyx. Seeds pendulous, pappous.—Herbs, with opposite or alternate leaves. Flowers axillary, solitary, or disposed in terminal spikes, each flower furnished with a bractea. Corolla purple, rose-coloured, flesh-coloured, very rarely yellow.

SECT. I. CHAMÆNE'RION (from *χαμαι*, *chamai*, on the ground; and *νεριον*, *nerion*, the Oleander; similar leaves but dwarfer habit). Tauch. hort. canal. fasc. 1. D. C. prod. 3. p. 40. Flowers irregular. Petals entire. Genitals declinate. Filaments dilated at the base. Leaves alternate.

1 E. ANGUSTIFÒLIUM (Lin. spec. 493.) root creeping; stems erect, nearly simple; leaves nearly sessile, lanceolate, undulated, glabrous, with the veins pellucid; flowers disposed in spicate racemes, bracteate; style reflexed, pilose at the base, shorter than the stamens. ♃. H. Native of Europe and Siberia, in mountain woods and meadows. In Britain in moist shady places, particularly in the north of England and south of Scotland. Smith, engl. t. 1947. fl. dan. 289. E. Gesnèri, Vill. dauph. 3. p. 507. E. intermèdium, Wormsk. ex herb. Puerari. Chamænèrion spicàtum, Gray, brit. 2. p. 559. Flowers crimson, inodorous; pollen blue. A very ornamental plant, but hardly fit to be introduced to a garden, on account of its increasing so rapidly by the roots, which it is almost impossible

again to eradicate. The young shoots are said to be eatable, although a decoction of the plant stupifies. The pith, when dried, is boiled, and becoming sweet, is, by a proper process, made into ale, and this into vinegar, by the Kamtschatdales; it is also added to the cow-parsnet to enrich the spirit that is prepared from that plant.

Var. β, àlbum; flowers white. ♃. H.

Var. γ, làtum (Ser. in D. C. prod. 3. p. 40.) leaves broader. ♃. H. E. angustifòlium *β, Lin. spec. 494. E. spicàtum β, D. C. fl. fr. 4. p. 420. E. latifòlium, Schmidt. fl. bohem. no. 372. but not of Lin.

Narrow-leaved Willow-herb or French Willow. Fl. Jul. Aug. Britain. Pl. 3 to 6 feet.

2 E. SPICA'TUM (Lam. dict. 2. p. 378.) leaves lanceolate, entire, scattered, glabrous; flowers disposed in terminal spicate racemes; flowers unequal. ♃. H. Native of North America, in meadows and moist places; United States, Canada, Newfoundland, [illegible]-west coast, &c. Root creeping. Flowers about half the size of those of *E. angustifòlium*, but the habit is almost the same.

Spicate Willow-herb. Fl. July, Aug. Clt. ? Pl. 2 to 3 ft.

3 E. OPA'CUM (Lehm. ex Hook, fl. bor. amer. p. 205.) stem erect, pubescent; leaves nearly sessile, narrow, lanceolate, almost quite entire, opaque, veiny; flowers axillary, solitary, pedunculate; style reflexed, glabrous, shorter than the stamens. ♃. H. Native of North America, on the banks of the Columbia, particularly about Fort Vancouver. Flowers red; petals entire or erose. An intermediate plant between [illegible] *angustifòlium* and *E. latifòlium.*

Opaque Willow-herb. Pl. 1 to 2 feet.

4 E. ROSMARINIFÒLIUM (Hænke, in Jacq. coll. 2. p. 50. but not of Pursh) downy; stem erect, branched towards the middle; leaves linear, obsoletely denticulated, cinereous, veinless; pedicels connected with the bracteas, crowded near the tops of the branches. ♃. H. Native of Europe, in woods and on the banks of rivers. Rchb. icon. bot. 4. t. 341.—Moris. hist. sect. 3. t. 11. f. 2. Lob. icon. 343. f. 2. E. angustissimum, Curt. bot. mag. t. 76. E. angustifòlium, Lam. dict. 2. p. 374. Stem woody at the base. An elegant plant with red flowers.

Rosemary-leaved Willow-herb. Fl. July, Aug. Clt. 1775. Pl. 2 feet.

5 E. DODONÆ'I (All. pedem. 1016. Vill. dauph. 3. p. 507.) stem almost glabrous, erect, branched at the apex; leaves linear, obsoletely denticulated, glabrous; pedicels connected with the bracteas, crowded near the tops of the branches. ♃. H. Native of Piedmont and Dauphiny. E. Hallèri, Retz. E. rosmarinifòlium β, D. C. fl. fr. 4. p. 421. E. rosmarinifòlium β, alpinum, Ser. in D. C. prod. 3. p. 40.—Rchb. icon. bot. 4. t. 342. An elegant plant, much resembling the preceding, but smoother, smaller, and the flowers are large, and of a more deep rose colour.

Dodoneus's Willow-herb. Fl. July, Aug. Clt. 1700. Pl. 1 ft.

6 E. CRASSIFÒLIUM (Lehm. in nov. act. bonn. 14.) stem suffruticose; branches twiggy; leaves alternate, thickish, linear, having the margins denticulated with blunt glands; genitals declinate. ♃. H. Native of Siberia. Leaves deep green. Petals crenulated, rose-coloured. Stigma 4-cleft.

Thick-leaved Willow-herb. Pl. 1 foot.

7 E. LATIFÒLIUM (Lin. spec. 494.) stems erectish, firm, branched; leaves ovate-lanceolate, acuminated, almost quite entire, stiff, veinless, glaucous; flowers axillary, pedicellate; style nearly erect, glabrous, shorter than the stamens; bracteas free from the pedicels. ♃. H. Native of Greenland, Siberia; North America, on the banks of rivers on the Rocky Mountains, between lat. 52° and 56°, to the shores and islands of the Arctic sea, Labrador, and Behring's Straits. Fl. dan. t. 565. Salisb. par. lond. t. 58. E. frìgidum, Retz, fl. scand. ed. 2. no. 459. E. corymbòsum, Act. hafn. 10. p. 440. t. 8. f. 23. The North American plant differs from the Siberian one only in the less copious pubescence of its leaves. Flowers large, rose-coloured, or purple.

Var. β, venùstum (Dougl. mss.) plant smaller in every part. ♃. H. North America.

Broad-leaved Willow-herb. Fl. Jul. Aug. Clt. 1779. Pl. 2 ft.

8 E. HU'MILE (Willd. herb. ex Stev. in litt. D. C. prod. 3. p. 40.) leaves lanceolate, quite entire, glabrous, veiny; branches opposite; corolla unequal. ♃. H. Native of Siberia. Perhaps a variety of *E. latifòlium.*

Humble Willow-herb. Fl. July, Aug. Pl. $\frac{1}{2}$ foot.

SECT. II. LYSIMA'CHION (containing plants agreeing in habit with the genus *Lysimàchia*). Tauch, hort. canal. fasc. 1. Ser. in D. C. prod. 3. p. 41. Flowers regular. Petals obcordate. Genitals ascending. Lower leaves opposite, upper ones alternate.

9 E. ALPI'NUM (Lin. spec. 495.) stems creeping at the base, bifariously pubescent, few-flowered; leaves nearly sessile, elliptic-lanceolate, obtuse, mostly entire, glabrous; stigma undivided; capsules sessile, glabrous. ♃. H. Native of the alps of Europe and the Pyrenees. In Scotland, by the sides of alpine rivulets, on Ben Lomond, about two-thirds of the way up, and on all the highland mountains; of North America, in the alpine rivulets of the Rocky Mountains. Smith, engl. bot. 2001. Lightf. fl. scot. p. 199. t. 10. f. 1. Fl. dan. 322. E. anagallidifòlium, Lam. dict. 2. p. 376. Plant small. Flowers very small, bright red.

Var. β, pùmilum (Pers. ench. 2. p. 410.) stem rather pubescent at the base; leaves ovate-lanceolate, acutely serrated, wrinkled.

Alpine Willow-herb. Fl. June, July. Scotland. Pl. $\frac{1}{4}$ foot.

10 E. HORNEMA'NNI (Rchb. icon. bot. p. 73. t. 180.) stems creeping at the base, angular, few-flowered, nodding at the apex; leaves oblong or lanceolate, denticulated; stigma clavate, undivided. ♃. H. Native of Finland, in alpine rivulets; and north-west coast of America. E. nùtans, Horn. fl. dan. 1387. but not of Schmidt. E. alpínum β, nùtans Hook, fl. bor. amer. p. 205. Flowers bright red. Very like *E. alpìrium.*

Hornemann's Willow-herb. Fl. June, Aug. Clt.? Pl. $\frac{1}{2}$ ft.

11 E. ORIGANIFÒLIUM (Lam. dict. 2. p. 376. Rchb. icon. bot. 2. t. 180.) stems creeping at the base, smoothish, nodding at the apex, bluntly quadrangular; leaves ovate, acutely denticulated, glabrous, on short petioles; stigma undivided, clavate; capsule pedicellate, glabrous. ♃. H. Native of the alps of Europe and the Pyrenees, in rivulets and fountains; on many of the highland mountains of Scotland, in alpine rivulets, common; in rivulets on the sides of the Cheviot hills, as mentioned by Ray; in North America, in alpine woods, sides of rivulets, and shady elevated spots on the Rocky Mountains, and of the island of Unalaschka. E. alsinifòlium, Vill. dauph. 3. p. 511. Smith, engl. bot. t. 2000. Flowers small, rose-coloured. A much more robust plant than *E. alpìnum.*

Marjoram-leaved Willow-herb. Fl. June, Aug. Scotland. Pl. $\frac{1}{4}$ to $\frac{1}{2}$ foot.

12 E. GLANDULÒSUM (Lehm. pug. 2. p. 14. Hook, fl. bor. amer. p. 206.) stem simple, creeping at the base, angular, glabrous; leaves sessile, ovate-lanceolate, rather decurrent, acute, glandularly denticulated; flowers erect; stigma clavate; capsule sessile, with the angles slightly pubescent. ♃. H. Native of North America, at Cumberland House Fort, on the Saskatchawana. Petals white. An intermediate plant between *E. origanifòlium* and *E. tetragònum.*

Glandular Willow-herb. Pl. 1 foot.

13 E. MINU'TUM (Lindl. mss. ex Hook. fl. bor. amer. p. 207.) root annual; stem erectish, terete, puberulous, branched; leaves alternate, elliptic-lanceolate, obtuse, usually entire, full of pellucid dots; flowers drooping, minute; stigma clavate; capsules on short pedicels, circinately reflexed, smoothish. ⊙. H. Native of the north-west coast of America, at Fort Vancouver, and near the Grand Rapids of the Columbia, and on moist rocks near springs on the high mountains. Flowers minute, pale red.

Minute Willow-herb. Fl. June, July. Clt. 1826. Pl. ½ ft.

14 E. OLIGA'NTHUM (Michx. fl. bor. àmer. 1. p. 233.) plant small; stems very simple, bearing only 1 flower at the apex; leaves opposite, linear, quite entire. ♃. H. Native of Hudson's Bay, near Lake Mistissiny. Probably referrible to *E. alpìnum.*

Few-flowered Willow-herb. Fl. July, Aug. Shrub ½ foot.

15 E. RÒSEUM (Schreb. lips. 147.) stems erect, with 4 obsolete angles; leaves opposite, upper ones alternate, smooth, ovate, toothed, stalked; stigma clavate, undivided. ♃. H. Native of Europe, in waste boggy ground and watery places. In England, in Lambeth Marsh; at Moreton, near Ongar, Essex; and near Witham, Sussex. Smith, engl. bot. t. 693. E. montànum γ, Willd. spec. 2. p. 316. Flowers pale red.

Red Willow-herb. Fl. July. Britain. Pl. 1 foot.

16 E. ALPE'STRE (Schmid. fl. bohem. cent. 4. p. 81.) leaves opposite, or 3 in a whorl, glabrous, ovate, acuminated, denticulately serrated, stem-clasping, with the nerves sometimes hairy; stems obsoletely tetragonal, 2-edged: flowers almost sessile; fruit pedicel nearly the length of the capsule; petals much longer than the calyx; stigma undivided. ♃. H. Native of Europe, on the Alps and the Pyrenees. E. ròseum, D. C. fl. fr. 4. p. 442. but not of Schreb. nor Smith. Rchb. icon. bot. 2. t. 190. Flowers pale red. E. trigònum, Schrank, bav. no. 594. E. alpéstre, Jacq. and Rchb. icon. bot. t. 200.

Alp Willow-herb. Fl. June, July. Clt. 1820. Pl. 1 foot.

17 E. BILLARDIERIA'NUM (Ser. mss. ex D. C. prod. 3. p. 41.) stem straight, terete, leafy, pubescent; leaves ovate, obtuse, regularly serrulated, short, sessile, stem-clasping; pedicels short. ♃. H. Native of New Holland.

La Billardier's Willow-herb. Pl. 1 foot.

18 E. STRI'CTUM (Muhl. ex Spreng. syst. 2. p. 233.) stem straight; leaves quite entire, veiny; flowers axillary; capsules slender, clothed with hoary villi.—Native of Pennsylvania.

Straight Willow-herb. Fl. July, Aug. Clt. 1817. Pl. 1 to 2 feet.

19 E. MONTA'NUM (Lin. spec. 494.) stem leafy, terete, glabrous; lower leaves opposite, upper ones alternate, ovate-lanceolate, irregularly toothed, all stalked; flowers on short pedicels, disposed in a terminal, leafy, corymbose cluster; stigma of 4 deep segments. ♃. H. Native of Europe, in groves. In Britain, in dry, shady, hilly, and stony places; on old walls or cottage roofs, frequent. Smith, engl. bot. 1177. Curt. lond. 3. t. 24. Fl. dan. 922. Rchb. icon. bot. 189. E. lanceolàtum, Seb. et Maur. fl. rom. p. 138. t. 1. f. 2. Chamænèrion montànum, Scop. carn. ed. 2. no. 453. E. virgàtum, Lam. Flowers pale purple.

Var. β, *origanoìdes* (Ser. in D. C. prod. 3. p. 41.) leaves very minute, hardly denticulated, nearly all opposite; stem weak, dwarf.

Mountain Willow-herb. Fl. July. Brit. Pl. 1 to 2 feet.

20 E. MEXICA'NUM (Moc. et Sesse, fl. mex. icon. ined. t. 379. D. C. prod. 3. p. 41.) glabrous, herbaceous, erect; leaves oblong, sessile, somewhat denticulated, lower ones opposite, upper ones alternate. ♃. H. Native of Mexico. Habit of *E. montànum.*

Mexican Willow-herb. Pl. 1 foot.

21 E. BREVIFÒLIUM (D. Don, prod. fl. nep. p. 222.) leaves ovate, acute, serrated, pubescent on both surfaces, and lined on the upper surface; flowers axillary, on short pedicels; lobes of calyx linear-lanceolate, shorter than the corolla. ♃. H. Native of Upper Nipaul. Stem branched. Flowers small, lilac.

Short-leaved Willow-herb. Pl. 1 foot.

22 E. NU'TANS (Schmidt, fl. bohem. no. 380. Schultes, œstr. fl. 1. p. 595.) stem terete, branched, many-flowered; leaves opposite, almost sessile, ovate-lanceolate, obtuse, quite entire; petals obcordate; stigma quadrifid. ♃. H. Native of Bohemia, in bogs at Isera. Rchb. icon. bot. 2. p. 87. t. 197. E. hypericifòlium, Tauch, hort. canal. fasc. 1. no. 7. This plant comes very near to *E. montànum*, from which it differs in the leaves being remote and quite entire, in the flowers being smaller and changeable in colour, at first white but afterwards changing to a flesh colour.

Nodding-flowered Willow-herb. Pl. 1 foot.

23 E. A'LGIDUM (Bieb. fl. taur. 1. p. 296.) leaves opposite and alternate, ovate, glandularly toothed; calyx obtuse-angled; stigma undivided. ♃. H. Native of Caucasus. This species differs from *E. montànum* in the undivided stigma, in the stem being angled, from the margins of the petioles being decurrent, in the leaves being firmer, and in the flowers being nearly twice the size. Perhaps only a variety of *E. origanifòlium.*

Var. β, *hùmile* (Bieb. l. c.) leaves toothed all round.

Algid Willow-herb. Pl. ½ to 1 foot.

24 E. COLORA'TUM (Muhl. in Willd. enum. 411.) stems terete, pubescent; lea[illegible] lanceolate, serrulated, stalked, opposite, superior ones alternate, glabrous. ♃. H. Native of Pennsylvania. This plant differs from *E. ròseum* in the stems being branched at the apex, in the leaves being nearly sessile and narrower, and in the flowers being smaller, ex Link. enum. 1. p. 379.

Coloured Willow-herb. Fl. Jul. Aug. Clt. 1805. Pl. 2 to 3 ft.

25 E. DAHU'RICUM (Fisch. in Horn. hort. hafn. suppl. 44. and Link. enum. 1. p. 379.) stem erect, very simple; leaves usually toothed, pubescent, opposite and alternate, nearly sessile; petals obcordate; fruit pilose. ⊙. H. Native of Dahuria. Flowers very minute. Calyx reddish.

Dahurian Willow-herb. Fl. Ju. Jul. Clt. 1822. Pl. ½ to 1 ft.

26 E. GERMA'SCENS (Meyer, verz. pfl. p. 193.) smoothish; stem rather angular, branched; leaves stalked, opposite, or alternate, ovate-oblong, repandly denticulated, bearing bulbs in their axils; petals rather longer than the calyx; stigma clavate. ♃. H. Native of Caucasus, on the margins of rivulets, near Kaischaur, at the height of 2400 feet above the level of the sea. This is a singular species, from its bearing bulbs in the axils of the leaves.

Budding Willow-herb. Pl. 1 foot.

27 E. DE'NSUM (Rafin. prec. dec. 42. and in Desv. journ. bot. 1814. 2. p. 271.) plant pubescent; leaves scattered, approximate, sessile, linear-lanceolate, bluntish, nerved; flowers panicled, pedunculate; bracteas oblong.—Native of North America.

Dense-flowered Willow-herb. Pl. 1 foot?

28 E. DENTICULA'TUM (Ruiz, et Pav. fl. per. 3. p. 78. t. 314.) stems suffruticose; leaves somewhat lanceolate, denticulated; lower ones opposite; petals equal, bifid. ♃. G. Native of Peru and Chili. E. júnceum, Forst. ex Spreng. syst. 2. p. 233. Petals rose-coloured.

Denticulated-leaved Willow-herb. Pl. ½ to 1 foot.

29 E. LEPTOPHY'LLUM (Rafin. prec. dec. 41. and Desv. journ. bot. 1814. p. 271.) stem branched, rather scabrous; leaves alternate, nearly sessile, linear, narrow, entire, glabrous, 1-nerved, acute, tapering to the base; flowers axillary, solitary, pedunculate. ♃. H. Native of North America, especially in Pennsylvania and Maryland, in humid woods.

Slender-leaved Willow-herb. Pl. 1 foot.

30 E. DIVARICA'TUM (Rafin. prec. dec. p. 42. and in Desv. journ. bot. 1814. 2. p, 271.) stem branched, glabrous; branches spreading; leaves opposite, petiolate; petals lanceolate, acute, glabrous, unequally denticulated. ♃. H. Native of North America.

Divaricate-branched Willow-herb. Pl. 1 to 2 feet?

31 E. HIRSU'TUM (Lin. spec. 494.) roots creeping; stems branched, hairy; lower leaves opposite, upper ones alternate, ovate-lanceolate, hairy, toothed, half stem-clasping; stigma deeply 4-cleft; the segments deflexed. ♃. H. Native of Europe and Siberia, in wet places. In Britain, in watery places, ditches, and margins of rivers, among reeds, coarse grasses, and willows. Smith, engl. bot. 838. Curt. lond. 2. t. 21. Fl. dan. t. 326. E. ramòsum, Huds. p. 162. E. amplexicaúle, Lam. dict. 2. p. 374. E. grandiflòrum, All. pedem. no. 1018. Flowers in a leafy, corymbose cluster, large, of a delicate, pale pink, with cloven, regular petals. The whole herb is downy, soft, and clammy, exhaling a peculiar, acidulous scent, justly compared to the flavour of boiled codlings and cream. The plant varies with white flowers and variegated leaves.

Var. β, intermèdium (Ser. in D. C. prod. 3. p. 42.) stem, branches, and leaves clothed with hoary villi; fruit covered with very long pili. ♃. H. Native about Paris, and of Siberia. E. intermèdium, Mer. fl. par. 147. but not of Wormsk. E. hirsùtum Sibíricum, Deless. herb.

Hairy Willow-herb or Codlings and cream. Fl. July. Brit. Pl. 3 to 5 feet.

32 E. VILLÒSUM (Thunb. prod. 75.) leaves alternate, lanceolate, serrated, hairy. ♃. G. Native of the Cape of Good Hope. This species hardly differs from *E. hirsùtum*, unless in the lobes of the stigma being thicker and more convolute. Flowers red.

Villous Willow-herb. Pl. 2 to 3 feet.

33 E. TOMENTÒSUM (Vent. hort. cels. t. 90.) plant clothed with hoary tomentum; stems much branched; leaves half stem-clasping, lanceolate, bluntish, serrulated; stigmas quadrifid, with the lobes horizontal. ♃. H. Native of the Levant, between Julpha and Hispahan, on the borders of rivulets. Perhaps only a variety of *E. hirsùtum*. Flowers red.

Tomentose Willow-herb. Fl. July, Aug. Clt. 1818. Pl. 3 to 4 feet.

34 E. CYLI'NDRICUM (D. Don, prod. fl. nep. p. 222.) leaves lanceolate-linear, serrulated, stalked, lower ones opposite, upper ones alternate; stems terete, pubescent. ♃. H. Native of Nipaul. Flowers small, red. Habit of *E. palústre*.

Cylindrical-stemmed Willow-herb. Pl. 1½ foot.

35 E. PALU'STRE (Lin. spec. 495.) stems terete, branched, pubescent; leaves sessile, linear-lanceolate, slightly toothed, glabrous, lower ones opposite, upper ones alternate; stigma linear, obtuse, undivided. ♃. H. Native of Europe, Siberia, and Labrador; in boggy turfy ground, near ditches and rivulets. Smith, engl. bot. t. 346. Fl. dan. 1574. Flowers pale purple, in leafy clusters. Herb extremely variable in luxuriance.

Var. β, verticillàtum (Ram. ex D. C. fl. fr. 4. p. 422.) leaves 3 in a whorl. ♄. ♃. H. Native of the Pyrenees.

Var. γ, albiflòrum (Hook, fl. bor. amer. p. 207.) stem terete, simple, smoothish; leaves sessile, linear, somewhat denticulated; flowers drooping; capsules pedicellate, elongated, canescent; stigma undivided. ♃. H. Native throughout Canada, and as far north as lat. 64°, and among the prairies of the Rocky Mountains. E. palústre, var. albéscens, Wahl. fl. suec. 1. p. 234. Richards. in Frankl. journ. ed. 2. append. p. 12. E. lineàre, Muhl. Flowers white. Perhaps the same as *E. Dahùricum* of Fischer.

Marsh Willow-herb. Fl. June, July. Brit. Pl. ½ to 1½ ft.

36 R. RIVULA'RE (Wahl. fl. ups. p. 126.) puberulous; leaves sessile, long-lanceolate, denticulated, lower ones opposite, upper ones alternate; petals oval, emarginate; stigma 4-lobed. ♃. H. Native of Sweden, on the banks of rivulets and fountains. Rchb. icon. bot. 2. p. 61. t. 170. Flowers red. Habit of *E. palústre*.

Rivulet Willow-herb. Fl. July. Pl. 1 foot.

37 E. PARVIFLÒRUM (Schreb. lips. 146.) stem nearly simple, woolly, terete; leaves sessile, lanceolate, minutely toothed, soft, and downy on both surfaces; flowers in leafy clusters; root fibrous; stigma 4-cleft, spreading. ♃. H. Native of Britain; frequent in watery places and about the banks of rivers. Smith, engl. bot. t. 795. E. pubéscens, Willd. spec. 2. p. 315. E. hirsùtum, Huds. 161. Lin. spec. p. 494. var. β. E. villòsum, Curt. fl. lond. 2. t. 22.—Fl. dan. 347. Flowers not a quarter the size of those of *E. hirsùtum*.

Small-flowered Willow-herb. Fl. July. Brit. Pl. 2 to 3 ft.

38 E. SI'MPLEX (Tratt. arch. 1. p. 37. with a figure.) stems simple, striated, pubescent; leaves decussate, linear-lanceolate, quite entire, sessile, pubescent; petals emarginate; stigma quadrifid; ♃. H. Native on Mount Scheiblingstein. According to Trattineck, this plant differs from *E. parviflòrum*, in the leaves being quite entire, sessile, and linear, and in the flowers being smaller.

Simple-stemmed Willow-herb. Fl. July. Pl. 2 feet.

39 E. ROTUNDIFÒLIUM (Forst. prod. no. 161.) leaves opposite, roundish, denticulated. ♃.? H. Native of New Zealand.

Round-leaved Willow-herb. Pl. ?

40 E. SQUAMMA'TUM (Nutt. gen. amer. 1. p. 250.) pubescent; roots scaly, bulbous; stems cylindrical, branched; cauline leaves opposite, rameal ones alternate, all linear, and quite entire, with revolute margins; flowers pedicellate; petals bifid; stigma clavate, undivided. ♃. H. Native of North America, about Philadelphia. E. rosmarinifòlium, Pursh, fl. amer. sept. 1. p. 259. Petals white. E. lineàre, Bigel. in litt. Perhaps the same as *E. palústre, var. albiflòrum*. The scaly bulbous roots are by no means peculiar to this species.

Scaly-rooted Willow-herb. Fl. July. Clt. 1800. Pl. 1½ ft.

41 E. TENE'LLUM (Rafin. prec. dec. p. 41. and in Desv. journ. bot. 1814. p. 271.) stem filiform, simple, pubescent above; leaves opposite, sessile, linear, elongated, usually entire, full of pellucid lines, glabrous except the margins, which are finely ciliated; flowers erect; stigma undivided; capsule pedicellate, slender, canescent. ♃. H. Native of North America.

Slender Willow-herb. Pl. 1 foot.

42 E. TETRAGÒNUM (Lin. spec. 494.) stem erect, usually quadrangular, sometimes rather downy; leaves lanceolate, sessile, minutely toothed, decurrent; flowers erect; stigma clavate, undivided; capsules puberulous, on short pedicels. ♃. H. Native of Europe, Siberia, and North America, in ditches, and watery, marshy places; plentiful in Britain. Smith, engl. bot. 1948. Curt. lond. fasc. 2. t. 23. Fl. dan. 1029. Rchb. icon. bot. 2. p. 88. t. 198. Flowers small, purple, in leafy clusters. A very variable plant in luxuriance, sometimes rather pubescent and sometimes quite smooth.

Var. β, obscùrum (Pers. ench. 2. p. 410.) leaves opposite and alternate, lanceolate, glabrous, and serrated, decurrent at the base; stigma clavate. ♃. H. Chamænèrion obscùrum, Schreb. E. obscùrum, Schmidt, fl. bohem. cent. 4. p. 81. Rchb. icon. bot. 2. p. 89. t. 199.

Var. γ, virgàtum (Wahl. fl. succ. 1. p. 233.) narrower and rather pubescent; leaves less decurrent. ♃. H. Native of Sweden and Siberia.

Tetragonal-stemmed Willow-herb. Fl. July. Britain. Pl. 1 to 1½ foot.

43 E. FLA'CCIDUM (Brot. fl. lus. 2. p. 18.) stem weak, tetra-

gonal below, flaccid, creeping at the base; leaves lanceolate, denticulated, glabrous, almost sessile, lower ones opposite. ♃. H. Native of Portugal, about Coimbra and elsewhere in Beira. Flowers red. This plant is usually taken for a variety of *E. tetragònum*, but is a perfectly distinct species.

Flaccid-stemmed Willow-herb. Fl. July. Pl. 1 foot.

44 E. BONPLANDIA'NUM (H. B. et Kunth, nov. gen. amer. 6. p. 95.) plant rather woody; stem simple or branched, usually erect; leaves opposite, lanceolate, sessile, a little toothed; flowers axillary, solitary, almost sessile; stigma capitate? ♃. F. Native of South America, on the Andes, about Popayan, in humid places, at the height of 5000 feet above the level of the sea. Petals nearly orbicular, rose-coloured, twice the length of the calyx. Capsule 2 to 3 inches long.

Bonpland's Willow-herb. Pl. ½ to 1 foot.

45 E. LU'TEUM (Pursh, fl. sept. amer. 1. p. 259.) stem tetragonal, rather pilose; leaves opposite, serrulated; peduncles axillary, alternate, elongated; lobes of calyx narrow, length of petals; style exserted; stigma thick, 4-lobed. ♃. H. Native of the north-west coast of America, and in the grassy valleys of Unalaschka. Flowers yellow, as large as those of the *French-willow*.

Yellow-flowered Willow-herb. Pl. 1 foot.

Cult. All the species of the *Willow-herb* are of the easiest culture and propagation; they will grow in any common garden soil, and are easily increased by dividing at the roots or by seeds. Those species belonging to the first section of the genus being the most shewy, are the most worthy of cultivation, as border flowers.

VI. GAU'RA (from γαυρος, *gauros*, superb; in reference to the elegance of the flowers of some of the species). Lin. spec. 205. Gærtn. fruct. 2. p. 205. t 127. f. 2. D. C. prod. 3. p. 44.

LIN. SYST. *Octándria, Monogýnia.* Calyx of 3-4 sepals; sepals connected into a long tube; limb 3-4-parted, deciduous. Petals 3-4. Stamens 6-8. Stigma 3-4-lobed. Fruit 1-celled, closely adhering to the calyx, 3-4-sided, 1-4-seeded. Seeds naked. Flowers terminal, spiral, sessile, bracteate, white, red, rarely yellow, all becoming reddish as they fade.

1 G. BIE'NNIS (Lin. spec. 493.) stem herbaceous; leaves lanceolate-oblong, acute, denticulated; flowers irregular; petals obovate, ascending, spreading, naked; genitals deflexed; style longer than the stamens; fruit obovate, tetraquetrous, sessile, pilose, acute, bluntish, marked with thick depressed nerves, and with transverse wrinkles below. ♂. H. Native of Virginia and Pennsylvania, and about Montreal. Curt. bot. mag. 389. Limb of calyx length of tube. Sepals purple at the apex. Petals at first white, then reddish. Floriferous branches subcapitate, at length becoming a somewhat whorlèd spike.

Biennial Gaura. Fl. Aug. Oct. Clt. 1762. Pl. 4 to 6 feet.

2 G. ANGUSTIFÒLIA (Michx. fl. bor. amer. 1. p. 226.) leaves linear, crowded, repandly undulated; fruit ovate, triquetrous, acute at both ends, whitish, having the angles acute. ♂. H. Native of Lower Carolina. G. undulàta, Desf. cat. hort. par. p. 196. G. fruticòsa, Jacq. coll. 1. p. 142. icon. rar. 3. p. 457. Flowers not half the size of those of *G. biénnis;* petals secund; genitals not deflexed. Fruit disposed in long loose spikes, ovate, triquetrous, sessile; angles not winged.

Narrow-leaved Gaura. Pl. 2 to 3 feet.

3 G. SINUA'TA (Nutt. in litt. ex D. C. prod. 3. p. 44.) branches and leaves rather pilose; pili adpressed; leaves numerous, linear, sinuated; flowers disposed in long spikes; fruit distant, clavate, tetragonal at the apex, attenuated at the base, and terete, on short pedicels; the angles tumid. ♂. H. Native of North America, in the territory of the Arkansa and Red rivers. A very distinct species.

Sinuated-leaved Gaura. Pl. 2 to 3 feet.

4 G. EPILOBIOÌDES (H. B. et Kunth, nov. gen. amer. 6. p. 93.) herbaceous; branches and leaves pubescent, approximate; leaves linear, quite entire, or remotely toothed; petals ovate-roundish, obtuse; stamens straight; fruit pubescent, oblong-linear, tetragonal, 4-ribbed; ribs thick, alternating with the angles. ♂. H. Native of Mexico, near Actopan, at the height of 3120 feet above the level of the sea. This species hardly differs from *G. angustifòlia,* unless in the stem being more branched, in the leaves being flat, not curled on the margins, and in the flowers being much larger. The habit approaches that of *Epilòbium rosmarinifòlium* in habit and colour of flowers.

Willow-herb-like Gaura. Pl. 2 to 3 feet.

5 G. TRIPE'TALA (Cav. icon. 4. p. 66. t. 396. f. 1. good) herbaceous; branches pilose; leaves lanceolate-linear, a little toothed, puberulous; flowers hexandrous; sepals 3, deflexed; petals 3, rose-coloured, obovate-oblong, unilateral, ascending; fruit ovate, triquetrous, acute, with transverse plicate stripes, and turgid angles. ⊙. H. Native of Mexico. H. B. et Kunth, nov. gen. amer. 6. p. 94. G. hexándra Ortega. Flowers white, but at length becoming red.

Three-petalled Gaura. Fl. Aug. Clt. 1804. Pl. 1½ foot.

6 G. ODORA'TA (Sesse, ex Lagas. gen. et spec. p. 14.) leaves linear-lanceolate, repandly toothed; petals 4, ovate, ascending. ♂. H. Native of New Spain.

Sweet-scented Gaura. Pl. 2 to 3 feet.

7 G. BRACTEA'TA (Ser. mss. in D. C. prod. 3. p. 45.) leaves linear-lanceolate, deep[illegible] and irregularly serrated; bracteas linear, entire, acute; flowers pedicellate; petals obovate, spreading, length of the limb of the calyx. ♂. F. Native of Mexico, in the garden of St. Angeli. G. sinuàta and G. spicàta, Moc. et Sesse, fl. mex. icon. ined. t. 373. Flower-bud obtuse. Style clavate at the apex. Stamens 8.

Bracteate-flowered Gaura. Pl. 2 to 3 feet.

8 G. LINIFÒLIA (Nutt. in James' exped. rock. mount. 2. p. 355.) stems much branched; leaves linear, acute, entire, glabrous; flowers racemose, dense, numerous; bracteas linear-subulate, puberulous; tube of calyx long, pilose; the lobes oblong-linear; petals 4, obovate-oblong; fruit very minute, ovate, triquetrous, pilose. ♂. H. Native of North America, about the Arkansa. Flowers octandrous. Calyx of a brownish-purple colour. Petals white.

Flax-leaved Gaura. Pl. 1 to 2 feet.

9 G. PARVIFLÒRA (Doug. ex Lehm. pug. 2. p. 15. and Hook, fl. bor. amer. p. 208.) stems herbaceous, erect, pilose; leaves oblong, acuminated, remotely denticulated, and ciliated on the margins, rather velvety when young; spikes elongated; flowers minute, crowded; fruit distant, tetragonal, smoothish, tapering to both ends. ♂. H. Native of the north-west coast of America, on the sandy banks of the Wallawallah river.

Small-flowered Gaura. Pl. 1 to 1½ foot.

10 G. COCCI'NEA (Fras. cat. 1813. Pursh, fl. amer. sept. 2. p. 733.) stems herbaceous, decumbent; leaves linear-lanceolate, repandly denticulated, but when young quite entire, canescent; spikes loose; flowers alternate; bracteas linear, permanent; fruit elliptic, terete at the base, but tetragonal at the apex, canescent. ♃. F. Native of North America, at Fort Mandan, also on the plains of the Saskatchawan and Red rivers. Petals scarlet.

Scarlet-flowered Gaura. Fl. Aug. Oct. Clt. 1811. Pl. proc.

11 G. MARGINA'TA (Lehm. pug. 2. p. 16. Hook, fl. amer. bor. p. 208.) stems ascending, suffruticose at the base; leaves lanceolate, repandly toothed, rather revolute, white on both surfaces from adpressed down; flowers in terminal, verticillate spikes; bracteas linear, deciduous; fruit white. ♃. H. Native of North America, on the plains of the Saskatchawan. Petals obovate, red. Ovary tetragonal.

Marginate Gaura. Pl. ascending.

12 G. GLA'BRA (Lehm. pug. 2. p. 16. Hook, fl. bor. amer. p. 209.) stems ascending, suffruticose at the base, quite glabrous; leaves narrow-lanceolate, undulated, glabrous; spikes elongated; flowers alternate; ovaries linear, tetragonal, glabrous. ♃. H. Native of North America, about Carlton House, on the Saskatchawan. Petals spatulate, red.

Glabrous Gaura. Pl. ascending.

13 G.? MÓLLIS (H. B. et Kunth, nov. gen. amer. 6. p. 93.) plant suffruticose? branches clothed with silky hairs; leaves lanceolate-oblong, remotely denticulated, pubescent; petals ovate, obtuse, cruciately opposite, pale yellow; stamens straight; fruit oblong, arcuately incurved, nearly as in *Œnothèra*. ♃. H. Native of Mexico. Perhaps a species of *Œnothèra*.

Soft Gaura. Pl. 1 foot?

14 G. MUTA'BILIS (Cav. icon. rar. 3. p. 30. t. 258.) leaves ovate, sessile, remotely toothed; petals broadly ovate, acute, cruciately disposed, spreading; styles and stamens straight; stem shrubby. ♃. H. Native of New Spain. Œnothèra anómala, Curt. bot. mag. t. 388. Petals yellow, but becoming red as they fade.

Changeable-flowered Gaura. Fl. July, Aug. Clt. 1795. Pl. 2 feet.

15 G. ŒNOTHERIFLÒRA (Zuccagni, obs. bot. tent. 2. no. 65.) leaves ovate-lanceolate, running down the petiole at the base, remotely toothed, villous; flowers sessile. ♂. H. Native country unknown. Habit of *Œnothèra longiflòra*. Flowers at first yellow, but becoming red as they fade. Fruit elliptic, quadrangular. Perhaps a variety of *G. mutábilis*.

Evening primrose-flowered Gaura. Fl. Jul. Aug. Clt. 1816. Pl. 2 to 3 feet.

† *Species not sufficiently known.*

16 G. CHINE'NSIS (Lour. coch. p. 225.) leaves lanceolate, serrated, opposite, sessile; spikes terminal; stigma sessile. ♃.? F. Native of China, about Canton.—Pluk. alm. t. 428. Flowers yellow. Stem tetragonal.

China Gaura. Pl. 1 foot.

17 G. SUFFRUTE'SCENS (Moc. et Sesse. fl. mex. icon. ined. t. 374.) stems shrubby at the base; leaves oblong-linear, undulated, glaucescent; young branches drooping; flowers loose, spreading; bracteas lanceolate, acute; limb of calyx deflexed; petals somewhat secund, spatulate, on long claws; stamens 8, and are as well as the style ascending; fruit unknown. ♄. G. Native of Mexico. Flowers large, red. Stigma capitate.

Suffruticose Gaura. Shrub.

18 G.? EPILÒBIA (Moc. et Sesse, fl. mex. icon. ined. t. 375.) stem glabrous; leaves oval-oblong, denticulately sinuated; racemes few-flowered; flowers nearly sessile; petals almost orbicular, incumbent, hardly unguiculate; fruit unknown. ♃. F. Native of Mexico. Flowers red. Stamens shorter than the petals.

Epilobium-like Gaura. Pl. 1 to 2 feet.

Cult. The most part of the species of *Gaura* are little better than biennials, although some are marked perennial. A light soil suits them best, and they are only to be propagated by seeds, which should be sown early in spring in the open ground. Those species natives of Mexico will require a little protection in winter the first year from seed.

VII. ŒNOTHE'RA (from *οινος*, *oinos*, wine, and *θηρα*, *thera*, a catching; the roots of *Œ. biénnis* were formerly eaten after meals, as incentives to wine-drinking, as olives are). Lin. gen. 469. D. C. prod. 3. p. 45.

LIN. SYST. *Octándria, Monogýnia.* Calyx of 4 sepals (f. 95. *a.* f. 96. *a.*); sepals connected into a long, tetragonal, or 8-ribbed tube; segments of the limb deciduous, as well as the free part of the tube. Petals 4 (f. 95. *b.* f. 96. *b.*). Stamens 8, erect, or declinate; pollen triangular, clammy. Stigma 4-cleft or capitate. Capsule 4-celled, 4-valved, cylindrical or prismatic, clavate, or tetragonal, inseparable from the base of the calyx. Seeds fixed to the central placenta, naked. Flowers opening at sun-set and closing at sun-rise.

SECT. I. SPHÆROSTI'GMA (from *σπαιρα*, *sphaira*, a sphere, and *ςτιγμα*, *stigma*, a stigma; in reference to the form of the stigma, which is globose). Ser. in D. C. prod. 3. p. 46. Stigma globose (f. 95. *c.*). Fruit oblong, cylindrical or tetragonal; valves linear. Anthers short, retuse at the apex.

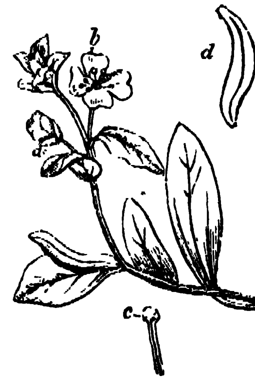
1 Œ. DENTA'TA (Cav. icon. 4. p. 67. t. 398.) leaves linear, denticulated, glabrous; capsule cylindrical, very narrow. ⊙. H. Native of Peru and Chili. Œ. dentàta, Ruiz. et Pav. fl. per. 3. p. 81. t. 317. Lindl. coll. 10. Œ. Chamisònis, Link. enum. 1. p. 378. Plant prostrate. Petals longer than the calyx, yellow. Stigma slightly 4-lobed.

Toothed-leaved Evening Primrose. Fl. Ju. Aug. Clt. 1818. Pl. prostrate.

2 Œ. HI'RTA (Link. enum. 1. p. 378.) hairy; stem branched, erect; leaves lanceolate, denticulated; flowers sessile, minute; capsules curved, terete. ⊙. H. Native of California. Œ. micrántha, Horn. ex Spreng. syst. 2. p. 228. Plant hairy. Flowers small, yellow. Petals not so long as the sepals. Stigma capitate, slightly 4-lobed.

Hairy Evening Primrose. Fl. June, Aug. Clt. 1823. Pl. ¼ to ½ foot.

FIG. 95.



3 Œ. CHEIRANTHIIFÒLIA (Horn. ex Spreng. syst. 2. p. 223.) stems branched; branches ascending, hairy; leaves sessile, spatulate, obtuse, quite entire, villous, canescent; flowers sessile; capsule subulate, curved, angular, acute, hairy. ♄. F. Native of Chili. Lindl. bot. reg. 1040. Flowers middle-sized, pale yellow. (f. 95.)

Wall-flower-leaved Evening Primrose. Fl. June, Aug. Clt. 1823. Sh. 1 foot.

4 Œ. ALA'TA (Rafin. fl. lud. p. 95.) branches winged; leaves sessile, oval-lanceolate, entire, glabrous; flowers sessile; petals unguiculate; stigma globose; capsule 4-winged.—Native of Louisiana.

Winged-stemmed Evening Primrose. Pl.

5 Œ. QUADRIVU'LNERA (Dougl. in bot. reg. 1119.) stem declinate, branched, weak, puberulous; leaves linear-lanceolate, somewhat denticulated, puberulous; petals with crenulated margins; capsule tetragonal, attenuated at the apex, villous. ⊙. H. Native of the north-west coast of America, on the banks of streams, as well as in the open elevated country west of the Rocky Mountains. Petals lilac, each marked with a more intense spot. Stigma globular, entire.

Four-spotted-flowered Evening Primrose. Fl. July, Sep. Clt. 1826. Pl. 1 to 2 feet.

6 Œ. BOÒTHII (Dougl. mss. ex Hook. fl. bor. amer. p. 213.) stem branched; leaves ovate, toothed, glabrous above, hairy beneath, lower ones stalked; flowers secund, in spikes; petals small, obovate, entire, equal in length to the stamens; style exserted; capsule cylindrical, furrowed, twisted, pubescent. ⊙. H. Native of North America, on low exposed gravelly hills, near the branches of Lewis's and Clarke's rivers, in lat. 46°. N. Flowers white, sweet-scented. Stigma capitate.

Booth's Evening Primrose. Pl. ½ foot.

7 Œ. PYGMÆ'A (Dougl. mss. ex Hook. fl. bor. amer. 213.) stem ascending, branched; lower leaves stalked, rhomboid, superior ones sessile, lanceolate, all toothed and pubescent; capsules somewhat secund, cylindrical, attenuated at the apex, torulose. ⊙.? H. Native of North-west America, in barren sands near the Utalla river. Habit of the preceding species.

Pygmy Evening Primrose. Pl. ¼ to ½ foot.

8 Œ. SPIRA'LIS (Hook. fl. bor. amer. p. 213.) stem nearly simple, decumbent, hoary; leaves lanceolate, obtuse, quite entire, hoary, and beset with strigose pili, attenuated at the base; spikes leafy; petals twice the length of the stamens; capsule acutely tetragonal, acuminated, hoary, somewhat spirally twisted. ⊙.? H. Native of the north-west coast of America. Allied to *Œ. Boòthii*, but larger in all parts, and very easily distinguished by its entire hoary leaves and capsules.

Spiral-capsuled Evening Primrose. Pl. ½ foot.

9 Œ. VIRIDE'SCENS (Hook. fl. bor. amer. p. 214.) plant densely clothed with hoary tomentum; stem erect, simple; leaves ovate, acute, sessile, coarsely toothed; spikes leafy; petals deep green in the dried state, twice the length of the stamens; capsule acutely tetragonal, rather hairy, twisted. ⊙.? H. Native of the north-west coast of America.

Greenish-petalled Evening Primrose. Pl. ½ foot.

10 Œ. CONTÓRTA (Dougl. mss. ex Hook. fl. bor. amer. p. 214.) stem weak, branched, glabrous; leaves linear, quite entire, glabrous; flowers small; capsule cylindrical, twisted, curved, elongated, torulose. ⊙.? H. Native of North America, in sandy barren soil on the interior banks of the Columbia river. Although the specimens examined by Dr. Hooker of this, as well as those of *Œ. pygmæ'a*, are too imperfect to determine exactly the form of the stigmas, he thinks it not improbable from the habit of these plants that they should be ranged in the present section.

Twisted-podded Evening Primrose. Pl. ¼ to ½ foot.

SECT. II. ONA'GRA (a name given by Tournefort to the genus *Œnothèra*). Ser. in D. C. prod. 3. p. 46.—Onàgra species, Tourn. inst. p. 302. t. 156. Gærtn. fruct. 1. p. 159. t. 32. f. 1. Stigma quadrifid. Anthers oblong-linear, usually emarginate at the base. Capsule cylindrical, prismatic, or obsoletely tetragonal, sometimes thickened at the base, but never at the apex.

Flowers yellow.

11 Œ. BIE'NNIS (Lin. spec. 492.) stem erect, branched; radical leaves oblong-lanceolate, cauline ones ovate-lanceolate, toothed, pubescent; petals hardly obcordate, exceeding the stamens; lobes of stigma linear and thickish; capsule nearly cylindrical, thickest at the base; valves either entire or bifid, opening at the apex. ♂. H. Native of North America, in Virginia, Canada, and on the north-west coast, from whence it has migrated to Europe in the year 1614, and now found apparently wild in England; particularly between the first and second ranges of sand banks on the coast of Lancashire, a few miles north of Liverpool, in the greatest abundance. It covers several acres of ground near Woodbridge, Suffolk. This plant is common in gardens, and often escapes from thence into rich waste ground. But on the dreary sand of our Lancashire coast it is truly wild, being planted there by the hand of nature, though perhaps transported by natural means from the other side of the Atlantic. Fl. dan. 446. Smith, engl. bot. 1534. Flowers large, pale yellow, delicately fragrant. Roots eatable.

Biennial or Common Evening Primrose. Fl. July, Sep. Brit. Pl. 2 to 4 feet.

12 Œ. MURICA'TA (Lin. syst. veg. 296. Murr. nov. comm. gœtt. 6. p. 24. t. 1.) stem erect, branched, purplish, muricated with strigæ; leaves oblong-lanceolate, glabrous, remotely denticulated; petals obcordate, length of the stamens; capsule nearly cylindrical, rather hairy. ♂. H. Native of Canada, and on the plains of the Saskatchawan, and of the Straits of Fuca. Fl. dan. t. 1752. Flowers yellow. Upper leaves downy. Sepals lanceolate, acuminated, hairy, longer than the petals. Strigæ red at the base.

Muricated-stemmed Evening Primrose. Fl. July, Sep. Clt. 1789. Pl. 3 to 4 feet.

13 Œ. ELA'TA (H. B. et Kunth, nov. gen. amer. 6. p. 90.) leaves lanceolate, acute, clothed with silky canescent pubescence, obsoletely and remotely denticulated; petals roundish-obovate, retuse, pale yellow; stamens declinate, about the length of the petals; capsules sessile, cylindrical, slightly angular, clothed with silky villi. ♂. H. Native of Mexico. Flowers pale yellow.

Tall Evening Primrose. Fl. July. Clt. 1826. Pl. 6 feet.

14 Œ. PUBE'SCENS (Willd. herb. ex Spreng. syst. 2. p. 229.) stem simple, erect; leaves oblong-lanceolate, obsoletely toothed, pubescent; capsule curved, cylindrical, clothed with silky villi. ♂. H. Native of South America. Flowers yellow.

Pubescent Evening Primrose. Pl. 2 to 3 feet.

15 Œ. GRANDIFLÒRA (Ait. hort. kew. ed. 1. vol. 2. p. 2. (1789.) ed. 2. vol. 2. p. 341. but not of Ruiz et Pav.) pubescent; stem simple; leaves lanceolate, remotely toothed; genitals deflexed; petals large, obcordate; capsule sessile, cylindrical, and slightly angular. ♂. H. Native of North America. Flowers large, pale yellow, solitary and sessile in the axils of the leaves.

Var. α, pubéscens ([illegible]ims, bot. mag. t. 2068.) stems, leaves, and capsules pubescent; [illegible]alyx villous. ♂. H.

Var. β, glàbra (Sims, bot. mag. 2068.) stem, leaves, and capsules glabrous. ♂. H.

Great-flowered Evening Primrose. Fl. June, Aug. Clt. 1778. Pl. 2 feet.

16 Œ. SUAVE'OLENS (Desf. tabl. ed. 1804. p. 169. et Pers. ench. 1. p. 408.) stems, calyxes, and capsules pilose; leaves ovate-lanceolate, obsoletely toothed; petals large, emarginate; capsule elongated, about equal in thickness from base to apex. ♂. H. Native of North America. This plant is cultivated for the scent and size of the flowers, which are yellow.

Sweet-scented Evening Primrose. Fl. June, Aug. Pl. 2 ft.

17 Œ. SIMSIA'NA (Ser. in D. C. prod. 3. p. 47.) stem straight, hispid, furrowed; leaves lanceolate, repandly toothed; tube of calyx 3 times the length of the ovarium; sepals very narrow, length of the petals; petals obovate, rather truncate, denticulated at the apex; stamens arched, shorter than the corolla; lobes of stigma linear, thickish; capsule sessile, cylindrical, slightly angular, with the valves reflexed at the apex. ♂. H. Native of Mexico. Œ. corymbòsa, Sims, bot. mag. t. 1974. but not of Lam. Flowers yellow.

Sims's Evening Primrose. Fl. July, Aug. Clt. 1816. Pl. 3 ft.

18 Œ. LAMARKIA'NA (Ser. in D. C. prod. 3. p. 47.) stem branched; leaves quite entire; petals large, entire; capsules glabrous, cylindrically tetragonal, short. ♂. H. Native of North America. Œ. grandiflòra, Lam. dict. 4. p. 554. but not of Ait. Flowers yellow.

Lamark's Evening Primrose. Pl. 2 to 3 feet.

19 Œ. SALICIFÒLIA (Desf. cat. 1815. p. 271.) stem tall, simple, angular; leaves oblong-lanceolate, acute, nearly entire, rather pilose, thickish; genitals about equal in length to the corolla; lobes of stigma oblong-linear, large, thickish; capsule oblong, tetragonal; valves linear, with red nerves. ♂. H. Native country unknown. Flowers yellow.

Willow-leaved Evening Primrose. Fl. July, Aug. Clt. 1824. Pl. 2 to 3 feet.

20 Œ. PARVIFLÒRA (Lin. spec. 492.) stem even, reddish, rather villous; leaves ovate-lanceolate, denticulated; stamens erect, longer than the petals; capsule ovate-cylindrical. ♂. H.

Native of North America. Mill. fig. 189. f. 1. Flowers small, yellow. Capsule sessile, 8-cleft at the apex.

Small-flowered Evening Primrose. Fl. July, Sep. Clt. 1757. Pl. 3 to 5 feet.

21 Œ. CRUCIA'TA (Nutt. mss.) stem reddish, rather hairy; leaves lanceolate, acuminated, denticulated, glabrous, but the upper ones are rather downy; flowers sessile; petals linear, rather shorter than the anthers; calycine segments reflexed, linear, mucronate, longer than the petals, but about equal in length to the stamens; lobes of stigma thick, conniving, or spreading a little; capsule cylindrical, hairy. ♂. H. Native of North America. Flowers small, yellow.

Cross-petalled Evening Primrose. Fl. July, Aug. Clt. 1824. Pl. 2 to 4 feet.

22 Œ. GAUROÌDES (Horn. hort. hafn. 1 p. 362.) stem erect, pubescent, red, branched at the apex; leaves ovate-lanceolate, toothed, nearly sessile, spotted with red at the apex; capsules elongated, length of the bracteas. ♂. H. Native of North America, near Baltimore. Flowers small, yellow.

Gaura-like Evening Primrose. Fl. July, Aug. Clt. 1810. Pl. 4 to 5 feet.

23 Œ. ME'DIA (Link, enum. 1. p. 377.) stem erect, pubescent; leaves lanceolate-linear, acute, toothed, clothed with soft pubescence; tube of calyx long, pubescent; petals emarginate. ♂. H. Native of North America. Flowers yellow.

Intermediate Evening Primrose. Fl. July, Aug. Clt. 1823. Pl. 2 to 3 feet.

24 Œ. CORYMBÒSA (Lam. dict. 4. p. 5[illegible] . but not of Sims,) stems twisted, furrowed; leaves numerous, lanceolate, glabrous, a little toothed, green; flowers sub-corymbose, terminal, pedunculate?; tube of calyx short, length of the ovarium, with the segments ovate and concave, unguiculate on the back; capsule ovate-oblong, villous. ♂. H. Native of North America. Cultivated in gardens. Œ. spectábilis, Horn. ex Spreng. syst. 2. p. 227.

Corymbose-flowered Evening Primrose. Fl. Ju. Aug. Clt. 1820. Pl. 2 to 3 feet.

25 Œ. A'LBICANS (Lam. dict. 4. p. 552. ill. t. 270. f. 2.) plant clothed with glaucous pubescence; leaves lanceolate, toothed, white; petals obovate, toothed at the apex; filaments and anthers red; capsule pubescent, cylindrical, rather gibbous at the base, 8-lobed at the apex. ♃.? G. Native of Peru. Flowers yellow?

Whitened Evening Primrose. Pl. 1 foot.

26 Œ. NOCTU'RNA (Jacq. coll. 3. p. 205. icon. rar. 3. t. 455.) stems branched, terete, pubescent; leaves lanceolate, remotely toothed, flat, glabrous? petals obovate, obtuse; fruit ovate-oblong, somewhat revolute at the apex. ♂. H. Native of the Cape of Good Hope. Leaves almost like those of *Chenopòdium ambrosioìdes*. Petals at first yellow, but at length changing to red.

Night-smelling Evening Primrose. Fl. Apr. Aug. Clt. 1790. Pl. 1 to 2 feet.

27 Œ. LONGIFLÒRA (Jacq. hort. t. 172. Willd. spec. 2. p. 307.) stems simple, pilose; leaves lanceolate, denticulated, hairy; petals obcordate; tube of calyx very long; segments of the stigma very long and linear; genitals shorter than the petals; capsules long, thickened at the base, and narrow at the apex, somewhat tetragonal, hairy. ♂. H. Native of Buenos Ayres and Brazil. Curt. bot. mag. 365. Flowers large, pale yellow. Leaves like those of *Picris echioìdes*.

Long-flowered Evening Primrose. Fl. July, Sep. Clt. 1776. Pl. 1 to 1½ foot.

28 Œ. VILLÒSA (Thunb. prod. p. 75.) stems rather angular, very villous; leaves lanceolate, toothed, undulated, very villous; capsules nearly terete. ♂. H. Native of the Cape of Good Hope. According to Sprengel this species is allied to *Œ. mollissima* and *Œ. odoràta*. Flowers yellow.

Villous Evening Primrose. Fl. July. Clt. 1791. Pl. 1 to 2 ft.

29 Œ. MOLLÍSSIMA (Lin. spec. 492.) stem branched; leaves lanceolate, a little undulated, repandly toothed, clothed with soft down; petals obovate, entire, shorter than the calyx; genitals hardly the length of the petals; lobes of stigma filiform; capsule cylindrical, striated, very long, downy, somewhat tetragonal, a little thickened at the apex. ♂. H. Native of Buenos Ayres, Monte Video, and Chili, in fields. Schkuhr, handb. 1. t. 105. Œ. noctúrna, Willd. herb. ex Spreng.—Dill. hort. elth. 286. Flowers at first yellow, but afterwards changing to a reddish colour as they fade.

Very-soft Evening Primrose. Fl. July, Oct. Clt. 1732. Pl. 1 to 2 feet.

30 Œ. AFFÌNIS (St. Hil. fl. bras. 2. p. 269.) stem branched, suffruticose at the base, tomentose; leaves lanceolate, acute, sinuately denticulated, tomentose; petals quite entire, longer than the calyx; genitals shorter than the petals; lobes of stigma linear; capsule cylindrical, somewhat tetragonal, a little thickened above the middle, tomentose. ♃. G. Native of Brazil, in the province of Rio Grande de St. Pedro do Sul, on the margins of woods near the town of Rio Pardo. Flowers yellow. Nearly allied to *Œ. mollissima*.

Allied Evening Primrose. Pl. 1 to 1½ foot.

31 Œ. CATHARINE'NSIS (St. Hil. fl. bras. 2. p. 270.) stems trailing or ascending, simple or branched, puberulous; leaves lanceolate, acute, sinuately denticulated, puberulous; petals exceeding the calyx, emarginate at the apex; genitals shorter than the petals; lobes of the calyx linear; capsule cylindrical, somewhat tetragonal, a little thickened above the middle, pubescent. ♃. G. Native of Brazil, in the island of St. Catharine, at the entrance to Rio Janeiro. Flowers yellow. Very nearly allied to *Œ. mollíssima*, from which it may be distinguished by the greater size of the flowers, by the petals being emarginate at the apex, by the stigmas being short in proportion to the length of the style, and by the leaves being less velvety.

St. Catharine Evening Primrose. Pl. ascending.

32 Œ. ODORA'TA (Jacq. coll. 3. p. 107.) pubescent; stems branched, suffruticose at the base; leaves lanceolate, a little toothed, undulately curled; genitals length of the corolla; sepals unguiculate on the back; petals deeply obcordate; stigmas downy; capsule elongated, cylindrical, villous. ♂. H. Native of Patagonia. Jacq. icon. rar. t. 456. Œ. undulàta, Ait. hort. kew. ed. 2. vol. 2. p. 342. Onàgra undulàta, Mœnch. Leaves stiffish. Flowers at first yellow, but afterwards becoming reddish as they fade, about the size of those of *Œ. longiflòra*. Plant rather clammy.

Var. α, glaucéscens (Ser. mss. in D. C. prod. 3. p. 48.) leaves glaucous; peduncles and calyxes purplish; genitals erect.—Jacq. icon. rar. 3. t. 456.

Var. β, viréscens (Ser. mss. in D. C. prod. 3. p. 48.) leaves green; nerves of leaves, calyx, and germs usually red; genitals inclinate. Ker. bot. reg. t. 147. Sims, bot. mag. 2403. Hook. exot. fl. t. 183.

Sweet-scented Evening Primrose. Fl. April, May. Clt. 1790. Pl. 1 to 2 feet.

33 Œ. STRIA'TA (Ledeb. in Link, enum. 1. p. 377.) stem muricated, greenish; lower leaves linear, very long, denticulated, cauline ones lanceolate. ♂. H. Native country unknown. Flowers yellow. Capsule cylindrical, but at length becoming clavate, having the nerves thick and coloured. Seeds irregularly òval-oblong, bay-coloured, striated longitudinally.

Striated-calyxed Evening Primrose. Fl. July, Aug. Clt. 1822. Pl. 2 feet.

34 Œ. SINUA'TA (Michx. fl. bor. amer. 1. p. 224.) plant decumbent, clothed with soft pubescence; leaves lanceolate, sinuately toothed or cut; flowers small; sepals unguiculate towards the apex; capsules cylindrically tetragonal, somewhat incurved, pilose, length of the bracteas. ⊙. H. Native of Virginia.

Murr. nov. comm. gœtt. 5. p. 44. t. 9. ex Willd. spec. 2. p. 309. Petals obcordate, about the length of the sepals.

Sinuated-leaved Evening Primrose. Fl. Jul. Aug. Clt. 1770. Pl. 1 foot.

35 Œ. ERÒSA (Lehm. in sem. hort. hamb. 1821. and in nov. act. bonn. 14. p. 813.) stem terete, pilose, fistular; leaves lanceolate, pubescent, veiny, erosely toothed at the base, somewhat sinuated, toothed to about the middle, but quite entire at the apex; flowers small; capsule cylindrical, 4-furrowed, thickened a little in the middle. ♂. H. Native of the Cape of Good Hope. Petals obcordate, citron-coloured, finely crenulated. Lobes of stigma cylindrical, thick, obtuse.

Erose-toothed-leaved Evening Primrose. Fl. July, Aug. Clt. 1828. Pl. 2 to 3 feet.

36 Œ. VISCÒSA (Rafin. fl. lud. p. 96.) stem branched, decumbent, terete, villous, and clammy; leaves sessile, lanceolate, nerved, sinuately toothed; flowers axillary, sessile; petals obcordate; stigma 4-lobed; capsule cylindrical, channelled. ♂. ? H. Native of Louisiana. Flowers yellow.

Clammy Evening Primrose. Pl. dec.

. 37 Œ. INDE′CORA (St. Hil. fl. bras. 2. p. 268.) stems many from the same root, nearly simple, pubescent; leaves lanceolate, acute, obsoletely and sinuately denticulated, pubescent; petals shorter than the calyx, emarginate; genitals equal in length to the petals; lobes of stigma linear, papillose; capsule cylindrical, pubescent. ⊙. H. Native of Brazil, not far from the town of Rio Grande de St. Pedro do Sul. Flowers small, yellow.

Indecorous Evening Primrose. Fl. May. Pl. ½ ft.

38 Œ. PROSTRA′TA (Ruiz et Pav. fl. per. p. 79. t. 315.) leaves somewhat lanceolate, acute, sinuately toothed; sepals longer than the corolla; petals obcordate; capsule linear, bluntly tetragonal, crowned, curved. ⊙. H. Native of Peru, in corn-fields.—Pluk. alm. t. 203. f. 3. Flowers at first yellow, but afterwards changing to purplish as they fade.

Prostrate Evening Primrose. Pl. prostrate.

39 Œ. MI′NIMA (Pursh, fl. amer. sept. 1. p. 262. t. 15. f. 1.) stem simple, 1-flowered; leaves small, lanceolate, quite entire, pilose; flowers sessile, hairy; ovary prismatic. ⊙. H. Native of Georgia and New Jersey. Flowers yellow. Perhaps Œ. sinuàta minima of Nutt. gen. amer. 1. p. 245.

Least Evening Primrose. Fl. Ju. July. Clt. 1825. Pl. ¼ ft.

40 Œ. SERRULA′TA (Nutt. gen. amer. 1. p. 246. journ. acad. philad. 1821. p. 120.) stem branched, and is, as well as the under side of leaves and capsules, rather pubescent; leaves oblong-linear, irregularly serrulated, ending in a hard acute point; flowers remote, sessile; calyx angular; capsule prismatic; petals entire; stamens and style very short. ♃. H. Native of North America, on the mountains about the rivers Platte and Missouri. Lindl. in Hook. exot. fl. 140. Sweet, fl. gard. t. 133. Flowers small, deep yellow. Corolla salver-shaped. Stigma capitate, slightly 4-lobed.

Serrulated-leaved Evening Primrose. Fl. June, July. Clt. 1824. Pl. 1 foot.

41 Œ. LEUCOCA′RPA (Comien, mss. in Hook. fl. bor. amer. p. 210.) stem branched; leaves stiff, serrulated, spatulate-lanceolate, upper ones lanceolate, when young rather silky; petals emarginate, crenulated at the apex; tube of calyx shorter than the petals and segments; segments of stigma linear-oblong; anthers adnate; capsule cylindrical, clothed with hoary silky down. ♃. H. Native of North America, on the dry banks of the Saskatchawan, and common upon limestone rocks on the Red and Assinaboyne rivers. Flowers yellow. Plant with the habit of a species of *Heliánthemum.*

White-fruited Evening Primrose. Pl. ½ ft.

** *Flowers white.*

42 Œ. CŒSPITÒSA (Sims, bot. mag. t. 1593.) plant almost stemless; leaves lanceolate, deeply toothed; tube of calyx very long; petals deeply obcordate; genitals shorter than the corolla; segments of stigma thickish, elongated, spreading; capsules sessile, somewhat obconically-oblong, with the margins of the valves crestedly muricated. ♃. H. Native of North America, on hills about the Missouri. Nutt. gen. 1. p. 346. Œ. scapìgera, Pursh, fl. bor. amer. 1. p. 263. ex Link, enum. 1. p. 377. Flowers large, white, but afterwards changing to purplish as they fade.

Tufted Evening Primrose. Fl. Ju. July. Clt. 1811. Pl. ½ ft.

43 Œ. ALBICAU′LIS (Fras. cat. 1813. Nutt. gen. amer. 1. p. 245.) stem erect, branched at the apex, white, quite glabrous; leaves linear-lanceolate, almost quite entire, pubescent beneath; petals roundish, entire, about equal in length to the stamens; capsule cylindrically prismatic, truncate. ♃. H. Native of North America, on the banks of the Saskatchawan and Missouri. Flowers white, large.

White-stemmed Evening Primrose. Pl. 2 to 3 feet.

44 Œ. PA′LLIDA (Lindl. bot. reg. 1142.) roots creeping; stems ascending, branched, glabrous; leaves linear-lanceolate, acuminated, quite entire or toothed, glabrous; petals retuse, crenulated, exceeding the stamens; capsules cylindrical, twisted. ♃. H. Native of North America, common over all the dry sandy soil to the west of the Rocky Mountains. Petals white, yellow at the base, becoming reddish as they fade.

Pale-flowered Evening Primrose. Fl. June, Sep. Clt. 1826. Pl. 1½ foot.

*** *Flower[illegible]ed or purple. Anthers innate.*

45 Œ. HUMIFU′SA (Nutt. gen. amer. 1. p. 245.) plant prostrate; stems branched, villous; leaves linear-lanceolate, somewhat denticulated, or entire and setaceous; tube of calyx rather longer than the ovarium; petals obcordate; capsule prismatic. ⊙. H. Native of Florida, on the sea shore. Flowers purple?

Trailing Evening Primrose. Fl. June, Aug. Clt. 1824. Pl. trailing.

46 Œ. TENE′LLA (Cav. icon. 4. p. 68. t. 396. f. 2.) stem branched, erect; leaves linear-spatulate; petals obovate, rather retuse, violaceous; style longer than the stamens, which are erect, but much shorter than the petals; segments of stigma narrow, short; capsule sulcate, cylindrical, curved, tomentose, longer than the bracteas. ⊙. H. Native of Chili, about Coquimbo and elsewhere. Ruiz et Pav. fl. per. 3. t. 316. Sims, bot. mag. t. 2424. Plant rather glaucous. Flowers purple; petals crenulated at the apex. Lobes of stigma as well as anthers dark purple.

Delicate Evening Primrose. Fl. June, Aug. Clt. 1823. Pl. ½ to ¾ ft.

47 Œ. TENUIFÒLIA (Cav. icon. 4. p. 67. t. 397.) stem branched; branches ascending; leaves lanceolate; petals obovate, somewhat truncate, crenated at the apex; style longer than the stamens, which are erect, but shorter than the petals; lobes of stigma narrow, short; capsule cylindrical. ⊙. H. Native of Chili, about Coquimbo, where it is commonly called *serena.* Sweet, fl. gard. new. ser. t. 19. Ruiz et Pav. fl. per. 81. t. 317. Flowers purple. Very like *Œ. ténella.*

Fine-leaved Evening Primrose. Fl. June, July. Clt. 1828. Pl. 1 ft.

48 Œ. AMŒ′NA (Lehm. in nov. act. bonn. 14. p. 811. t. 45. and in ind. sem. hort. hamb. 1821.) pubescent; stem terete; leaves lanceolate, bluntish, slightly toothed, glaucous; petals 3 times longer than the calyx, obovate, slightly emarginate, undulately crenated; capsule cylindrically tetragonal; lobes of stigma semi-cylindrical. ⊙. H. Native of North America. Œ. ròseo-álba, Bernh. in sched. hort. elf. 1824. Sweet, fl. gard. 268. Petals whitish, but rose-coloured at the base, and below that marked by a triangular, purple, striated blotch.

Pleasing Evening Primrose. Fl. Ju. July. Clt. 1825. Pl. 1 ft.

49 Œ. VIMI'NEA (Dougl. in bot. mag. t. 2873.) stem erect, branched, glaucous, glabrous; leaves lanceolate, nearly quite entire, glaucous, and glabrous; tube of calyx about equal in length to the segments; petals entire, denticulated, twice the length of the genitals; stigmas purple; capsule cylindrical, attenuated at the apex, furrowed, pubescent. ⊙. H. Native of North California, near the river Aquilar, in dry prairies in lat. 43° north. Lindl. bot. reg. 1220. Flowers lilac.

Twiggy Evening Primrose. Fl. June, Sep. Clt. 1826. Pl. 2 to 3 ft.

50 Œ. LINDLE'YII (Dougl. in bot. mag. 2832.) stem ascending, diffuse, branched; leaves linear-lanceolate, quite entire, glabrous; tube of calyx 3 times shorter than the segments; petals entire, denticulated, twice the length of the genitals; stigmas yellow; capsule cylindrical, elongated, tapering to both ends, puberulous. ⊙. H. Native of the north-west coast of America, about Fort Vancouver, and at the Mulnomak river. Petals lilac, each marked with a purple spot; claws yellow.

Lindley's Evening Primrose. Fl. June, Nov. Clt. 1826. Pl. 1 to 2 feet.

51 Œ. DECU'MBENS (Dougl. in bot. mag. 2889.) stem ascending; leaves glaucous, quite entire, pubescent, lower ones broadly ovate, upper ones ovate-lanceolate; petals emarginate, crenulated; stigmas purple, with reflexed segments; capsule bluntly tetragonal, tapering from the base, villous. ⊙. H. Native of California, in dry mountain valleys. Lindl. bot. reg. 1221. Petals lilac, obcordate. From all its nearest allies this plant differs in the form of the stigmas.

Decumbent Evening Primrose. Fl. June, Nov. Clt. 1827. Pl. 1 to 2 ft. long, ascending.

52 Œ. PURPU'REA (Curt. bot. mag. 352.) plant glaucescent; leaves lanceolate, attenuated at both ends, bluntish; tube of calyx short; petals obovate, crenulated; genitals exserted, much shorter than the corolla; lobes of stigma thick, short, dark purple; anthers yellow; capsule ovate, triquetrous, sessile, angular, pilose; seeds irregularly angular, and covered with dots when examined by a lens. ⊙. H. Native of the north-west coast of America. Œ. hùmilis, Donn, hort. cantab. p. 41. Flowers purple.

Purple Evening Primrose. Fl. May, Aug. Clt. 1794. Pl. 1 ft.

53 Œ. ROMANZÒVII (Ledeb. in Horn. hort. hafn. suppl. 133.) glaucous; stem erect; leaves lanceolate-oblong, mucronate, tapering into the petiole; tube of calyx very short; limb one-half shorter than the corolla; petals broad-obovate, crenulated; stamens much shorter than the corolla; anthers green; stigmas nearly sessile, inclosed, dark purple; capsule oblong-cylindrical, somewhat tetragonal, pilose; seeds hoary, and rather scaly when examined by a lens. ⊙. H. Native of North America, on the western coast. D. Don in Ker. bot. reg. t. 662. Flowers violaceous.

Romanzov's Evening Primrose. Fl. July, Aug. Clt. 1817. Pl. ¾ to 1 ft.

SECT. III. ŒNOTHE'RIUM (an alteration from the generic name). Ser. in D. C. prod. 3. p. 49. Stigma quadrifid (f. 96. *c.*). Tube of calyx cylindrical, dilated at the apex. Anthers oblong. Capsule oblong or obovate, tetragonal; the angles prominent; valves obovate.

* *Flowers white.*

54 Œ. ACAU'LIS (Cav. icon. 4. p. 68. t. 399.) leaves rosulate, pinnatifid; the terminal lobe large and denticulated; tube and flowers large; calycine segments free, reflexed; petals obovate, rather retuse, entire; anthers and stigmas narrow, shorter than the corolla; capsule obovate, tetragonal, a little winged, sessile. ♃. F. Native of Chili. Ker. bot. reg. 763. Petals large, white, but becoming red as they fade.

Stemless Evening Primrose. Fl. May, Sep. Clt. 1821. Pl. ½ ft.

55 Œ. TARAXACIFÒLIA (Hort. and Sweet, fl. gard. t. 294.) stem branched, elongated, procumbent; leaves pubescent, alternate, interruptedly pinnatifid, sinuately toothed, but the apex entire; tube of flower very long; petals large, obovate, entire, 5-nerved; anthers and stigmas shorter than the corolla; capsules sessile, obovate, pubescent, tetragonal; angles winged. ♃. H. Native of Chili, about Conception. Œ. grandiflòra, Ruiz. et Pav. fl. per. 3. t. 318. f. 6. Œ. acaùlis β, màjor, Ser. in D. C. prod. 3. p. 49. Flowers large, white, but becoming reddish as they fade.

Dandelion-leaved Evening Primrose. Fl. May, Aug. Clt. 1825. Pl. ½ foot.

56 Œ. ANISÓLOBA (Sweet, fl. gard. new. ser. 105.) stem suffruticose, tall, straight, branched, downy; radical leaves elliptic, entire, or few-toothed; middle ones elliptic, sharply toothed, with the segments at the base variable, linear, acute, and divaricating; upper ones unequal, pinnatifid, with the segments divaricate, with the terminal lobes large; tube of flower very long; ovary tetragonal; petals large, imbricate, with crenulated margins. ♃. H. Native of Chiloe. Flowers large, white, becoming red as they fade. Lindl. bot. reg. t. 1479. Leaves downy. Lobes of stigma linear.

Unequal-lobed-leaved Evening Primrose. Fl. May, Oct. Clt. 1828. Pl. 3 feet.

57 Œ. PU'RSHII; pubescent; stem decumbent, white; radical leaves nearly entire; cauline ones pinnatifid, with linear acute divaricate segments; nerves of leaves white like the stem; flowers few, disposed in a kind of spike; petals obcordate, white, large, longer than the stamens; style filiform; ovaries sessile, prismatic, furrowed. ⊙. H. Native of North America, on the plains of the Missouri. Œ. albicaùlis, Pursh, fl. amer. sept. 2. p. 733. but not of Nutt. Œ. pinnatífida, Nutt. gen. amer. 1. p. 245. but not of Kunth. Flowers large, white.

Pursh's Evening Primrose. Fl. May, Aug. Clt. 1811. Pl. dec.

58 Œ. SPECIÒSA (Nutt. in mem. acad. soc. hist. nat. phil. 1821. p. 119.) plant puberulous; stem suffruticose; leaves oblong-lanceolate, attenuated at both ends, serrated, and somewhat pinnatifid, nerved, pubescent beneath; flowers subracemose; raceme naked, at first drooping; petals obcordate, equal in length to the stamens; capsule obovate, angular. ♃. H. Native of North America, on the banks of the Red river. Hook. exot. fl. t. 80. Sweet, fl. gard. 253. Flowers large, white, but becoming reddish as they fade.

Showy Evening Primrose. Fl. Mar. Sept. Clt. 1821. Pl. 2 to 3 ft.

59 Œ. TETRA'PTERA (Cav. icon. 3. p. 40. t. 279.) stem branched, pilose; leaves lanceolate, pinnatifid, or toothed, somewhat ciliated, hardly petiolate; tube of calyx almost wanting; petals obcordate, entire; genitals shorter than the corolla; anthers and stigmas narrow and long; capsule obovate, 4-winged, ribbed, pilose, tapering into a pedicel at the base; seeds ovate, acute, smooth, pale. ⊙. H. Native of New Spain. Sims, bot. mag. 468. Petals white, but becoming red as they fade.

Four-winged-capsuled Evening Primrose. Fl. June, Sept. Clt. 1796. Pl. 1 foot.

60 Œ. LATIFLÒRA (Moc. et Sesse, fl. mex. icon. ined. t. 376.) root fusiform; stem terete, hairy, branched at the apex; leaves lanceolate-linear, acute, deeply toothed, alternate, opposite, or in whorles; flowers on short pedicels. ⊙. H. Native of Mexico. Flowers large, white, but becoming reddish as they fade. Fruit unknown.

Broad-flowered Evening Primrose. Pl. 1 foot.

* * *Flowers red or purple.*

61 Œ. VIRGATA (Ruiz, et Pav. fl. per. 29. t. 315.) stem prostrate or erect, branched; leaves lyrate and lanceolate, toothed;

flowers disposed in a kind of raceme; petals obovate, hardly longer than the limb of the calyx; capsule clavate, 10-angled, the alternate angles broadest. ⊙. H. Native of Peru, in fields, and among rubbish. Flowers purple. There is a variety of this with nearly entire leaves.

Twiggy Evening Primrose. Fl. Ju. Jul. Clt. 1823. Pl. pr.

62 Œ. SUBULA´TA (Ruiz, et Pav. fl. per. p. 82. t. 316.) leaves subulate, long, villous; petals bifid; capsule clavate, tetragonal, winged above, mucronate; valves broad, somewhat 3-winged at the apex. ⊙. H. Native of Chili, in dry fields. Flowers purplish-red.

Subulate-leaved Evening Primrose. Pl. $\frac{1}{2}$ to $\frac{3}{4}$ foot.

63 Œ. RÒSEA (Ait. hort. kew. ed. 1. vol. 2. p. 3. ed. 2. vol. 2. p. 343.) shrubby; stem branched; branches twiggy; leaves elliptic, attenuated at both ends, toothed, lower ones lyrate; tube of calyx short; petals obovate-roundish; genitals shorter than the corolla; capsule clavate, 8-angled. ♄. F. Native of Mexico. Curt. bot. mag. 347. Œ. purpùrea, Lam. dict. 4. p. 564. Œ. rùbra, Cav. icon. 4. p. 68. t. 400. Flowers red, about the size of those of *Epilòbium angustíssimum.*

Rose-coloured-flowered Evening Primrose. Fl. May, Aug. Clt. 1783. Shrub 1 to 2 feet.

64 Œ. TUBIFLÒRA (Moc. et Sesse, fl. mex. icon. ined. t. 377.) root rather fusiform; stems depressed; leaves linear-oblong, acute, somewhat denticulated; tube of calyx very long: petals obcordate; stamens longer than the stigmas; fruit unknown. ♃. F. Native of Mexico. Flowers rose-coloured. This is a very distinct species, but from the fruit being unknown it is doubtful whether it belongs to the present section.

Tube-flowered Evening Primrose. Pl. $\frac{1}{2}$ foot.

* * * *Flowers yellow.*

65 Œ. TRI´LOBA (Nutt. in journ. acad. philad. 1821. p. 118.) stemless; leaves interruptedly pinnatifid, toothed, glabrous; petals obovate, slightly 3-lobed at the apex, the middle lobe mucronate; capsules almost 4-winged, large, sessile at the root. ⊙. H. Native of North America, in arid fields on the banks of the Red River, and of Louisiana. Sims, bot. mag. 2566. Œ. rhizocárpa, Spreng. syst. 2. p. 230. Flowers radical, pale yellow, sweet-scented in the evening. Tube of calyx very long.

Three-lobed-petalled Evening Primrose. Fl. May, Sept. Clt. 1822. Pl. $\frac{1}{4}$ to $\frac{1}{2}$ foot.

66 Œ. PINNATI´FIDA (H. B. et Kunth, nov. gen. amer. 6. p. 91.) stem erect, branched at the base; leaves pinnatifid, pubescent; capsule 8-angled, somewhat 4-winged, on short pedicels. ♃. F. Native of Mexico, about Actopan. Flowers yellow, about the size of those of *Epilòbium hirsùtum,* axillary at the tops of the stem and branches.

Pinnatifid-leaved Evening Primrose. Pl. 1 foot.

67 Œ. MACROCA´RPA (Pursh. fl. amer. sept. 2. p. 734.) stem simple, prostrate, downy; leaves lanceolate, quite entire, or glandularly denticulated, with the margins and nerves covered with white silky down; petals broad, obcordate; stamens arched, shorter than the corolla; lobes of stigma cylindrical, blunt; capsule large, sessile, oblong, 4-winged. ♃. H. Native of North America, on the banks of the Mississippi, near St. Louis. Sweet, fl. gard. t. 5. Stem purplish. Corolla large, yellow. Calyx spotted with red; tube long.

Large-fruited Evening Primrose. Fl. June, Aug. Clt. 1811. Pl. prostrate.

68 Œ. MISSOURIE´NSIS (Sims, bot. mag. t. 1592.) stems simple, downy, decumbent; leaves lanceolate, tapering to both ends, marginate and slightly ciliated; petals broad, obcordate, with a notch in the recess; capsule 4-winged, slightly pedicellate. ♃. H. Native of North America. Œ. alàta, Nutt. gen. amer. 1. p. 346. Corolla large, yellow. Calyx spotted as in *Œ. macrocárpa.* Leaves sometimes glandularly denticulated.

Missouri Evening Primrose. Fl. Ju. Sep. Clt. 1818. Pl. $\frac{1}{2}$ ft.

69 Œ. GLAU´CA (Michx. fl. bor. amer. 1. p. 224.) plant quite glabrous, decumbent, glaucous; leaves ovate, repandly denticulated; limb of calyx longer than the tube; petals large, obcordate, erose; genitals shorter than the corolla; capsules ovate, tetragonal, thick, short. ♃. H. Native of North America, in woods west of the Mississippi. Sims, bot. mag. 1606. Flowers pale yellow.

Glaucous Evening Primrose. Fl. June, Oct. Clt. 1812. Pl. 1 to 2 feet. .

70 Œ. HY´BRIDA (Michx. fl. bor. amer. 1. p. 225.) stem erect, villous; leaves pubescent on both surfaces, lanceolate, remotely toothed; flowers on short pedicels; bracteas wanting or subulate; capsules ovate, tetragonal, disposed in something like spikes. ♃. H. Native of Upper Carolina. Flowers yellow. There is a variety of this plant with glabrous leaves.

Hybrid Evening Primrose. Fl. Ju. Oct. Clt. 1813. Pl. 1 ft.

71 Œ. FRUTICÒSA (Lin. spec. 492.) stems erect, brownish, glabrous, or pilose; leaves ovate-lanceolate, denticulated, pilose, or glabrous; racemes spicate, leafy, nakedish at the base; petals broadly obcordate, erose, twice the length of the stamens; capsule clavate, pilose, 8-angled, 4 of the angles winged. ♃. H. Native of Virginia and Canada. Curt. bot. mag. t. 332. Œ. Canadénsis, Goldie, in edin. phil. journ. 1821. p. 7. Flowers large, deep yellow. Stem branched at the apex.

Shrubby Evening [illegible]mrose. Fl. June, Sept. Clt. 1737. Pl. 2 to 3 feet.

72 Œ. SERÓTINA (Hort. ex Sweet, fl. gard. 184.) stems ascending, branched, pubescent; leaves lanceolate, acute, denticulated, glabrous, attenuated at the base; petals wrinkled or plaited; capsule pedicellate, 4-winged, oblong, pubescent; segments of stigma blunt, spreading. ♃. H. Native of North America. Flowers yellow. Habit procumbent and branching.

Late-flowering Evening Primrose. Fl. Aug. Sept. Clt. 1820. Pl. procumbent.

73 Œ. AMBI´GUA (Spreng. syst. 2. p. 229.) stem simple, pilose; leaves ovate-lanceolate, acute, denticulated, dotted; calycine segments short; capsule sessile, clavate, 4-winged. ♃. H. Native of Pennsylvania. Œ. fruticòsa β, ambígua, Nutt. gen. amer. 1. p. 247. Flowers yellow.

Ambiguous Evening Primrose. Fl. June, Aug. Clt. 1818. Pl. 1 to $1\frac{1}{2}$ foot.

74 Œ. FRASE´RI (Pursh, fl. amer. sept. 2. p. 734.) smoothish; stems simple at the base; leaves ovate, glandularly denticulated; tube of calyx longer than the ovarium; petals obcordate, broad, erosely undulated; capsule obovate, thick, tetragonal. ♃. H. Native of South Carolina. Sims, bot. mag. 1674. Flowers yellow.

Fraser's Evening Primrose. Fl. Ju. Oct. Clt. 1811. Pl. 1 ft.

75 Œ. TARQUE´NSIS (H. B. et Kunth, nov. gen. amer. 6. p. 91.) procumbent; leaves lanceolate-oblong, acute, narrowed at the base, nearly quite entire, puberulous; petals obovate-roundish, retuse? genitals shorter than the corolla; capsules very nearly sessile, 4-winged, bluntly truncate at the apex. ♃. F. Native of South America, near the town of Quito, in the valley of Tarquo, at the height of 4000 feet above the level of the sea. Flowers yellow. Like *Œ. pùmila,* but differs in the leaves being broader and puberulous, and in the calyxes, capsules, and ovaries being clothed with silky down.

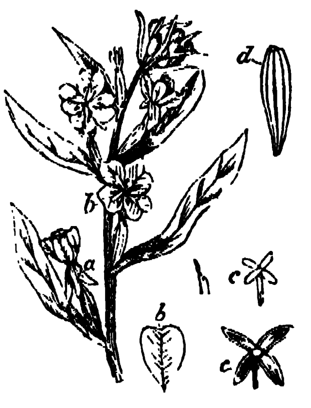
Tarquo Evening Primrose. Pl. procumbent.

76 Œ. PU´MILA (Lin. spec. 493.) stems usually simplish, ascending, rather pilose; leaves lanceolate, quite entire, obtuse, a little ciliated; flowers subspicate, on short pedicels; petals obcordate, rather longer than the genitals; capsule clavate, 8-

angled, 4 of the angles winged. ♃. H. Native of North America, in most parts. Curt. bot. mag. t. 335. Mill. ill. 188. Flowers yellow, about the size of those of *Potentilla vèrna*. Leaves small. (f. 97.)

Dwarf Evening Primrose. Fl. May, Sept. Clt. 1757. Pl. ½ ft.

FIG. 96.



77 Œ. ripa'ria (Nutt. gen. amer. 1. p. 247.) stem erect, nearly glabrous; leaves lanceolate, denticulated, glabrous; flowers subspicate, on short pedicels; petals emarginate, a little longer than the genitals; capsules 8-furrowed, the 4 alternate ribs more prominent than the rest. ♂. H. Native of North America, in North Carolina, near Wilmington; and on the plains of the Saskatchawan. Flowers small, yellow.

River-bank Evening Primrose. Pl. 1 to 1½ foot.

78 Œ. chrysa'ntha (Michx. fl. bor. amer. 1. p. 225.) stems weak, minutely pubescent; leaves lanceolate, bluntish, entire; flowers small; tube of calyx not half so long as the segments; capsule sessile, clavate, 8-angled, the 4 alternate angles more prominent than the others. ♃. H. Native of North America, from Quebec to Hudson's Bay. Flowers yellow, the size of those of *Epilòbium palústre*. Dr. Hooker considers this identical with *Œ. pùmila*, see fl. bor. amer. p. 212.

Golden-flowered Evening Primrose. Fl. May, Sept. Pl. ½ to 1 foot.

79 Œ. pusi'lla (Michx. fl. bor. amer. 1. p. 225.) plant minutely pubescent; stems humble, simple; leaves lanceolate-oblong, bluntish, entire; capsule sessile, clavate, almost equally 8-angled. ♃. H. Native of North America, on rocks at Lake Mistassiny. Lam. dict. 4. p. 144. Flowers small, yellow. Œ. pùmila β, mínima, Hook. fl. bor. amer. p. 212.

Small Evening Primrose. Fl. May, Sept. Clt. 1817. Pl. ¼ ft.

80 Œ. multicau'lis (Ruiz, et Pav. fl. per. 3. p. 80. t. 317. f. 6.) stems tufted, depressed; radical leaves lanceolate-oblong, denticulated, cauline ones ovate; flowers sessile, secund; petals hardly exceeding the calyx in length; capsules secund, clavate, 8-angled, the 4 alternate angles more prominent than the others; seeds obovate, angular, fucescent. ⊙. ? H. Native of Peru, on the Andes, in the provinces of Tarma and Canta. Flowers yellow.

Many-stemmed Evening Primrose. Pl. depressed.

81 Œ. linifòlia (Nutt. in journ. acad. philad. 1821. p. 120.) stem straight; leaves linear, very narrow, obtuse, entire; flowers spicate; calyxes hispid, obovate-oblong; angles bluntish; petals obcordate, 1-nerved; nerve thick, coloured. ⊙. H. Native of North America, on rocks along the Akanza river. Flowers 2 lines broad, yellow.

Flax-leaved Evening Primrose. Fl. June, Aug. Pl. ¼ to ¾ ft.

82 Œ. linea'ris (Michx. fl. bor. amer. 1. p. 225.) plant slender, pubescent; leaves linear, entire; capsules on longish stipes, roundish-tetragonal, villous. ⊙.? H. Native of Upper Carolina. This species is hardly known. Flowers yellow.

Linear-leaved Evening Primrose. Fl. June, July. Clt. 1822. Pl. ½ to 1 foot.

83 Œ. epilobifòlia (H. B. et Kunth, nov. gen. amer. 6. p. 92.) stem branched; leaves oblong or ovate-oblong, acute, narrowed at the base, remotely and obsoletely denticulated, puberulous; capsules pedicellate, clavate, 4-winged. ♃. ♄. F. Native of New Granada. Flowers orange-coloured.

Willow-herb-leaved Evening Primrose. Pl. 1 foot?

84? Œ. tetrago'na (Roth, cat. 2. ex Horn. hort. hafn. suppl. 44.) leaves ovate, obtuse, entire; flowers somewhat fastigiate; capsules pedicellate, truncate, 4-valved. ♃. H. Native of North America. Link. enum. 1. p. 377. Flowers yellow.

Tetragonal-podded Evening Primrose. Pl. 1 foot.

85? Œ. adsce'ndens (Willd. herb. ex Spreng. syst. 2. p. 230:) stems weak, ascending, branched; leaves lanceolate, toothed, pubescent; capsule sessile, clavate, curved. ♃.? H. Native of South America.

Ascending Evening Primrose. Pl. ascending.

† *Species not sufficiently known.*

86 Œ. inca'na (Nutt. gen. amer. 1. p. 247.) stem humble, slender, erect; leaves clothed with hoary tomentum, quite entire, elliptic-ovate, acute; racemes few-flowered, naked; capsules almost sessile, oblong, 4-angled. ♂. H. Native of Maryland. Flowers golden yellow.

Hoary Evening Primrose. Pl. ½ foot.

87 Œ. austra'lis (Sal. prod. p. 278.) leaves linear-lanceolate, denticulated, undulated, minutely pubescent; capsule sessile, cylindrical, obsoletely 8-angled.—Native about Port Desire.

Southern Evening Primrose. Pl. 1 foot.

Cult. All the species of *Œnothèra* are handsome border flowers, and deserve to be cultivated. They will grow in any common garden soil. The perennial kinds are easily increased by seeds, by dividing the plants at the root, and some of them by cuttings. The seeds of annual and biennial kinds only require to be sown where the plants are intended to remain.

VIII. GAYOPHY'TUM

(a name peculiarly composed from M. Gay, the discoverer of the plant, and φυτον, *phyton*, a plant; signifying Gay's plant). Adr. Juss. in ann. sc. nat. 25. p. 18.

Lin. syst. *Octándria, Monogýnia.* Calyx 4-parted. Petals 4. Stamens 8, the 4 opposite the petals small and barren. Style short. Stigma capitate, obscurely 2-lobed from a transverse furrow. Ovarium oblong-elliptic, compressed, 2-celled. Capsule linear, 4-valved, 2-celled; lateral valves revolute; cells many-seeded. Seeds fixed to the longitudinal placenta, 1 row in each cell, ascending, naked.—A small, glabrous herb. Leaves linear-falcate, lower ones nearly opposite, upper ones alternate. Flowers solitary, axillary, shorter than the leaves, yellowish. Pollen trigonal.

1 G. hu'mile (Adr. Juss. l. c.). ⊙. H. Native of Santiago, in Chili.

Humble Gayophytum. Pl. 1 to 3 inches.

Cult. The seeds of this plant only require to be sown in the open border, in a warm sheltered situation.

IX. CLA'RKIA

(in honour of Capt. Clarke, the companion of Capt. Lewis, in his journey to the Rocky Mountains of North America). Pursh, fl. amer. sept. 1. p. 260. t. 11. D. C. prod. 3. p. 52. Hook, fl. bor. amer. p. 214.

Lin. syst. *Octándria, Monogýnia.* Calyx tubular, 4-cleft, nearly as in *Œnothèra*. Petals 4, unguiculate, cruciate, 3-lobed (f. 97. *b.*), convolute in æstivation. Stamens 8, the 4 alternate ones sterile. Stigma 4-lobed (f. 97. *a.*); lobes petaloid. Capsule cylindrical, furrowed, 4-celled, 4-valved. Seeds ascending, naked.—Smooth, annual herbs, with alternate, lanceolate, or linear, entire leaves; and axillary, sessile, solitary, showy flowers.

1 C. pulche'lla (Pursh, l. c.) petals deeply 3-lobed; leaves linear. ⊙. H. Native of North-west America, on the banks of the Kooskoosky and Clarke's rivers, and from the great falls of the Columbia, to the Rocky Mountains. Hook. bot. mag.

2918. Lindl. bot. reg. 1100. Flowers large, of a beautiful rose-purplish colour, rarely white.

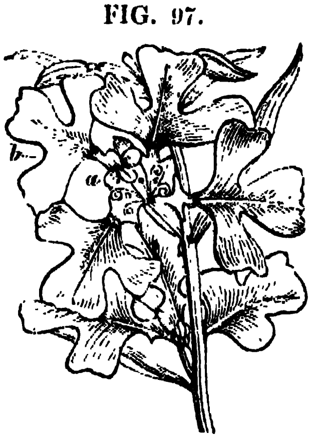
Var. β; petals less deeply lobed, but more denticulated. Hook. bot. mag. t. 2918.

Neat Clarkia. Fl. June, Aug. Clt. 1826. Pl. 1½ foot.

2 C. RHOMBOI'DEA (Dougl. mss. ex Hook. fl. bor. amer. p. 214.) petals entire, rhomboid; leaves lanceolate. ⊙. H. Native along with the preceding species. Flowers of a beautiful rose-purple colour.

Rhomboid-petalled Clarkia. Fl. June, Aug. Pl. 1 foot.

FIG. 97.



Cult. The *C. pulchélla* is one of the most showy border annuals ever introduced to the gardens, and is on that account to be seen in every flower-garden and nursery, although but a few years since its first introduction. Both species will grow in any common garden soil, in which the seeds may be sown.

Tribe IV.

JUSSIE'Æ (plants agreeing in character with the genus *Jussiæ'a*). D. C. prod. 3. p. 52. Fruit capsular; cells many-seeded. Tube of calyx permanent, not drawn out beyond the ovarium, but dividing immediately into segments (f. 98. *a.*).—Usually herbs, rarely shrubs.

X. JUSSIÆ'A (so named by Linnæus, in memory of Antoine de Jussieu, Demonstrator of Plants in the Royal Garden at Paris, uncle of the celebrated Antoine Laurent de Jussieu). Lin. gen. no. 538. Gærtn. fruct. 1. p. 154. t. 31. Lam. ill. t. 28. D. C. prod. 3. p. 52.—Jussieùa, Pers. ench. no. 1069.

LIN. SYST. *Octo-Decándria, Monogýnia.* Tube of calyx prismatic or cylindrical, adhering in its whole length to the ovarium; limb 4 (f. 98. *a.*) -5-6-parted; the lobes acute and permanent, valvate in æstivation. Petals spreading, equal in number to the lobes of the calyx (f. 98. *d.*). Stamens double the number of the petals, deciduous like them. Ovarium sometimes flattish at the apex, sometimes elevated into a furrowed cone (f. 98. *b.*). Style filiform, short, crowned by a capitate 4-6-furrowed stigma. Capsule 4-6-celled, oblong, usually ribbed and opening between the ribs, always crowned by the calyx. Seeds numerous, naked.—Herbs, rarely shrubs, natives of marshes. Leaves alternate, for the most part quite entire. Flowers axillary, solitary, sessile, or on very short petioles, usually bibracteate at the base, generally yellow, rarely white.

* *Flowers with* 5 *petals and* 10 *anthers, very rarely with* 6 *petals and* 12 *anthers.*

1 J. PERUVIA'NA (Lin. spec. 555.) stem suffruticose, erect; leaves oblong, attenuated at both ends, pubescent beneath; pedicel bearing 2 foliaceous bracteoles at the apex, twice the length of the tube of the calyx, which is pentagonal and turbinate; calycine lobes 5, lanceolate, one half shorter than the petals, which are roundly obovate. ♄. B. S. Native of Peru, near rivulets about Lima. Feuill. obs. 2. p. 716. t. 9. Flowers large, yellow. An emollient poultice is formed of the leaves of this plant in Peru.

Peruvian Jussiæa. Shrub 1 to 2 feet.

2 J. VARIA'BILIS (Meyer. prim. esseq. 174.) stem shrubby, ascending, glabrous; leaves lanceolate, acuminated at both ends, crenate-serrated, glabrous; flowers on short pedicels, bibracteolate at the base; tube of calyx angular; calycine lobes 5-6, lanceolate, shorter than the petals, which are ovate. ♂. B. S. Native of Guiana, about Essequibo, in marshes. Flowers yellow. This species is said to be nearly related to *J. Peruviàna*, but the leaves are narrower and the flowers are on shorter pedicels.

Variable Jussiæa. Fl. Aug. Sept. Clt. 1826. Pl. 1 to 2 ft.

3 J. DODECA'NDRA (D. C. prod. 3. p. 53.) herbaceous, erect, glabrous; leaves oval, acute at both ends, on short petioles; flowers sessile; tube of calyx elongated, cylindrical; calycine lobes 5-6, linear-oblong, acuminated; petals ovate, emarginate, equal in length to the calycine lobes. ⊙. B. S. Native about Demerara. Stem terete, below; branches compressed, angular. Flowers yellow.

Dodecandrous Jussiæa. Pl. 1 foot.

4 J. LEPTOCA'RPA (Nutt. gen. amer. 1. p. 279.) herbaceous, erect, smoothish; stem and calyx partly hairy; leaves lanceolate, smoothish, attenuated at both ends; flowers sessile, 5-6-petalled; tube of calyx very slender, cylindrical; petals hardly longer than the calycine lobes. ⊙. B. H. Native of North America, on the banks of the Mississippi and Missouri; very plentiful. Stem usually simple, irregularly angled. Petals yellow.

Slender-fruited Jussiæa. Fl. Jul. Sept. Clt. 1817. Pl. 1 ft.

5 J. PILÒSA (H. B. et Kunth, nov. gen. amer. 6. p. 101. t. 532. a and b.) herbaceous, erect, hispid; leaves oblong-lanceolate, narrowed at the base, hairy on both surfaces; flowers on very short pedicels, bractless; tube of calyx cylindrical, elongated; calycine lobes 5-6, rarely 4, oblong-lanceolate, acuminated; petals roundly [illegible]ovate, shorter than the calycine lobes. ♃. B. S. Native of [illegible] Caraccas, on the banks of the river Apures, near St. Fernando. Flowers yellow. Nearly allied to *J. villòsa*.

Pilose Jussiæa. Pl. 1 foot.

6 J. AFFI'NIS (D. C. prod. 3. p. 53.) herbaceous, erect, pilose; leaves oblong-lanceolate, acuminated at both ends, smoothish, ciliated on the nerve and margins; flowers on very short pedicels, bractless; calyx pilose, with a cylindrical elongated tube, and 5 linear-lanceolate acuminated lobes; petals oblong-obovate, equal in length to the calycine lobes. ⊙. B. S. Native of Guiana, about Demerara. Flowers yellow. Nearly allied to *J. pilòsa*.

Allied Jussiæa. Pl. 1 foot.

7 J. GRANDIFLÒRA (Michx. fl. bor. amer. 1. p. 267.) plant floating; stems herbaceous, villous; leaves pubescent, oblong-lanceolate, lower ones rather spatulate, the rest tapering to both ends; pedicels bractless, and are as well as the calyxes villous; flowers drooping before expansion; calycine lobes 5, acute; petals obovate, emarginate, twice the length of the calycine segments. ♃. W. H. Native of Georgia and Lower Carolina, in ponds. Sims, bot. mag. 2122. Flowers large, yellow.

Great-flowered Jussiæa. Fl. Jul. Oct. Clt. 1812. Pl. fl.

8 J. MONTEVIDE'NSIS (Spreng. syst. 2. p. 232.) stem ascending, smooth at the base, but hairy above; lower leaves spatulate, glabrous, upper ones lanceolate, acute, quite entire, and hairy; calyx with a narrow tube and 5 lanceolate acute lobes; petals 5, obovate, emarginate. ♃. W. S. Native of Brazil, in marshes and rivulets in the province of Cisplatine, near the town of Monte-Video. J. grandiflòra, St. Hil. fl. bras. 2. p. 265. Pedicels bibracteolate. Flowers yellow.

Var. β; flowers 3-times smaller than those of the species; leaves smoothish above, but with a few scattered hairs beneath. St. Hil. l. c.

Monte-Video Jussiæa. Pl. floating.

9 J. DIFFU'SA (Forsk. descr. p. 210.) stems creeping; leaves lanceolate; flowers sessile, 5-petalled, decandrous. ♃. W. S. Native of Egypt, in the Delta at the Nile, on the edges of fields. This plant is hardly known, but evidently distinct from *J. erécta*,

as may be seen from the short description of Forskael, and is admitted by Delile, in his fl. ægyp. ill. p. 14. without any description.

Diffuse Jussiæa. Fl. diffuse.

10 J. PEPLOÌDES (H. B. et Kunth, nov. gen. amer. 6. p. 97.) plant shrubby, creeping, glabrous: leaves oblong-spatulate, obtuse, thickish; flowers on short pedicels, bractless; tube of calyx slender, somewhat pentagonal; calycine lobes 5, lanceolate. ♄. B. S. Native of New Granada, near Ibague, in humid valleys. Petals not known.

Peplus-like Jussiæa. Pl. creeping.

11 J. PATIBILCE'NSIS (H. B. et Kunth, l. c.) herbaceous, creeping, glabrous; leaves oblong, or obovate-oblong, acutish, cuneated at the base; flowers pedicellate, bibracteolate; tube of calyx slender and angular; calycine lobes 5, lanceolate, acuminated; petals roundish-ovate, twice the length of the calycine lobes. ♃. B. S. Native on the shores of the Pacific, near Patibilca. Flowers yellow. Capsule linear.

Patibilca Jussiæa. Pl. creeping.

12 J. POLYGONOÌDES (H. B. et Kunth, nov. gen. amer. 6. p. 97.) herbaceous, creeping, glabrous; leaves lanceolate-oblong, acute, cuneately narrowed at the base; flowers pedicellate, tube of calyx slender, furnished with 2 bracteoles in the middle; calycine lobes oblong-lanceolate, acute. ♃. W. H. Native of New Granada, in marshes and bogs; and of Mexico, near Hacienda la Laguna, in running waters. Flowers yellow. Capsule linear.

Polygonum-like Jussiæa. Pl. creeping.

13 J. FLUVIA'TILIS (Blume, bijdr. p. [illegible] 32.) stems herbaceous, terete, glabrous, floating; leaves obovate-oblong, rounded, sometimes retuse; pedicels bibracteolate; calycine lobes lanceolate, acuminated, pubescent; tube of calyx and capsule cylindrical. ♃. W. S. Native of Java, in mountain rivulets. Allied to *J. rèpens.*

River Jussiæa. Pl. floating.

14 J. RE'PENS (Lin. mant. p. 381.) plant herbaceous, creeping, glabrous; leaves oblong-obovate, retuse, petiolate; flowers on longish pedicels, somewhat bicallous at the base; calyx villous, with a short terete tube, which is attenuated at the base, and 5 lanceolate acute lobes; petals obovate, twice the length of the calycine segments. ♃. W. S. Native of the East Indies, floating in water; in Java, Malabar, Timor, &c. Lin. fl. zeyl. 169. Willd. spec. 2. p. 574. exclusive of Swartz's and Browne's synonymes.—Rheed. mal 2. t. 51. Cubospérmum palústre, Lour. coch. p. 275. J. adscéndens, Lin. mant. 69. does not differ from this unless in the pedicels being a little shorter, as will be seen by comparing the descriptions in Rees' cycl. by Smith. Capsule terete, an inch long. Flowers white, yellow at the base.

Creeping Jussiæa. Fl. Aug. Sep. Clt. 1817. Pl. fl. and cr.

15 J. SWARTZIA'NA (D. C. prod. 3. p. 54.) plant herbaceous, creeping, smooth in every part; leaves oblong, obtuse, petiolate; flowers pedicellate, furnished with 2 little scales at the base; tube of calyx terete, attenuated at the base; calycine lobes 5, lanceolate, acute, about equal in length to the petals, which are ovate. ♃. B. S. Native of the West Indies and Brazil, in marshes, bogs, and water. J. rèpens, Swartz, obs. p. 172. Oldenlándia, P. Browne, jam. 208. no. 3. Petals yellow. Very like *J. rèpens*, but differs in the leaves being oblong, not obovate, in the calyx being glabrous, not villous, and in the petals being smaller.

Swartz's Jussiæa. Pl. fl. and cr.

16 J. URUGUAYE'NSIS (St. Hil. fl. bras. 2. p. 264.) suffruticose, hairy; leaves linear-lanceolate, acute, mucronulate, quite entire, hairy; the mucrone glandular at the apex; calyx hairy; tube of calyx linear; calycine lobes 5, lanceolate, acute; capsule cylindrical, 5-ribbed; seeds subtriangular. ♃. B. S. Native of Brazil, in the province of Cisplatine, in the mud cast out by the river Uruguay, in that part of the province called Saltogrande. Petals yellow, obovate, emarginate.

Uraguay Jussiæa. Pl. 1½ foot.

17 J. RAMULÒSA (D. C. prod. 3. p. 54.) plant herbaceous, creeping; stem puberulous, much branched; branches pubescent, leafy; leaves linear-oblong, obtuse, glabrous; flowers on short pedicels, somewhat bicallous at the base; tube of calyx cylindrical, glabrous; calycine lobes 5, lanceolate, acute, about equal in length to the petals. ♃. B. S. Native of Cuba. Flowers of a shining yellow. Capsules twice the length of the leaves, terete, tapering to the base.

Branched Jussiæa. Pl. cr.

18 J. FLUI'TANS; leaves roundish-spatulate; peduncles axillary, very long, solitary, 1-flowered; flowers decandrous? ♃. W. S. Native of Maranham, floating in rivulets. Flowers yellow.

Floating Jussiæa. Pl. fl.

** *Flowers with a 4-cleft* (f. 98. *a.*) *calyx*, 4 *petals* (f. 98. *d.*), *and* 8 *stamens.*

19 J. INCLINA'TA (Lin. fil. suppl. p. 577.) erect, glabrous, rooting at the base; leaves petiolate, obovate, obtuse; peduncles 1-flowered, a little longer than the petioles; calycine lobes ovate, smaller than the petals. ⊙. B. S. Native of Surinam, in marshes. J. erécta, Lin. amœn. 8. p. 256. but not of his spec. Lam. dict. 3. p. 330. Petals yellow. Perhaps only an octandrous variety of *J. rèpens* or *J. Swartziàna.*

Inclinate-stemmed Jussiæa. Pl. 1 ft.

20 J. NA'TANS (Humb. et Bonpl. pl. equin. 1. p. 16. t. 3. β.) herbaceous, glabrous, floating, supported in the water by a bladder and large white spongy roots, which issue from the ramifications; leaves petiolate, nearly orbicular, quite entire or toothed; flowers pedunculate; lobes of calyx 4-5 acute, shorter than the petals, which are ovate. ♃. W. S. Native of New Granada, near Mompox, in pools near the river Magdalena. H. B. et Kunth, nov. gen. amer. 6. p. 99. Flowers white, yellow at the base, octandrous, and decandrous. Capsule cuneated.

Natant Jussiæa. Pl. fl.

21 J. SEDOÌDES (Humb. et Bonpl. pl. equin. 1. p. 13. t 3.) herbaceous, floating, rooting; leaves on long petioles, disposed in stellate tufts, ovate-rhomboid, obtuse, dentately crenated, clothed with adpressed down beneath; flowers pedicellate, almost bractless; lobes of calyx ovate-oblong, acute; petals roundish-obovate, longer than the lobes of the calyx. ♃. W. S. Native of New Granada, in stagnant water between Guadua and Ibague. H. B. et Kunth, nov. gen. amer. 6. p. 98. Flowers yellow. Capsule linear-clavate.

Stonecrop-like Jussiæa. Pl. floating.

22 J. SUBACAU'LIS (Pursh, fl. amer. sept. 1. p. 304.) herbaceous, creeping, glabrous; leaves linear-lanceolate, repandly toothed; flowers pedicellate; petals obovate; alternate filaments very short. ♃. B. F. Native of North America, on the banks of the Missouri. Flowers small, yellow, octandrous, solitary in the axils of the leaves.

Stemless Jussiæa. Pl. creeping.

23 J. ACUMINA'TA (Swartz, fl. ind. occ. p. 745.) plants herbaceous, ascending, erectish, nearly simple, glabrous; leaves on short peticles, broad-lanceolate, acuminated at both ends; flowers on short pedicels, bractless; lobes of calyx ovate-lanceolate; petals acute, spreading. ⊙. B. H. Native of the south of Jamaica, in low places, and in the island of Arowabisch, ex Meyer, prim. esseq. 173. Flowers small, yellow, octandrous, solitary in the axils of the leaves. Capsule elongated, tetragonal.

Acuminated-leaved Jussiæa. Pl. ascending.

24 J. LINIFO'LIA (Vahl. eclog. 2. p. 32.) herbaceous, erect,

glabrous; branches spreading, compressed, angular; leaves almost sessile, linear-lanceolate, acuminated at both ends; flowers almost sessile; lobes of calyx lanceolate, attenuated. ⊙. B. S. Native of South America. Flowers yellow. Specimens gathered about Demerara, in marshes, agree with the description of Vahl, except in the leaves being more lanceolate, in the capsule being 8-10 lines long, not an inch, and in the petals being obovate-oblong, length of the calyx. The specimens we have collected ourselves in Trinidad, Jamaica, Grand Cayman, and about the Havannah, as also in Brazil, agree perfectly with the plant described by Vahl.

Fax-leaved Jussiæa. Fl. July, Aug. Clt. 1824. Pl. 1 ft.

25 J. ERE'CTA (Lin. spec. 556. exclusive of syn. of Rumph. and fl. zeyl.) herbaceous, erect, glabrous, branched; stems nearly terete; branches rather angular; leaves on short petioles, lanceolate, acuminated at both ends; flowers sessile, bractless; lobes of calyx acuminated, about equal in length to the petals, which are obovate; capsule cylindrically tetragonal, constricted under the limb of the calyx. ♂. B. S. Native of South America, and all the West India islands, common. Gærtn. fruct. 159. t. 31. Smith in Rees' cycl. no. 8. exclusive of the synonyme of Rheede. Perhaps two plants are confused under the name of *J. erécta.* Perhaps J. ramòsa of Jacq. in Rchb. hort. bot. 1. t. 75. is distinct from this.

Var. α, Sebàna (D. C. prod. 3. p. 55.) leaves broad-lanceolate, much longer than the capsules.—Native about Demerara.—Seb. thes. 1. t. 26. f. 3.

Var. β, Plumeriàna (D. C. l. c.) leaves narrow-lanceolate, twice the length of the capsules. Native of the West Indies. J. sessiliflòra, Moc. et Sesse, fl. mex. icon. ined. is probably referrible to this plant. J. Onàgra, Mill. dict. no. 4. J. erécta, Swartz, obs. 173. Lam. ill. t. 280. f. 2.—Plum. ed. Burm. t. 175. f. 2.

Erect Jussiæa. Fl. July, Sept. Clt. 1739. Pl. 2 to 3 ft.

26 J. BLUMEA'NA (D. C. prod. 3. p. 55.) stem suffruticose, erect, striated, puberulous; leaves linear-lanceolate, rather puberulous; flowers almost sessile; calycine lobes oblong-lanceolate, ciliated; capsule cuneate-oblong, puberulous, about equal in length to the leaves. ♂. B. S. Native of Java. J. angustifòlia, Blum. bijdr. p. 1132. but not of Lam. Flowers yellow. Said to be nearly allied to *J. erécta.* There is also a variety of this plant with narrow leaves, which are crowded at the tops of the branches.

Blume's Jussiæa. Pl. 1 to 2 ft.

27 J. ALTI'SSIMA (Perr. in litt. ex D. C. prod. 3. p. 55.) herbaceous, erect, glabrous, branched; stem angular under the branches; leaves sessile, linear-lanceolate, tapering to both ends; flowers almost sessile, bractless; lobes of calyx acuminated, 3-nerved, exceeding the petals. ♂. B. S. Native of Senegal. Capsule tetragonal, 7-9 lines long.

Tallest Jussiæa. Pl. 3 to 4 feet.

28 J. TENUIFÒLIA (Nutt. in Sillim. journ. amer. 1822. p. 294.) leaves sessile, linear, glabrous, remote, few; flowers sessile, octandrous; capsule 4-angled. ⊙. B. F. Native of Eastern Florida.

Fine-leaved Jussiæa. Pl. 1 ft.

29 J. LINEA'RIS (Willd. spec. 2. p. 575.) stem erect, branched, smoothish; leaves linear, sessile, and are, as well as the branchlets, rather hispid; flowers sessile; lobes of calyx linear, acutish; tube cylindrical, slender and elongated. ⊙. B. S. Native of Guinea. Flowers small. Stem hard, woody, slender. Hairs on leaves short, scattered. Capsule puberulous when examined under a lens, 8-9 lines long, one-half shorter than the leaves.

Linear-leaved Jussiæa. Pl. 1 ft.

30 J. HYSSOPIFÒLIA ! herbaceous, erect; stems and branches angular, glabrous; leaves narrow-lanceolate, almost entire, membranous, glabrous; flowers solitary, axillary, pedicellate; lobes of calyx acute, longer than the petals. ⊙. B. S. Native of Guinea, in the Island of St. Thomas, in bogs and by the sides of rivers. Petals small, yellow. Sepals 4 or 5.

Hyssop-leaved Jussiæa. Pl. 1 ft.

31 J. TETRAGÒNA (Spreng. syst. 2. p. 231.) stem herbaceous, erect, simple, tetragonal; leaves alternate, almost sessile, linear-lanceolate, quite entire, glabrous; stigma quadrifid; capsule subcylindrical. ⊙. W. S. Native of China and Cochin-china, in water. Epilòbium tetragònum, Lour. coch. p. 225. exclusive of the synonymes. The seeds being naked, and the flowers yellow, indicate that it is not a species of *Epilòbium*, and the stigma being quadrifid indicates its being a species of *Œnothèra* according to Jussieu.

Tetragonal-stemmed Jussiæa. Pl. 2 feet.

32 J. ALA'TA; stem erect, branched, quadrangular; angles winged; leaves lanceolate; flowers pedicellate; lobes of calyx 4. ⊙. B. S. Native of Maranham, in boggy places. Flowers yellow.

Winged-stamened Jussiæa. Pl. 1 ft.

33 J. ANGUSTIFÒLIA (Lam. dict. 3. p. 331. ill. t. 280. f. 3.) herbaceous, erect, glabrous; leaves nearly sessile, linear-lanceolate, tapering to both ends; flowers on very short pedicels; lobes of calyx acuminated; tube cylindrical and elongated. ⊙. B. S. Native of Java and the Moluccas.—Rumph. amb. 6. t. 21. f. 1. Petals yellow, obovate, hardly longer than the calyx. There is a species which we have gathered in bogs in Maranham, and in the province of Bahia, which agrees in almost every particular with this [illegible]nt, unless that the leaves are more linear, and the flowers perfectly sessile.

Narrow-leaved Jussiæa. Pl. 1 ft.

34 J. SALICIFÒLIA (H. B. et Kunth, nov. gen. amer. 6. p. 99. t. 530.) herbaceous, erect, glabrous; leaves on short petioles, linear, elongated, acuminated, glabrous, puberulous on the nerve beneath; flowers on short pedicels; lobes of calyx ovate; tube elongated, cylindrical, rather angular. ♃. B. S. Native of New Spain, about Guadua. Flowers yellow, octandrous, and decandrous.

Willow-leaved Jussiæa. Pl. 1½ ft.

35 J. FRUTE'SCENS (Jacq. fil. sem. hort. vind. 1821.) erect, glabrous, suffrutescent at the base; branches and nerves of leaves clothed with adpressed pubescence; leaves almost sessile, lanceolate-linear, glandularly subcrenated; flowers on short pedicels; lobes of calyx ovate, acute, pubescent on the outside; tube cylindrical, 8-furrowed. ♄. B. S. Native country unknown. At the base of the leaves there are sessile glands in place of stipulas. Flowers yellow.

Shrubby Jussiæa. Fl. April, Aug. Clt. 1824. Sh. 1½ ft.

36 J. LONGIFÒLIA (D. C. rapp. pl. rar. 1822. in mem. soc. gen. 2. p. 2. p. 141. pl. rar. hort. gen. 1. p. 12. t. 4.) suffruticose, twiggy, glabrous; stems 3-4-angled; leaves nearly sessile, linear-lanceolate, very long and acute, smoothish, furnished with small glands at the margins beneath; flowers solitary, pedicellate, bibracteate at the base; calyx smoothish, with acute lobes, and a triangular tube; petals obovate, exceeding the lobes of the calyx; capsule clavate, 4-ribbed; seeds 1-celled. ♄. B. S. Native of Brazil, in the province of Rio Janeiro, on the banks of the river Parahyba; and in the province of St. Paul near Fauxina, in marshes. Rchb. hort. bot. 1. t. 57. Flowers yellow.

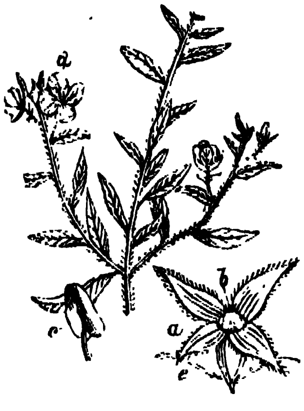
Long-leaved Jussiæa. Fl. June, July. Sh. 3 to 4 ft.

37 J. PALMITE'NSIS (St. Hil. fl. bras. 2. p. 261. t. 133.) shrubby; branches terete, glabrous; leaves lanceolate, acute, quite entire, glabrous above, but pubescent on the nerves beneath; flowers pedicellate; calyx puberulous, with acute lanceolate lobes, and a triangular tube; petals obovate, 3 times the length of the calyx; capsule clavate; seeds oblong, 1-celled.

♄. B. S. Native of Brazil, in the province of Minas Novas, in humid valleys near Piedade, and in the province of Minas Geraes in meadows, near Palmita. Petals yellow.

Palmita Jussiæa. Fl. June. Sh. 3 to 5 ft.

FIG. 98.



38 J. MYRTIFÒLIA (St. Hil. fl. bras. 2. p. 260.) shrubby, much branched; branches hairy, angularly furrowed at the apex; leaves lanceolate, acute, quite entire, glabrous above, but puberulous beneath; flowers pedicellate; calyx hairy, with an obconical tube and lanceolate acute lobes; petals obovate, slightly emarginate. ♄. B. S. Native of Brazil, in that part of the province of Minas Geraes called Minas Novas, in sand on the banks of the river Jiquitinhonha. Petals yellow.

Myrtle-leaved Jussiæa. Fl. May. Sh. 4 ft.

39 J. LANCEOLA'TA (St. Hil. fl. bras. 2. p. 259.) suffruticose; branches red, sulcately angular, puberulous above; leaves lanceolate, acute, quite entire, glabrous; flowers pedicellate; calyx pubescent, with an obconically quadrangular tube, and lanceolate acute lobes; petals obovate, exceeding the calyx; capsule obovate, 4-ribbed; seeds elliptic, 1-celled. ♄. B. S. Native of Brazil, near Salto Grande, not far from the town of St. Paul. Petals yellow.

Lanceolate-leaved Jussiæa. Sh. 1 ft.

40 J. CAPARÒSA (St. Hil. fl. bras. 2. p. 258.) shrubby; branches furrowed at the apex, beset with brownish pili; leaves oblong, ending in a short acumen, quite entire, hairy; flowers pedicellate; calyx hairy, with an obconical 4-ribbed tube, and lanceolate acute segments; petals obovate, slightly emarginate, exceeding the calyx; capsule obconical, obsoletely tetragonal; seeds elliptic, 1-celled. ♄. B. S. Native of the province of Minas Geraes, near the village of Sucuriu, where it is called *caparosa*. Petals yellow.

Caparosa Jussiæa. Sh.

41 J. E'LEGANS (St. Hil. fl. bras. 2. p. 257.) shrubby; branches pubescent and furrowed at the apex; leaves lanceolate, acuminated, obsoletely sinuated, hispid; flowers pedicellate; calyx pubescent, with an obconical 8-ribbed tube, and lanceolate acute lobes; petals obovate, exceeding the calyx. ♄. B. S. Native of Brazil, in the province of Rio Janeiro, at the river Parahyba, near the village of Uba. Flowers yellow.

Elegant Jussiæa. Fl. Oct. Sh. 1 to 2 ft.

42 J. LARUOTTEA'NA (St. Hil. fl. bras. 2. p. 256.) shrubby; branches angular, reddish, smoothish; leaves oblong-lanceolate, acute or rounded at the apex and ending in a short point, tapering to the base, obsoletely toothed, smoothish; calyx pubescent, with an obconical quadrangular 4-ribbed tube, and lanceolate acute ciliated lobes; petals obovate, exceeding the calyx; capsule obconical, 8-ribbed; seeds elliptic, 1-celled. ♄. B. S. Native of Brazil, in the province of Minas Geraes, near Padre-Bento, where it was collected by one Laruotte.

Laruotte's Jussiæa. Sh. 1 to 2 ft.

43 J. DECU'RRENS (D. C. prod. 3. p. 56.) herbaceous, erect, branched, glabrous; stems winged from the leaves running down them; leaves lanceolate; flowers rather pedicellate; pedicel furnished with 2 glands in the middle; lobes of calyx 3-5-nerved, acute; petals obovate, longer than the calyx; capsule turbinate, winged at the angles. ♃. W. F. Native of Georgia and Carolina, and probably of Virginia, in watery shady places. J. érecta, Abbot. insect. georg. t. 40. ex Pursh, fl. amer. sept. 1. p. 304. but not of Lin. Ludwígia Jussiæoìdes, Michx. fl. bor. amer. 1. p. 89. but not of Lam. Ludwígia decúrrens, Walt. car. 89. Ell. sketch. 1. p. 217. Flowers yellow. There are varieties of this species with ovate and linear-lanceolate leaves, and sessile and pedicellate flowers.

Decurrent-leaved Jussiæa. Pl. 1 ft.

44 J. PALU'STRIS (Meyer, prim. esseq. 173.) stem erect, suffruticose, winged; upper leaves lanceolate, lower ones rather spatulate, glabrous; pedicels short; lobes of calyx lanceolate, veined, about equal in length to the petals, which are oval; tube of calyx bluntly tetragonal. ♂. B. S. Native of marshes about Essequibo. Flowers yellow.

Marsh Jussiæa. Pl. 1 ft.

45 J. ANASTOMÒSANS (D. C. prod. 3. p. 56.) arboreous; branches deflexed, red, smoothish, angular towards the apex; leaves lanceolate, acute, quite entire, shining, smoothish; lateral nerves running into a parallel marginal one; flowers pedicellate; calyx smoothish, with an obconical quadrangular tube, and lanceolate acute lobes, furnished with 2 bracteas at the base; petals obovate, rounded, about equal in length to the calycine lobes. ♄. S. Native of Brazil, in the province of Minas Geraes, on the mountain called Serra de Nssa Snra Mui dos Uomens. Stem as thick as a man's arm. St. Hil. fl. bras. 2. p. 255. Flowers yellow.

Anastomosing-leaved Jussiæa. Sh. 10 to 12 ft.

46 J. NERVÒSA (Poir. suppl. 3. p. 199.) branches angular, and are, as well as the nerves of the leaves, beset with short velvety down; leaves sessile, lanceolate, acute, glabrous, with the nerves rather prominent beneath; pedicels 1-flowered, longer than the ovarium, furnished with 2 scales at the apex; lobes of calyx 5-nerved, acuminated, about equal in length to the tube, which is rather turbinate and angular. ♄. B. S. Native of Cayenne. Top of ovarium protruding into an 8-furrowed truncate cone.

Nerved-calyxed Jussiæa. Sh. 2 feet.

47 J. LIGUSTRIFÒLIA (H. B. et Kunth, nov. gen. amer. 6. p. 100.) herbaceous, erect, smoothish; leaves on short petioles, oblong, acute; pedicels 1-flowered, bibracteolate at the apex; lobes of calyx ovate, acute, 5-nerved; tube quadrangular, attenuated at the base; petals roundish, longer than the calyx. ♃.? B. S. Native of Mexico. Plum. ed. Burm. t. 175. f. 1. ex Kunth. Flowers yellow.

Privet-leaved Jussiæa. Pl. 1 to 2 ft.

48 J. MAYPURE'NSIS (H. B. et Kunth, nov. gen. amer. 6. p. 100. t. 531.) stem shrubby, glabrous; leaves on short petioles, oblong-lanceolate, acute, stiffish, puberulous on the nerves and veins beneath; pedicels 1-flowered, bibracteolate at the apex; lobes of calyx ovate, acute, somewhat 5-nerved, about equal in length to the petals, which are ovate; tube tetragonal, obconical. ♄. B. S. Native in humid places, on the banks of the Orinoco near Maypures. Petals yellow. Anthers twisted. Bracteoles linear.

Maypures Jussiæa. Pl. 1 to 2 ft.

49 J. OVALIFÒLIA (Sims, bot. mag. t. 2530.) plant erect, branched, clothed with villous pubescence; branches tetragonal, a little winged; leaves nearly sessile, elliptic, acuminated, nerved; flowers sessile; lobes of calyx ovate, acuminated, 3-nerved, about equal in length to the petals, which are orbicular; tube elongated, tetragonal. ♂. B. S. Native of Madagascar. Flowers yellow. Genitals very short.

Oval-leaved Jussiæa. Fl. Aug. Sep. Clt. 1810. Pl. 1 to 2 ft.

50 J. BURMA'NNI (D. C. prod. 3. p. 57.) stem erect, nearly terete; when young rather villous, but at length glabrous; leaves lanceolate, acuminated at both ends; flowers on short pedicels, bibracteolate; lobes of calyx ovate, acute, 3-nerved; tube and

capsule cylindrical, pubescent, slender.—Native of the East Indies. Ludwígia perénnis, Burm. fl. ind. 37. J. suffruticòsa, Lin. spec. 553.? Blume, bijdr. p. 1133. Upper leaves alternate. Petals obovate, emarginate, flabellately pinnate, a little longer than the calyx. Filaments villous at the base. Allied to *J. villòsa*.

Burmann's Jussiæa. Pl. 1 ft.

51 J. villòsa (Lam. dict. 3. p. 331.) stem suffruticose, villous; leaves almost sessile, lanceolate, rather villous on both surfaces; flowers sessile; calyx villous; lobes lanceolate; tube cylindrical. ♄. B. S. Native of the East Indies and the Island of Timor. J. exaltàta, Roxb. hort. beng. 33. Hamilt. in Lin. trans. 14. p. 303. Andr. bot. rep. 621.—Rheed. mal. 2. t. 50. but the capsule is dilated at the apex in the figure of Rheede, not cylindrical. The nerves of the capsule are 8, filiform and permanent, as well as in the two following species.

Villous Jussiæa. Pl. 1½ ft.

52 J. octone'rvia (Lam. dict. 3. p. 332.) herbaceous, erect, glabrous; leaves narrow-lanceolate, acuminated; flowers sessile; lobes of calyx lanceolate, acute; tube cylindrical, 8-nerved, striated, shorter than the floral leaves; petals obovate, emarginate, exceeding the calycine lobes. ♂. B. S. Native of the West Indies, in humid or watery places. Œnothèra octovàlvis, Jacq. amer. 102. t. 70. exclusive of the synonyme of Plum. Lam. ill. t. 280. f. 1. Flowers yellow.

Eight-nerved-calyxed Jussiæa. Pl. 2 to 3 ft.

53 J. octofìla (D. C. prod. 3. p. 57.) herbaceous, erect, downy; leaves lanceolate, acuminated; flowers on short pedicels, furnished with 2 bracteoles at the top of the pedicel, or on the tube; lobes of calyx ovate-lanceolate, 5-nerved; tube cylindrically obconical, 8-nerved, attenuated at the base.—Native of the West Indies and Mexico, in watery places. Plum. ed. Burm. t. 175. f. 1. J. octovàlvis, Swartz, obs. 142. The 8 nerves of the capsule are permanent and filiform. This species differs from the preceding in being downy, not glabrous, in the capsule being attenuated at the base, not cylindrical, in the flowers being pedicellate, not sessile, and furnished with two bracteas, not naked. Petals obovate, longer than the calyx.

Eight-threaded Jussiæa. Pl. 1½ ft.

54 J. scabra (Willd. enum. 1. p. 449.) stem suffruticose at the base, hairy; branches angular at the apex; leaves oblong, acute, quite entire, hairy; flowers almost sessile; calyx hairy, with a linear tetragonal tube, and lanceolate acute lobes; petals obovate, 3 times the length of the calyx; capsule linear, 8-ribbed; seeds roundish, 2-celled. ♄. B. S. Native of Brazil, in the province of Rio Janeiro, at the river Parahyba near Uba. J. hírta, Lam. dict. 3. p. 331. but not of Vahl.—J. Marcgràvii, D. C. prod. 3. p. 58.—Camaranbàia, Marcgr. bras. p. 30. with a figure.

Scabrous Jussiæa. Fl. Oct. Clt. 1816. Sh. 2 to 3 ft.

55 J. hi'rta (Vahl. eclog. 2. p. 31.) shrubby, erect, hairy; leaves on very short petioles, lanceolate, attenuated, hairy beneath; pedicels bractless, shorter than the ovarium; lobes of calyx ovate, acute, 5-7-nerved at the base; tube obconical, 4-nerved; petals obovate, longer than the calyx. ♄. B. S. Native of South America. Œnothèra hírta, Lin. spec. 491.—Plum. ed. Burm. t. 174. f. 2. Flowers yellow.

Hairy Jussiæa. Fl. July, Aug. Clt. 1816. Sh. 1 to 2 ft.

56 J. macroca'rpa (H. B. et Kunth, nov. gen. amer. 6. p. 102. t. 533.) suffruticose, erect; stem and branches villous; leaves oblong, acuminated, narrowed at the base, clothed with adpressed hairs on both surfaces; pedicels length of the ovarium, bibracteolate at the apex; lobes of calyx ovate, acute, 5-7-nerved; tube cylindrically oblong, attenuated at the base, obconical; petals obovate, longer than the calyx. ♄. B. S. Native of New Granada, in humid places near Guadua. This species differs from the preceding in the pedicels being furnished with two caducous foliaceous linear bracteas, but perhaps only a variety.

Long-fruited Jussiæa. Shrub 1 to 2 feet.

57 J. parviflòra (St. Hil. fl. bras. 2. p. 263.) suffruticose; branches downy, and rather angular at the apex; leaves linear-lanceolate, acute, quite entire, rather scabrous; flowers almost sessile; calyx puberulous, with a narrow tetragonal tube, and lanceolate acute lobes; petals obovate, equal in length to the lobes of the calyx, pale yellow; capsule linear, 8-ribbed; seeds roundish, bilocular. ♄. B. S. Native of Brazil, in that part of the province of Minas Geraes called Minas Novas, in sand on the banks of the river Jiquitinhonha, also in marshes. Petals pale yellow.

Small-flowered Jussiæa. Sh. 2 ft.

58 J. seri'cea (St. Hil. fl. bras. 2. p. 560.) suffruticose, branched; branches angular at the apex, and densely clothed with yellowish pili; leaves lanceolate, acute, quite entire, clothed with silky tomentum on both surfaces; flowers pedicellate; calyx clothed with silky pili, with an obconical 4-ribbed tube, and lanceolate acute lobes; petals obcordate. ♄. B. S. Native of Brazil, in the province of Minas Geraes. Petals yellow.

Silky Jussiæa. Sh. 1 to 2 ft.

59 J. tomentòsa (St. Hil. fl. bras. 2. p. 254.) shrubby, a little branched; branches angular at the apex, and densely clothed with brownish tomentum; leaves obovate or elliptic, mucronulate, dentately serrated, pilose above, but densely clothed with grey tomentum beneath; flowers pedicellate; calyx hairy, with an obconical obsoletely 5-furrowed tube, and lanceolate acute segments; petals obovate, slightly emarginate; capsule obconical; seeds elliptic, 1-celled. ♄. B. S. Native of Brazil, in the province of Minas Geraes, near the town of Paracatu. Flowers yellow, crowded at the tops of the branches. In the character the calyx is said to be 4-cleft, but in the description 5-cleft; the last is most probably correct, as the stamens are said to be 10; if such be the case the plant should have been ranged in the first section.

Tomentose Jussiæa. Sh. 3 ft.

60 J. móllis (H. B. et Kunth, nov. gen. amer. 6. p. 102.) herbaceous? erect; branches villous; leaves ovate, acute at the base and apex, hairy on both surfaces, soft beneath; pedicels villous; calyx villous; lobes ovate, acute; tube obovate. ♃. B. S. Native of Cumana, in humid places. Petals and stamens unknown.

Soft Jussiæa. Pl. 1 ft.

61 J. velutìna; herbaceous, erect, branched, downy; leaves elliptic-lanceolate, attenuated at both ends; flowers on short pedicels, almost sessile. ♃. B. S. Native of Guinea, in the Island of St. Thomas, in marshes and on rivers' banks. Flowers yellow, middle-sized.

Velvety Jussiæa. Pl. 1½ ft.

62 J. fruticòsa (D. C. prod. 3. p. 57.) stem shrubby, much branched; leaves lanceolate, quite entire, alternate, hairy; flowers pedicellate. ♄. B. S. Native of Cochin-china, in cultivated fields. Œnothèra fruticòsa, Lour. coch. p. 226. Flowers yellow. Calyx columnar, crowned by the calyx. Seed naked. This plant is referred by Sprengel to J. suffruticòsa of Lin. but that species is hardly known.

Shrubby Jussiæa. Sh. 6 feet.

63 J. suffruticòsa (Lin. spec. 555.) erect, villous; flowers pedicellate, octandrous. ♃. B. S. Native of the East Indies. The synonymes attached to this species by Linnæus are perfectly erroneous.

Suffruticose Jussiæa. Fl. Aug. Sep. Clt. 1808. Pl. 1½ ft.

† *Species hardly known.*

64 J. hirsu'ta (Mill. dict. no. 5.) stem erect, simple, hairy;

leaves lanceolate; flowers large, sessile, yellow, decandrous. ♄. B. S. Native about Campeachy.

Hairy Jussiæa. Sh. 3 ft.

65 J. PUBE'SCENS (Lin. spec. 555.) erect, villous; flowers sessile, decandrous, pentapetalous.—Native of South America.

Pubescent Jussiæa. Pl. 2 ft.

66 J. TENE'LLA (Burm. fl. ind. p. 103. t. 35. f. 5.) glabrous; leaves opposite, linear-lanceolate; flowers pedicellate, decandrous, pentapetalous.—Native of Java.

Weak Jussiæa. Pl. 1 ft.

Cult. All the species of this genus are either water or bog plants, and therefore require to be kept moist. The species, natives of bogs, may be grown in pots, under which may be placed pans of water. The floating aquatic kinds should be grown in tubs, filled with water, with a layer of mould in the bottom, in which the plants may root. All the species, natives of warm climates, require a great degree of heat to bring them to flower. The *J. grandiflòra* is the only hardy aquatic kind; it grows best when planted in a shallow pond or rivulet.

XI. PRIEU'REA (this genus is dedicated to M. Le Prieur, the discoverer of the plant at Senegal). D. C. prod. 3. p. 58.

LIN. SYST. *Triándria, Monogýnia.* Tube of calyx cylindrical, elongated, adhering to the ovarium; limb 3-parted; segments lanceolate, acute, permanent. Petals 3, small. Stamens 3, alternating with the lobes of the calyx; filaments filiform, short. Style short. Seeds small.—Herb glabrous, dwarf, branched, of an obscure green colour. Leaves alternate, oblong-linear, acute, entire. Flowers axillary, solitary, on very short pedicels.

1 P. SENEGALE'NSIS (D. C. l. c.). Native of Senegal, in bogs. Habit almost of *Jussiæ̀a ramulòsa.*

Senegal Prieurea. Pl. dwarf.

Cult. For culture and propagation see *Jussiæ̀a.*

XII. LUDWI'GIA (so named by Linnæus in honour of Christian Gottlieb Ludwig, once Professor of Medicine at Leipsic, author of Definitiones Plantarum, 1 vol. 8vo. Leipsic, 1737, and numerous other botanical works). Roxb. fl. ind. 1. p. 440. D. C. prod. 3. p. 58.—Ludwígia species of Lin. and others.

LIN. SYST. *Tetrándria, Monogýnia.* Tube of calyx cylindrical, adhering to the ovarium; limb 4-parted, the lobes almost permanent. Petals 4, alternating with the lobes of the calyx. Stamens 4, opposite the lobes of the calyx. Apex of ovarium or base of style pyramidal, tetragonal, 4-furrowed, glabrous in the furrows, and villous on the angles; the stamens lying in the furrows. Style filiform, pyramidal from the apex. Stigma capitate, 4-furrowed, or 4-lobed. Capsule turbinate, or very much elongated, 4-celled, 4-valved, crowned by a cone-formed pyramid. Seeds numerous.—Branched Indian herbs. Leaves alternate, linear, on very short petioles, quite entire. Flowers axillary, almost sessile, yellow, furnished with two bracteoles at the base of the calyx. This genus is intermediate between *Jussiæ̀a* and *Isnárdia;* from the former, it is distinguished in the stamens being equal in number to the petals, not double that number; from the latter, in the capsule being elongated and ending in a cone-formed pyramid at the base of the style. The genus *Ludwígia* of Linnæus is the same as *Isnárdia.*

1 L. JUSSIÆOIDES (Lam. dict. 3. p. 588. but not of Michx.) erect, glabrous; leaves lanceolate-linear, acuminated at both ends; flowers pedicellate, almost bractless; capsule elongated, nearly terete.—Native of the Mauritius and the East Indies. Stems terete, branched. Branches and leaves puberulous, when examined under a lens. Flower-bud ovate, acuminated. Capsule an inch long, but hardly a line in breadth. Perhaps the same as *L. alternifòlia* of Burm. exclusive of the synonymes.

Jussiæa-like Ludwigia. Pl. 1 foot.

2 L. FRUTICÒSA (Blume, bijdr. p. 1133.) stem erect, glabrous, shrubby, pentagonal; leaves lanceolate, bluntly acuminated, with finely ciliated margins; flowers twin or crowded, axillary, sessile; capsule linear, tetragonal. ♄. B. S. Native of Java, near rivers and rivulets. There is a variety with narrow leaves. Allied to *L. Jussiæoìdes.*

Shrubby Ludwigia. Shrub 1 foot?

3 L. LEUCORHI'ZA (Blume, l. c.) stem erect, glabrous, herbaceous, pentagonal; leaves alternate, linear-lanceolate, bluntish, with the margins finely ciliated; flowers at first capitate, but at length axillary, solitary, and sessile; capsule elongated, clavate, tetragonal.—Native of Java, about Buitenzorg at the river Tjelinong. Root white, fusiform. Allied to *L. fruticòsa.*

White-rooted Ludwigia. Pl. ½ foot.

4 L. LYTHROÌDES (Blum. bijdr. 1134.) stems erect, glabrous, pentagonal; leaves linear, bluntish; flowers pedicellate, furnished with 2 bracteas at the top of the pedicels; capsule tetragonal, rather turbinate, short.—Native of the East Indies. Branches angular. Leaves oblong-linear, acute at the base. Bracteas one half shorter than the capsule. Pyramid of ovarium depressed at the base of the style. Stigma large, 4-lobed.

Lythrum-like Ludwigia. Pl. ½ foot.

5 L. ERIGA'TA (Lin. mant. p. 40.) stem erect, smooth; leaves alternate, lanceolate; pedicels usually tern, 1-flowered; capsule subcubical, 4-angled; petals small. ⊙. W. H. Native of the East Indies. L. triflòra, Lam. dict. 3. p. 613. L. alternifòlia, Burm. fl. ind. p. 36. exclusive of the synonymes. There are two plants in Burmann's herbarium under this name, one referrible to *L. Jussiæoìdes* and the other *L. erigàta.*

Erigated Ludwigia. Pl. 1 foot.

6 L. PARVIFLÒRA (Roxb. fl. ind. 1. p. 440.) diffuse, glabrous; flowers sessile or on short pedicels, bibracteolate at the base; capsule linear, somewhat tetragonal. ⊙. B. H. Native of Bengal. Plant small, branched. Petals oblong, length of the calycine lobes. Bracteoles small.

Small-flowered Ludwigia. Fl. July, Aug. Clt. 1825. Pl. ½ foot.

7 L. DIFFU'SA (Hamilt. in Lin. trans. 14. p. 301.) diffuse, glabrous; leaves lanceolate; flowers almost sessile; capsule prismatic, tetragonal; angles blunt; peduncles one half shorter than the leaves. ⊙. W. H. Native of the East Indies, in water. Rheed. mal. 2. t. 49. Jussiæ'a caryophyllæ'a, var. *α*. Lam. dict. 3. p. 331.

Diffuse Ludwigia. Pl. diffuse.

8 L. PROSTRA'TA (Roxb. fl. ind. 1. p. 440.) lower branches prostrate and rooting; flowers sessile, solitary, or numerous in the axils of the leaves; capsules filiform; seeds disposed in one series in each cell. ⊙. H. Native of Pegu.

Prostrate Ludwigia. Fl. Jul. Aug. Clt. 1816. Pl. 1 to 2 ft.

† *Species hardly known.*

9 L. PERE'NNIS (Lin. spec. ed. 2. p. 173.) flowers pedicellate; capsule cylindrical; stems diffuse; leaves lanceolate. ♃. W. S. Native of the East Indies, and Ceylon. Ludwígia, Lin. fl. zeyl. no. 66. Ludw. oppositifòlia, Lin. syst. veg. p. 135. This species is hardly known, as Linnæus, in his spec. pl. says the leaves are opposite, and in his fl. zeyl. alternate, and cites the figure in Rheed. mal. 2. t. 49. for his plant, and at the same time excludes it from his mant.

Perennial Ludwigia. Pl. prostrate.

10 L. TRIFLÒRA (Burm. fl. ind. p. 37.) erect, herbaceous,

smooth; leaves opposite or tern, petiolate, ovate-lanceolate; flowers nearly terminal, pedicellate. ⊙.? H. Native of Java. Isnárdia trifòlia, Poir. suppl. 3. p. 188. There is no specimen of this plant in the herbarium of Burmann, and therefore the plant is truly doubtful.

Three-flowered Ludwigia. Pl. 1 foot.

Cult. None of the species of *Ludwígia* are worth cultivating, unless in botanic gardens. The perennial species should be grown in small pots, placed in pans of water. The seeds of annual species may be reared in a hot-bed, and afterwards planted out in the open border, in a moist situation.

XIII. ISNA'RDIA (so named by Linnæus in memory of M. Antoine Dante Isnard, member of the Academy of Sciences, and who published descriptions of some plants in their memoirs for 1716. &c.). D. C. prod. 3. p. 59.—Isnárdia and Ludwígia, Lin. gen. no. 156. and 153. Juss. gen. p. 333. and p. 319. Lam. ill. t. 77.—Ludwígia, Ell. sketch. 1. p. 214. Spreng. syst. 1. p. 444. but not of Roxb.—Dántia, Du Pet. Th. gen. p. 49.

Lin. syst. *Tetrándria, Monogýnia.* Tube of calyx ovate or subcylindrical (f. 99. *a. d.*), short, adhering to the ovarium; limb 4-parted, permanent (f. 99. *b.*). Petals sometimes 4, alternating with the lobes of the calyx, sometimes only rudiments of petals, and sometimes wanting altogether. Stamens 4 (f. 99. *c.*) in front of the calycine lobes. Style filiform from the base, deciduous; stigma capitate. Capsule obovate or nearly cylindrical (f. 69. *f.*), tetragonal, 4-valved, 4-celled, many-seeded, opening at the cells.—Aquatic or marsh herbs. Leaves entire, alternate, or opposite. Flowers axillary, sessile.

Sect. I. Ludwigia'ria (see *Ludwígia* for derivation). D. C. prod. 3. p. 60.—Ludwígia, Lin. Petals 4, sometimes larger than the calycine lobes, or equal in length to them, and sometimes smaller.

Leaves alternate.

1 I. ALTERNIFÒLIA (D. C. prod. 3. p. 66.) **stem erect, branched, smoothish; leaves alternate, lanceolate, rather scabrous on the margins, and hoary beneath; capsule obovate-globose, tetragonal, with the angles winged; calycine lobes large, coloured; petals a little longer than the calyx. ♃. B. H. Native of Virginia and Carolina, in marshes.** Pluk. alm. t. 203. f. 2. amalth. t. 412. f. 1. **Ludwígia alternifòlia, Lin. spec. 173. Lam. ill. t. 77. Gærtn. fr. 1. p. 31. f. 8.** Ludwígia macrocárpa, Michx. fl. bor. amer. 1. p. 89. Ludwígia ramosíssima, Walt. Ludwígia microcárpa, Link. enum. p. 141. Habit of *Jussiæ̀a octándra.* Petals oval, yellow. Root emetic, and is called *Bowman's root.*

Var. β, *salicifòlia* (D. C. l. c.) **flowers on very short pedicels. ♃. B. H. Native of Carolina. Ludwígia salicifòlia, Poir. suppl. 3. p. 512.** Lateral nerves of leaves confluent near the margins, giving the leaves the appearance of being 3-nerved.

Var. γ, *uniflòra* (D. C. l. c.) **stem simple; flower terminal.—Native of New Jersey. Ludwígia uniflòra, Rafin. in Desv. journ. bot. 1. p. 224.**

Alternate-leaved Isnardia. Fl. June, Jul. Clt. 1752. Pl. 2 ft.

2 I. LINEA'RIS (D. C. prod. l. c.) **stem erect, branched, glabrous, angular above; leaves alternate, linear, acute, glabrous; capsule oblong-turbinate, somewhat tetragonal, longer than the lobes of the calyx, which are linear-lanceolate; petals longer than the calyx. ⊙. W. H. Native of Carolina, in ditches and marshes. Ludwígia lineàris, Walt. car. p. 89. Pursh, fl. amer. sept. 1. p. 110. Ell. sketch. 1. p. 215. Ludwígia angustifòlia, Michx. fl. bor. amer. 1. p. 88. Ludwígia angustifòlia β, Poir. suppl. 3. p. 513.** Flowers sessile, solitary, axillary. Petals obovate, yellow.

Linear-leaved Isnardia. Pl. 2 to 5 feet.

3 I. VIRGA'TA (D. C. l. c.) **stem erect, twiggy, rather pubescent; leaves linear, obtuse, glabrous; flowers pedicellate, disposed in an elongated, spicate, nearly naked, raceme; capsule globose, tetragonal; petals length of calyx. ♃. H. Native of Lower Carolina, in dry sandy woods. Ludwígia virgàta, Michx. fl. bor. amer. 1. p. 89.** Ludwígia lùtea, Bosc. ined. Ludwígia virgàta, Ell. sketch. 1. p. 216. is perhaps different. Petals yellow. Lobes of calyx, when in flower, longer than the tube.

Twiggy Isnardia. Pl. 1 foot.

4 I. HIRSU'TA (Rœm. et Schultes, syst. 3. p. 477.) **stem erect, branched, rather diffuse, hairy; leaves alternate, lanceolate, rather hairy on both surfaces; capsule globose, tetragonal; petals rather longer than the calyx. ♃. B. H. Native from New Jersey to Carolina, in swamps. Ludwígia pilòsa, Walt. car. 89. Ell. sketch. 1. p. 216.** Lam. dict. 3. p. 587. Flowers axillary, pedicellate, yellow.

Var. β, *permóllis* (D. C. prod. 3. p. 60.) leaves obtuse; flowers on short pedicels. ♃. B. H. Ludwígia permóllis, Bart. fl. p. 52.

Hairy Isnardia. Pl. 2 feet.

5 I. MÓLLIS (Poir. suppl. 3. p. 188.) **stem erect, much branched, villous; leaves lanceolate-oblong; flowers rather crowded; petals small, shorter than the calyx; capsule globose. ♃. B. H. Native of Carolina; frequent in bogs. Ludwígia móllis, Michx. fl. b[illegible] amer. 1. p. 90. Ell. sketch. 1. p. 214.** Ludwígia rùdis, W[illegible] car. p. 89. Ludwígia hirtélla, Rafin. med. rap. 5. p. 356.

Soft Isnardia. Pl. 1 to 2 feet.

6 I. CAPITA'TA (D. C. prod. 3. p. 60.) **stem erect, twiggy, glabrous, but the stolons are creeping and pubescent; leaves alternate, linear-lanceolate, glabrous, acute at the apex and rounded at the base; heads spicate, terminal; petals shorter than the calyx; capsule nearly globose; calycine lobes short. ♃. B. H. Native of Lower Carolina, in swamps. Ludwígia capitàta, Michx. fl. bor. amer. 1. p. 90.** Ludwígia suffruticòsa, Walt. car. p. 90. Petals yellow. Roots creeping.

Capitate-flowered Isnardia. Pl. ½ to 1 foot.

* * *Leaves opposite.*

7 I. PEDUNCULÒSA (D. C. prod. 3. p. 60.) **stems procumbent, rooting, pubescent; leaves opposite, lanceolate; pedicels axillary, very long; capsule oblong-clavate; petals exceeding the calycine lobes, which are lanceolate. ♃. B. H. Native of Virginia and Lower Carolina, in swamps near the sea. Ludwígia pedunculòsa, Michx. fl. bor. amer. 1. p. 88. Ell. sketch. 1. p. 215.** Ludwígia acuàta, Walt. fl. car. 86. Petals yellow.

Stalked-flowered Isnardia. Pl. procumbent.

8 I. RE'PENS (D. C. l. c.) **stems creeping, glabrous; leaves opposite, obovate; pedicels axillary, shorter than the leaves; petals ovate, much smaller than the calyx; capsule oblong, tetragonal. ♃. B. S. Native of Jamaica, among stones on the banks of rivers.** Habit of *I. palústris.* **Ludwígia rèpens, Swartz, fl. ind. occ. 1. p. 273. icon. t. 8.**

Creeping Isnardia. Pl. creeping.

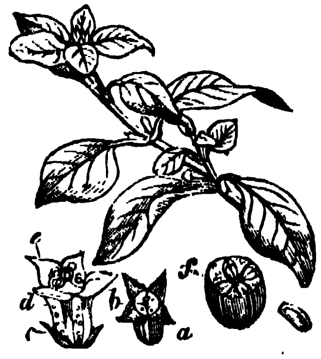
Sect. II. Da'ntia (see genus for the derivation). D. C. prod. 3. p. 61.—Dántia, Pet. Th. gen. 49.—Isnárdia, Lin. gen. 156. Petals wanting.

* *Leaves opposite.*

9 I. PALU'STRIS (Lin. spec. 175.) **stems procumbent, rooting, glabrous; leaves opposite, ovate, acute; flowers axillary, soli-**

tary, sessile, apetalous. ⊙. W. H. Native of Europe, Siberia, and Persia, in marshes and slow running water; in England, in a pool at Buxstead, Sussex. Schkuhr, handb. 1. t. 25. Hook. in engl. bot. suppl. t. 2593. Dántia palústris, Pet. Th. l.c. (f. 99.)

FIG. 99.



Var, β, *Americàna* (D.C. l. c.) leaves more acuminated at both ends. ⊙.W. H. Native of North America, in marshes and water, from Canada to Georgia; and of Mexico. Ludwígia apétala, Walt. car. 89. Ludwígia nítida, Michx. L. palústris, Torrey.

Marsh Isnardia. Fl. July. Britain. Pl. creeping.

* * *Leaves alternate.*

10 I. alа'ta (D. C. prod. 3. p. 61.) stems diffuse, branched, glabrous, distinctly angular and winged; leaves lanceolate-cuneated, decurrent, glabrous; flowers sessile, axillary, apetalous; capsule cubical, a little winged. ♃. B. H. Native of North America, in Sullivan Island. Ludwígia alàta, Ell. sketch. 1. p. 212.

Winged-stemmed Isnardia. Pl. diffuse.

11 I. microca'rpa (Poir. suppl. 3. p. 188.) stems procumbent, a little winged, quite smooth; leaves alternate, obovate-spatulate, obscurely glandular-toothed on the margins; flowers axillary, sessile, apetalous; capsule small, rather square. ⊙. B. H. Native of Lower Carolina, in swamps. Ludwígia microcárpa, Michx. fl. bor. amer. 1. p. 88. Ludwígia glandulòsa, Pursh. fl. bor. amer. 1. p. 111. Habit almost of a species of *Ammània.*

Small-fruited Isnardia. Pl. procumbent.

12 I. sphæroca'rpa (D. C. prod. 3. p. 61.) stem erect, branched, glabrous, hardly angular; leaves alternate, linear-lanceolate, acute at both ends, when young rather downy; flowers axillary, sessile, apetalous; capsule globose, small, pubescent. ♃. B. H. Native of South Carolina, about Orangeburgh. Ludwígia sphærocárpa, Ell. sketch. 1. p. 213.

Round-fruited Isnardia. Pl. ½ foot.

13 I. cyli'ndrica (D. C. l. c.) stem erect, branched, glabrous, subangular; leaves alternate, lanceolate, hardly denticulated; flowers axillary, sessile; lobes of calyx subserrated; capsule cylindrical. ♃. B. H. Native of Georgia, and perhaps of South Carolina. Ludwígia cylíndrica, Ell. sketch. 1. p. 13. Jussiæ'a brachycárpa, Lam. dict. 3. p. 331. Ludwígia heterophy'lla, Poir. suppl. 3. p. 512.?

Cylindrical-fruited Isnardia. Pl. 1 foot.

14 I. lanceola'ta (D. C. prod. 3. p. 61.) stem erect, twiggy, angular, glabrous; leaves narrow-lanceolate, glabrous, rather decurrent; flowers sessile, axillary, apetalous; capsule cubical, winged. ♃. B. H. Native of Georgia and Carolina, in marshes. Ludwígia lanceolàta, Ell. sketch. 1. p. 213.

Lanceolate-leaved Isnardia. Pl. 1 foot.

† *Species hardly known.*

15 I.? ramósa (D. C. prod. 3. p. 61.) stems procumbent, rooting, branched, glabrous; leaves opposite, linear-lanceolate; flowers nearly sessile, axillary. ♃. B. H. Native country unknown. Ludwígia ramosíssima, Roth. cat. 3. p. 24.? but not of Walt. Petals white, ex Willd. one half shorter than the calyx, ex Roth. Capsule elliptic, ex Willd. tetragonal, ex Roth. Stipulas joined to the leaves, ex Roth. Perhaps the plant of Willd. is the same as that of Roth.

Branched Isnardia. Pl. creeping.

16 I. auranti'aca (D. C. l. c.) stem erect, branched; leaves sessile, ovate-lanceolate, alternate, acute, glabrous; flowers axillary; petals length of calyx.—Native of Newcastle, Delaware, Chester, and Pennsylvania, in North America. Ludwígia aurantíaca, Rafin. in Desv. journ. 1. p. 224. Flowers orange-coloured. The rest unknown.

Orange-coloured-flowered Isnardia. Pl. 1 to 2 feet.

Cult. None of the species are worth cultivating, except in botanical gardens. Their culture and propagation is the same as that for *Ludwigia*, see p. 697.

Tribe V.

CIRCÆ'EÆ (plants agreeing with *Circæ'a* in important characters). D. C. prod. 3. p. 61. Tube of calyx not drawn out beyond the ovarium, but dividing immediately (f. 100. *a.*), deciduous. Fruit capsular, ovate-globose (f. 100. *e.*). Stamens 2, one of which is usually converted into a petal (f. 100. *b.*).—Herbs or subshrubs. Leaves opposite, petiolate, cordate, or ovate. Flowers racemose.

XIV. LOPE'ZIA (in honour of Thomas Lopez, a Spanish botanist, who is said to have directed his attention to the natural history of the New World). Cav. icon. 1. p. 12. t. 18. Juss. gen. 3. p. 30. t. 30. f. 4. Schrank, pl. rar. hort. mon. t. 20. nov. act. bonn. 9. p. 90. D. C. prod. 3. p. 62.—Pisaùra, Bonat. mon. 1793.

Lin. syst. *Monándria, Monogýnia.* Limb of calyx 4-parted (f. 100. *g.*), deciduous. Petals 4, irregular (f. 100. *h.*). Stamens 2, only 1 of which bears an anther (f. 100. *c.*), the other opposite, sterile, petal-formed (f. 100. *b.*), usually of a different colour from the true petals. Stigma capitate (f. 100. *d.*). Capsule naked, subglobose (f. 100. *e.*), 4-celled, divided into 4 valves at the apex of the cells; valves adnate to the central placenta by the dissepiments. Seeds small, numerous.—Erect herbs or subshrubs. Leaves toothed, alternate, rarely opposite. Racemes terminating the stem and branches. Flowers small, pedicellate, purple, or red.

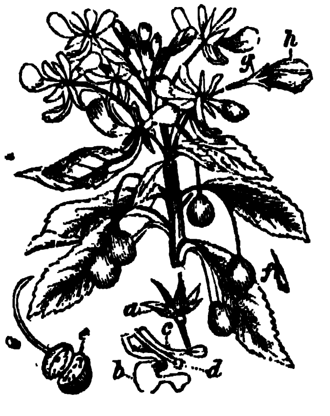
1 L. racemòsa (Cav. icon. 1. p. 12. t. 18.) herbaceous, nearly glabrous; leaves alternate, ovate-lanceolate, serrated, tapering to the base; racemes terminating the branches; bracteas much shorter than the pedicels. ⊙. H. Native of Mexico. Curt. bot. mag. 254. Bonpl. nav. t. 25. L. Mexicàna, Jacq. icon. rar. t. 203. Pisaùra automórpha, Bonato, mon. 1793. with a figure. Sterile stamen white. Petioles ciliated.

Racemose-flowered Lopezia. Fl. Aug. Oct. Clt. 1792. Pl. 1 to 1½ foot.

2 L. corda'ta (Horn. hort. hafn. add. p. 949.) plant glabrous; branches sulcately angular; leaves alternate, roundish-ovate, cordate, rather ciliated. ⊙. H. Native of Mexico?

Cordate-leaved Lopezia. Fl. Jul. Sept. Clt. 1821. Pl. 1½ ft.

FIG. 100.



3 L. corona'ta (Andr. bot. rep. 551.) plant glabrous; branches angular; leaves alternate, ovate, serrated, attenuated at the base; racemes terminating the branches; lower bracteas exceeding the pedicels. ⊙. H. Native of Mexico. Jacq. fil. eclog. t. 110. L. axillàris, Schweigger, in Kœnigsb. arch. nat. 1812. p. 236. L. minùta, Lag. gen. et spec. 1. no. 1. L. Mexicàna β, coronàta, D. C. hort. monsp. 1813. p. 39. Sterile stamen white.

Crown-flowered Lopezia. Fl. July, Sept. Clt. 1804. Pl. 1½ ft.

4 L. mi'nima (Lag. ex Schrank,

nov. act. bonn. 9. p. 192.) plant glabrous; stem tetragonal, nearly simple; leaves ovate, acute, sharply denticulated, somewhat acuminated, for the most part opposite, but the upper ones are alternate; racemes short. ⊙. H. Native of Mexico. Sterile stamen white.

Small Lopezia. Pl. ½ foot.

5 L. OPPOSITIFÒLIA (Lag. nov. gen. et spec. p. 1.) plant glabrous; leaves ovate, dentately serrated, for the most part opposite, but the upper ones are scattered; racemes terminating the branches; upper flowers nearly leafless. ⊙. H. Native of New Spain. Schrank, nov. act. bonn. 9. p. 91. L. ánnua, Hort.

Opposite-leaved Lopezia. Pl. 1 foot.

6 L. INTEGRIFÒLIA (D. C. prod. 3. p. 62.) plant glabrous; leaves alternate, ovate-lanceolate, acuminated at both ends, quite entire; racemes leafy, terminating the branches. ⊙. H. Native of Mexico. Stem angular. Petioles of lower leaves more than an inch long. Sterile stamen white. Leaves quite entire or hardly sinuated, never serrated.

Entire-leaved Lopezia. Pl. 1 to 1½ foot.

7 L. MINIA'TA (D. C. cat. hort. monsp. 1813. p. 121.) stem shrubby, glabrous, terete; leaves alternate, ovate-lanceolate, serrated; racemes terminating the branches. ♄. S. Native of New Spain. Lag. nov. gen. et spec. 1814. p. 1. Jacq. fil. eclog. t. 109. L. frutéscens, Rœm. et Schult. syst. 1. (1817.) p. 34. L. fruticòsa, Schrank, nov. act. bonn. 9. p. 91. Sterile stamen the same colour as the petals.

Vermilion-flowered Lopezia. Shrub 1 to 2 feet.

8 L. HIRSU'TA (Jacq. coll. 5. p. 5. t. 15. f. 4.) stem suffrutescent, hairy, terete; leaves ovate-lanceolate, hairy, subserrated; racemes terminating the branches. ⊙. H. Native of Mexico. Sterile stamen the same colour as the petals.

Hairy Lopezia. Fl. Sept. Nov. Pl. 1 to 2 feet.

9 L. PUBE'SCENS (H. B. et Kunth, nov. gen. amer. 6. p. 92.) stem branched, glabrous, terete, as well as the downy branches; leaves oval-oblong, acute, pubescent. ⊙. H. Native of Mexico?

Pubescent Lopezia. Pl. 1 foot.

10 L. PU'MILA (Bonpl. nav. p. 57.) stem simple, hairy, terete; leaves on short petioles, ovate, acute, toothed, upper ones lanceolate, pilose on both surfaces; racemes terminal; flowers on long pedicels. ⊙. H. Native of Mexico, on hills between Guanaxuato and Santa Rosa. Bracteas shorter than the pedicels. Calyx glabrous.

Dwarf Lopezia. Fl. July, Sept. Clt. 1824. Pl. ½ foot.

Cult. All the species are elegant border annuals, when in flower, and most of them will live through many winters, and become suffrutescent, if sheltered from the frost. They are of easy culture, the seeds only requiring to be sown in the border early in spring, or sown on a hot-bed to forward the plants, which may afterwards be planted out in the open border. A light soil and warm situation suit them best.

XV. CIRCÆ'A (*Circe*, in mythology, the famous enchantress; in reference to the fruit, which lays hold of the clothes of passengers, from being covered with hooked prickles, as Circe is fabled to have done by her enchantments). Tourn. inst. t. 155. Lin. gen. no. 24. Lam. ill. t. 16. Gærtn. fruct. 1. p. 114. t. 24. D. C. prod. 3. p. 63.

LIN. SYST. *Diándria, Monogýnia.* Calyx deciduous, tubular, with a 2-parted limb. Petals 2, alternating with the lobes of the calyx. Stamens 2, alternating with the petals, inserted into the calyx. Disk large, cup-shaped, filling up the whole of the tube of the calyx, and projecting beyond it. Ovarium 2-celled, with an erect ovulum in each cell. Style simple, arising out of the disk. Stigma emarginate. Capsule 2-celled, 2-valved, 2-seeded. Seeds solitary, erect, without albumen. Embryo erect, with a short inferior radicle.—Herbaceous plants. Roots creeping. Leaves opposite, stalked, toothed. Flowers in terminal and lateral racemes, covered with uncinate hairs. This genus differs from the rest of *Onagràriæ*, in its large fleshy disk, in its solitary, erect ovula, and in the binary division of the flower; it is connected with this order through *Lopèzia*, with which it cannot, however, be absolutely associated, and bears about the same relation to *Onagràriæ*, as is borne by *Haloràgeæ*.

1 C. LUTETIA'NA (Lin. spec. 12.) stem erect, pubescent; leaves ovate, acuminated, toothed, opaque and downy, longer than the petioles. ♃. H. Native of Europe, in moist shady places; plentiful in some parts of Britain. Fl. dan. t. 210. Schkuhr, handb. t. 2. Smith, engl. bot. t. 1026. C. vulgàris, Mœnch. C. pubéscens, Pohl. C. ovalifòlia, Gray. The roots are creeping; and have been considered detersive. Flowers pale red. Anthers and style whitish. Stigma red.

Var. β, Canadénsis (Lin. l. c.) stem glabrous. ♃. H. Native of North America, particularly in Canada, about Lake Huron and Montreal, as well as in the United States. C. Canadénsis, Muhl. cat. p. 2. C. Lutetiàna, Bigel. fl. bost. p. 8.

Parisian or Common Enchantress Nightshade. Fl. June, Jul. Britain. Pl. 1 to 1½ foot.

2 C. ALPI'NA (Lin. spec. 12.) stems ascending, smoothish; leaves cordate, toothed, shining, length of petioles, membranous. ♃. H. Native of Europe, in moist, shady, stony places; plentiful in some parts of the north of England and Scotland, and almo[illegible]hroughout all North America. Smith, engl. bot. t. 1057. Lam. ill. t. 16. f. 2. C. cordifòlia, Stok. mat. med. 26. Flowers pale red. Fruit less hispid than those of the preceding species. Plant 4 or 6 inches high.

Var. β, intermèdia (Ehrh. beitr. 4. p. 42.) stem erect, simple, smoothish; leaves repandly denticulated, acuminated. ♃. H. Native of Europe, in mountainous and shady places. Sturm, fl. germ. with a figure. This plant grows to the height of *C. Lutetiàna* but it differs from it in the leaves being cordate, as in *C. alpìna*.

Alpine Enchantress Nightshade. Fl. July, Aug. Britain. Pl. ½ to 1 foot.

Cult. The species of *Circæ'a* will grow under any circumstance, and are easily increased by the running roots, which render them a great pest in gardens, unless confined by some means.

† *Genera belonging to Onagràriæ, but are not sufficiently known.*

XVI. PLEUROSTE'MON (from πλευρον, *pleuron*, a side, and στημον, *stemon*, a stamen; in reference to the stamens being all at one side of the flower). Rafin. adn. 1820. D. C. prod. 3. p. 64.—Pleurándra, Rafin. fl. lud. 1817. p. 95. but not of Labill.

LIN. SYST. *Octándria, Monogýnia.* Tube of calyx drawn out beyond the ovarium, bifid at the apex. Petals 4, spatulate, all on one side. Stamens 8, and are as well as the style at that side of the flower opposite the petals. Stigma 4-lobed. Capsule oval, 4-celled, many-seeded. Seeds unknown. This genus appears to come very near *Œnothèra*, from the calycine tube being drawn out beyond the ovarium.

1 P. A'LBUM (Rafin. l. c.). ♄. F. Native of Louisiana. Œnothèra, no. 2. Robin. louis. p. 490. Stem shrubby, 7 feet high. Branches terete, twiggy. Leaves sessile, narrow, entire, acute. Flowers white, on short pedicels; genitals exserted.

White-flowered Pleurostemon. Pl. 7 feet.

Cult. The seeds of this plant may be sown in the open border.

XVII. ONOSU'RUS (meaning unknown to us, but appears to be derived from *ονος*, *onos*, an ass, and *ουρα*, *oura*, a tail; but the application is not evident). Rafin. lud. p. 96. D. C. prod. 3. p. 64.—Chamissònia, Link. in jarb. der gewasch. 1818. p. 186. but not of Humb. and Kunth.

Lin. syst. *Octándria, Monogýnia.* Tube of calyx adhering to the ovarium; limb 2-parted; lobes reflexed, deciduous, ex Rafin. Petals 4, inserted at the base of the limb of the calyx. Stamens 8. Stigma quadrifid. Capsule 4-celled, 4-valved. This genus is hardly known. It is probably not distinct from *Œnothèra.*

1 O. acumina'ta (Rafin. l, c.) petals obcordate. ☉. H. Native of Louisiana. Œnothèra, no. 8. Robin. louis. p. 490. Stem thick, 7 feet high, hairy. Leaves crowded, sessile, lanceolate, acuminated, somewhat bluntly and remotely toothed.

Acuminated-leaved Onosurus. Pl. 7 feet.

Cult. The seeds of this plant should be sown in the open border.

Order XCIII. HYDROCA'RYES (from *ὑδωρ*, *hydor*, water, and *καρυον*, *caryon*, a nut; water nuts). Link, enum. 1. p. 141. Lindl. introd. nat. syst. p. 58. Onagràriæ, Tribe vi.? Hydrocaryes, D. C. prod. 3. p. 63.

Calyx superior, 4-parted (f. 101. c.), with the tube adhering to the ovarium. Petals 4 (f. 101. *b.*), arising from the throat of the calyx. Stamens 4, alternating with the petals. Ovarium (f. 101. *a.*) 2-celled. Ovulas solitary, pendulous. Style filiform, thickened at the base. Stigma capitate. Fruit hard, indehiscent, 1-celled, 1-seeded, crowned by the indurated segments of the calyx. Seed large, solitary, pendulous, exalbuminous. Cotyledons 2, very unequal.—Floating herbs. Lower leaves opposite, upper ones alternate; those under water cut into capillary segments; petioles tumid in the middle (f. 101. c.). Flowers small, axillary.

This order is closely allied to *Onagràriæ*, from which it is distinguished by its solitary pendulous ovules; more closely allied to *Halorágeæ*, from which it is distinguished only by the very large seeds, unequal cotyledons, developed calyx, and want of albumen. Seeds of all eatable.

I. TRA'PA (abridged from *calcitrapa*, the Latin name of an instrument called *caltrops*, furnished with four spines, formerly used in war to impede the progress of cavalry; in reference to the fruit of some of the species being furnished with 4 spines). Lin. gen. no. 157. Lam. ill. t. 73. Gærtn. fruct. 1. p. 127. t. 26. D. C. prod. 3. p. 63.—Tribuloìdes, Tourn. inst. t. 431.

Lin. syst. *Tetrándria, Monogýnia.* Being no other genus, the character is therefore the same as that of the order. The lower leaves of all the species are capillaceously multifid, as in *Myriophýllum*, the upper or floating ones are deltoid and toothed, and disposed in a rosulate manner.

* *Fruit furnished with 4 horns.*

1 T. na'tans (Lin. spec. 175. exclusive of the synonyme of Rheede,) horns of fruit disposed in a cross-like manner, acute, and furnished with a small retrograde beard at the apex, 2 upper ones spreading horizontally, 2 lower ones somewhat ascending. ☉. W. H. Native of the temperate parts of Europe and Siberia, in stagnant and slow running water. Schkuhr, handb. t. 25. Mirb. ann. mus. 16. p. 447. t. 19. D. C. org. veg. t. 55. Ker. bot. reg. 88.—Cam. epit. 715. with a figure. Flowers white, the claws of the petals short and purplish. The nuts are esteemed farinaceous, nourishing, and pectoral. The calyx with its spines or indurated lobes being removed, there is a white sweet kernel within, somewhat like a chestnut in taste; they are sold in the markets at Venice under the name of Jesuits' nuts. At Vercelli they are called galarin, and are much eaten there by the common people and children. Pliny says that the Thracians made them into bread. According to Thunberg the roots of this or some other species are commonly boiled in broth in Japan, though the taste is by no means pleasant.

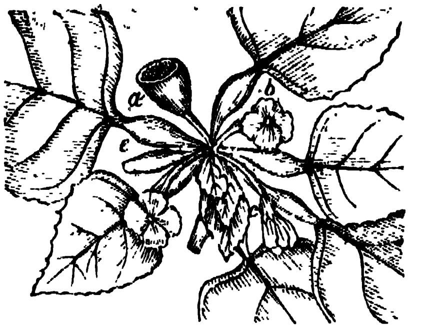
Floating Water-caltrops. Fl. June, Aug. Clt. 1781. Pl. fl.

2 T. quadrispinòsa (Roxb. fl. ind. 1. p. 451.) horns of fruit stiff, acute, spinose, disposed in a cross-like manner. ♃. W. S. Native of Silhet, floating in lakes. Flowers white. The rest unknown. Nuts eatable.

Four-spined Water-caltrops. Fl. June, Aug. Clt. 1823. Pl. fl.

** *Fruit furnished with 2 horns only.*

FIG. 101.



3 T. bispinòsa (Roxb. cor. t. 234. fl. ind. 1. p. 449.) horns of fruit opposite, stiff, acute, spinose, and bearded; floating leaves rather quadrate, serrulately toothed, tomentose beneath. ☉. W. S. Native of the East Indies, floating in water. —Rheed. mal. 11. p. 64. t. 33. Shringàta, Jones in asiat. res. 2. p. 350. and 4. p. 253. Petioles furnished with a large bladder in the middle. Petals white. Nectary cupulate, curled. The nuts are sold in the markets in many parts of the East Indies, the kernels being much esteemed by the Hindoos.

Two-spined-fruited Water-caltrops. Fl. June, Aug. Clt. 1822. Pl. fl.

4 T. bico'rnis (Lin. fil. suppl. 128.) horns of fruit opposite, thick, very blunt, somewhat recurved at the apex; floating leaves quadrate, entire, or a little toothed. ☉. W. G. Native of China, about Canton, floating in water; it is also cultivated by the Chinese for the sake of its fruit. Gærtn. fruct. 2. t. 89. T. Chinénsis, Lour. coch. p. 86. Braam, icon. chin. 1821. t. 22. Burm. in Plum. icon. fasc. 3. p. 56. t. 67. the lower figure. Flowers white.

Two-horned-fruited Water-caltrops. Fl. June, Aug. Clt. 1790. Pl. fl.

5 T. cochinchine'nsis (Lour. coch. p. 86.) horns of fruit thick, obtuse, opposite, somewhat recurved at the apex; leaves oblong, cut at the apex, tomentose beneath. ☉. W. H. Native of Cochin-china, floating in stagnant water. Flowers white, on long peduncles. The seeds are eatable, and taste like chestnuts.

Cochin-china Water-caltrops. Fl. June, Aug. Pl. fl.

Cult. The seeds of the species of *Tràpa* require to be sown or thrown into a cistern, or pond, or large pan of water, with rich loamy soil in the bottom. They all grow best in a strong heat. *T. nàtans* grows well in a pond in the open air.

Order XCIV. HALORA'GEÆ (plants agreeing with *Halorágis* in important characters). R. Br. gen. rem. (1814.) p. 17. D. C. prod. 3. p. 65.

Tube of calyx adhering the whole length of the ovarium (f.

102. c. a.); limb minute, 4-parted (f. 102. *c.*), or almost wanting (f. 103. *a.*). Petals minute, inserted in the summit of the calyx, opposite the calycine lobes, and equal in number to them, or wanting. Stamens inserted with the petals, equal in number to them or occasionally fewer. Ovarium adhering to the calyx, with 1 or more cells (f. 102. *d.*). Style none. Stigmas equal in number to the cells of the ovarium, papulose or pencil-formed, sessile. Fruit dry, indehiscent, membranous (f. 103. *c.*), or bony (f. 102. *d.*), with 1 or more cells. Seeds solitary in the cells; pendulous; albumen fleshy. Embryo straight in the axis, with a superior, terete, elongated radicle, and 2 short minute cotyledons.—Herbaceous or suffruticose plants, the greater part of which are inhabitants of water and moist places. Leaves alternate, opposite, or in whorls. Flowers axillary, sessile, or disposed in terminal spikes, occasionally monoecious or dioecious. The plants contained in this order are not known to possess any medical properties.

Synopsis of the genera.

TRIBE I.

CERCODIA'NÆ. *Limb of calyx evidently parted* (f. 102. *c.*). *Stamens equal, or double the number of the calycine lobes* (f. 102. *a.*) *Petals and cells of fruit equal in number to the lobes of the calyx.*

1 SERPI'CULA. Flowers monoecious. Calyx 4-parted. Petals and stamens 4. Nut 1-celled, 1-seeded.

2 GONIOCA'RPUS. Limb of calyx 4-parted (f. 102. *c.*). Petals 4 (f. 102. *a.*). Stamens 8 (f. 102. *b.*). Fruit 8-angled, 4-celled, 4-seeded (f. 102. *d.*).

3 HALORA'GIS. Limb of calyx 4-parted. Petals 4. Stamens 8. Fruit globose, 2-4-celled, 2-4-seeded.

4 CERCÒDIA. Limb of calyx 4-parted. Petals 4. Stamens 8. Fruit nucumentaceous, 4-winged, 4-celled, 4-seeded.

5 PROSERPINA'CA. Limb of calyx 3-parted. Petals wanting. Stamens 3. Fruit trigonal, 1-celled, 1-seeded.

6 MYRIOPHY'LLUM. Flowers monoecious, rarely hermaphrodite. Calyx 4-parted. Petals 4. Stamens 4-6, or usually 8. Fruit separable, in 4 hard nuts.

TRIBE II.

CALLITRICHI'NEÆ. *Limb of calyx not conspicuous* (f. 103. *a.*). *Petals wanting. Stamen* 1, *rarely* 2. *Fruit* 4-*celled*, 4-*seeded* (f. 103. *c.*).

7 CALLI'TRICHE. Flowers polygamous, hermaphrodite, or dioecious, or often monoecious. Bracteas 2, petaloid, at the base of the flowers.

TRIBE III.

HIPPURI'DEÆ. *Limb of calyx small, entire. Petals wanting. Stamen* 1 (f. 104. *e.*). *Fruit nucumentaceous* (f. 104. *d.*), 1-*celled*, 1-*seeded.*

8 HIPPU'RIS. Character the same as that of the tribe.

Tribe I.

CERCODIA'NÆ (plant agreeing with *Cercòdia* in important characters). Juss. dict. sci. nat. (1817.) 7. p. 441. D. C. prod. 3. p. 65. Hygrobièæ, Rich. anal. fru. p. 34. Limb of calyx evidently parted (f. 102. *c.*). Stamens equal in number to the calycine lobes, or double that number (f. 102. *b.*). Petals and cells of fruit usually equal in number to the calycine lobes (f. 102. *d.*).

I. SERPI'CULA (from *serpo*, to creep; this genus is composed of small creeping plants). Lin. mant. 16. Lam. ill. t. 758. Kœn. ann. bot. 1. p. 544. but not of Roxb. nor Pursh.—Laurembérgia, Berg. cap. p. 350.

LIN. SYST. *Monœ'cia, Tetrándria.* Flowers monoecious. Male. Calyx small, 4-parted. Petals 4. Stamens 4. Rudimentary styles 4 (ex Kön.). Female. Tube of calyx adnate to the ovarium; limb small, 4-parted. Petals wanting (ex Berg. et Thunb.) Nut globose, 8-nerved, 1-celled, 1-seeded, probably from abortion.---Creeping branched herbs. Leaves opposite or alternate, entire or toothed. Flowers axillary; male ones small, pedicellate; the female ones are hardly known.

1 S. RE'PENS (Lin. mant. 124.) leaves alternate, linear-lanceolate, quite entire, and rather scabrous. ♃. G. Native of the Cape of Good Hope, on the Table Mountains near rivulets. Thunb. fl. cap. p. 142. S. Capénsis, Ræusch. S. serpyllifòlia, Burm. cap. 26. Laurembérgia rèpens, Berg. cap. p. 350. t. 5. f. 10. Laurembérgia Capénsis, Gmel. Habit of *Verónica serpyllifòlia.*

Creeping Serpicula. Fl. July, Aug. Clt. 1789. Pl. cr.

2 S. VERONICÆFÒLIA (Bory. voy. 3. p. 174.) leaves oval, opposite, glabrous, toothed at the apex. ♃. S. Native of the Island of Bourbon, and Caffraria, among moist rocks. Willd. spec. 4. p. 330. L[illegible]es almost like those of *Verónica agréstis.* Stems red or reddis[illegible] creeping.

Speedwell-leaved Serpicula. Pl. creeping.

3 S. RÚBICU'NDA (Burch. cat. geogr. no. 404. trav. 1. p. 37.) leaves opposite, linear, quite entire, glabrous. ♃. G. Native of the Cape of Good Hope. Plant weak, much smaller and slenderer than the first.

Reddish Serpicula. Pl. creeping.

† *A very doubtful species.*

4 S. THYMIFÒLIA (Burm. cap. p. 26.)—Native of the Cape of Good Hope. Stem much branched. Leaves alternate, deflexed, ovate, acute, 1-nerved. Flowers rising from the axils of the upper leaves, rather pedicellate, nearly terminal, 5-parted. Perhaps a species of *Ionidium.*

Thyme-leaved Serpicula. Pl.

Cult. Any common soil will suit the species of *Serpícula*, and they are easily increased by separating the creeping shoots.

II. GONIOCA'RPUS (from *γονια*, *gonia*, an angle, and *καρπος*, *karpos*, a fruit; in reference to the angular fruit). Kön. ann. bot. 1. p. 546. D. C. prod. 3. p. 66.—Gonocárpus, Thunb. fl. jap. 5. but not of Hamilt.—Gonatocárpus, Willd. spec. 1. p. 690.

LIN. SYST. *Octándria, Monogýnia.* Tube of calyx adhering to the ovarium, which is ovate (f. 102. *c.*); limb 4-parted (f. 102. *c.*). Petals 4 (f. 102. *a.*), alternating with the calycine lobes. Stamens 8 (f. 102. *b.*). Stigmas 4. Fruit nucumentaceous (f. 102. *d.*), indehiscent, 8-angled, 8-nerved, 4-celled, 4-seeded. Seeds pendulous.—Herbs. Leaves opposite, toothed. Flowers sessile in the axils of the upper leaves.

SECT. I. APODO'GYNUS (from *α*, priv. and *πους ποδος*, *pous podos*, a foot, and *γυνη*, *gyne*, a female; in reference to the stigmas being sessile, without any foot or style). D. C. prod. 3. p. 66. Stigmas sessile on the top of the ovarium, wart-formed.

1 G. MICRA'NTHUS (Thunb. jap. p. 69. t. 15.) leaves ovate, serrate-toothed, smooth; spikes elongated, branched; flowers on short pedicels, pendulous. ⊙. H. Native of Japan. Pe-

tals 4, white, ex Kön. ann. bot. p. 546. t. 12. f. 5. Stamens 8, ex Brown, gen. rem. p. 18. Stem tetragonal.

Small-flowered Goniocarpus. Pl. decumbent.

2 G. SCA'BER (Kœn. ánn. bot. 1. p. 547. t. 12. f. 6.) leaves lanceolate, deeply serrated, scabrous; spikes compound; branches nearly opposite. ⊙. H. Native of China, about Macao, where it is cultivated. Ludwígia octándra, Banks, herb.

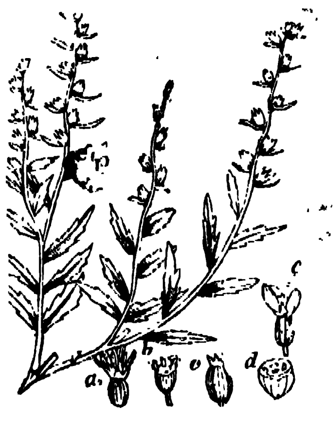
Scabrous Goniocarpus. Pl. decumbent.

3 G. MICROCA'RPUS (Thibaud, herb. ex D. C. prod. 3. p. 66.) leaves ovate, acute, serrated, glabrous on both surfaces, as well as the branches and petioles; panicle loose; flowers on short pedicels, spreading. ⊙. H. Native of New Holland. Habit of *G. micránthus*, but differs in the leaves being quite glabrous.

Small-fruited Goniocarpus. Pl. proc.

SECT. II. PTERÓGYNUS (from *πτερον*, *pteron*, a wing, and *γυνη*, *gyne*, a female; in reference to the stigmas being plumose at the apex). D. C. prod. 3. p. 66. Styles 4, ending each in a plumose pencil-formed stigma.

FIG. 102.



4 G. TETRA'GYNUS (Labill. nov. holl. t. 53.) leaves ovate, serrated, acute, rather scabrous, pilose when young, as well as the petioles and branches; spikes elongated; flowers sessile, erect. ⊙. H. Native of Van Dieman's Land (f. 102.).

Four-styled Goniocarpus. Pl. ½ foot.

5 G. TENE'LLUS (D. C. prod. 3. p. 66.) leaves oblong-lanceolate, acute, scabrous, pilose when young, as well as the petioles; stem beset with adpressed bristles; spikes elongated; flowers sessile, erect, upper ones male, the rest female. ⊙. H. Native of New Holland. Very like *G. tetrágynus*, but the stems are much more slender, the leaves much narrower, and the flowers are monoecious from abortion.

Weak Goniocarpus. Pl. ½ foot.

6 G. TEUCRIOÌDES (D. C. prod. 3. p. 66.) leaves ovate, serrated, acute, scabrous; stem hispid from spreading hairs; flowers in the axils of the upper leaves on short petioles, constituting a leafy loose raceme.—Native of New Holland. Sieb. pl. ex sic. no. 544. Stems tetragonal, much branched; branches opposite. Leaves and habit those of a species of *Teùcrium*. Flowers larger than those of any other species. Petals pilose on the back. Stamens 8. Stigmas 4, short, a little bearded. Fruit bluntly tetragonal, rather globose.

Teucrium-like Goniocarpus. Pl. decumbent.

Cult. The seeds of the species of *Goniocárpus* should be sown in the open border, in a warm sheltered situation.

III. HALORA'GIS

(from ἁλς ἁλος, *hals halos*, the sea, and ραξ ραγις, *rax ragis*, the berry of a bunch of grapes; because it grows on the sea coast, and the fruit resemble grapes in being round). Forst. gen. t. 31. D. C. prod. 3. p. 66.—Haloràgis spec. Lher. Labill.

LIN. SYST. *Octándria, Di-Tetragýnia.* Tube of calyx adnate to the ovarium; limb 4-parted. Petals 4, alternating with the lobes of the calyx. Stamens 8. Stigmas 2-4, short, sessile, papulose. Fruit nucumentaceous, dehiscent, globose, smooth, 2-4-celled, 2-4-seeded.—Smooth Australian shrubs. Leaves quite entire. Flowers axillary. *Goniocárpus* and *Cercòdia* are probably only sections of *Haloràgis*.

1 H. PROSTRA'TA (Forst. l. c. et prod. no. 179.) stems prostrate; leaves opposite, oblong, undulated; flowers solitary in the axils of the leaves; stigmas and seeds 4. ♄. G. Native of Botany Bay, New Caledonia, and the Island of Pines. Lher. stirp. nov. 1. p. 82. Willd. spec. 2. p. 474.

Prostrate Haloragis. Fl. May, Sept. Clt. 1820. Sh. pros.

2 H. DI'GYNA (Labill. nov. holl. 1. p. 100. t. 129.) stem erect; leaves alternate, linear; flowers fasciculate in the axils of the leaves; stigmas and seeds 2. ♄. G. Native of New Holland, in Van Leuwin's Land. Fruit sometimes 1-seeded from abortion.

Digynous Haloragis. Sh. 2 ft.

† *A species not sufficiently known.*

3 H. CAPE'NSIS (Nois. et Cels. ex Colla, hort. ripul. p. 63.) stem erect; leaves alternate, petiolate, elliptic, dotted beneath. ♄. G. Native of the Cape of Good Hope, ex Hort. Flowers unknown.

Cape Haloragis. Sh. 2 to 3 ft.

Cult. The species of this genus thrive well in any light rich soil, and young cuttings root freely if planted under a hand-glass.

IV. CERCO'DIA

(from κερκος, *kerkos*, a tail, and ειδος, *eidos*, like; in reference to the long narrow petals). Murr. comm. gœtt. 3. p. 1780. p. 3. t. 1. D. C. prod. 3. p. 67.—Cercòdea, Lam. ill. t. 319.—Haloràgis spec. Lher. Jacq.

LIN. SYST. *Octándria, Tetragýnia.* Tube of calyx adnate to the ovarium, which is 4-sided; limb 4-parted. Petals 4. Stamens 8. Stigmas 4, sessile. Fruit nucumentaceous, indehiscent, 4-celled, 4-seeded, 4-sided; angles winged.—Smooth Australian shrubs. Leaves opposite, toothed. Flowers in fascicles or racemose. Petals 3 times the length of the lobes of the calyx. This genus is intermediate between *Haloràgis* and *Proserpinàca*.

1 C. E'RECTA (Murr. l. c.) leaves petiolate, ovate-lanceolate, coarsely toothed; flowers sessile, aggregate in the axils of the upper leaves. ♄. G. Native of New Zealand. Tetragònia ivæfòlia, Lin. fil. suppl. 257. Haloràgis alàta, Jacq. icon. rar. 1. t. 69. exclusive of the country. Haloràgis Tetragònia, Lher. stirp. nov. 1. p. 82. Haloràgis Cercòdia, Ait. hort. kew. 2. p. 37.

Erect Cercodia. Fl. April, Sept. Clt. 1772. Sh. 1 to 2 ft.

2 C. RACEMÒSA (D. C. prod. 3. p. 67.) leaves sessile, linear-lanceolate, serrated; racemes terminal and axillary. ♄. G. Native of New Holland, in Van Leuwin's Land. Haloràgis racemòsa, Labill. nov. holl. 1. p. 100. t. 128.

Racemose Cercodia. Sh. 2 to 3 ft.

Cult. For culture and propagation see *Haloràgis*.

V. PROSERPINA'CA

(from *proserpo*, to creep; creeping rooting plants). Lin. gen. 102. Lam. ill. t. 50. Juss. ann. mus. 3. p. 320. t. 30. f. 1. D. C. prod. 3. p. 67.—Tríxis, Mitch. eph. nat. car. 1748. no. 23. Gærtn. fr. 1. p. 115. t. 24. but not of Browne.

LIN. SYST. *Triándria, Trigýnia.* Tube of calyx adhering to the ovarium, which is triquetrous; limb 3-parted. Petals none. Stamens 3. Stigmas 3, sessile on the top of the ovarium. Carpels 3, joined together into a dry indehiscent trigonal 1-seeded fruit. Seed pendulous. Albumen fleshy, or only perhaps a tumid endopleura.—Smooth aquatic North American herbs, with creeping roots. Leaves opposite. Flowers axillary, glomerate, sessile, sometimes 4-cleft and tetrandrous.

1 P. PALU'STRIS (Lin. in act. ups. 1741. p. 81.) leaves linear-lanceolate, lower ones usually pinnatifid; angles of nut acute. ♃. W. H. Native of North America, from Canada to Carolina

in ditches and ponds; and of Mexico in slow running water. Ell. sketch. 1. p. 181. Torr. fl. unit. st. 1. p. 161. P. palùstris var. α, Michx. fl. bor. amer. 1. p. 76. Tríxis, Mitch. l. c. with a figure. Tríxis palústris, Gærtn. fr. 1. p. 115.

Marsh Proserpinaca. Fl. July. Clt. 1818. Pl. cr.

2 P. PECTINA'TA (Lam. ill. 1. p. 214. t. 50. f. 1.) leaves all pinnatifidly pectinated; angles of nut blunt. ♃. W. H. Native of South Carolina, Georgia, New Jersey, and Pennsylvania. Ell. sketch. 1. p. 182. Torrey, fl. unit. st. 1. p. 162. P. palústris β, Michx. l. c. Only a variety of the preceding according to Michx, but according to Lamarck, Elliott, and Torrey it is a proper species.

Pectinate-leaved Proserpinaca. Fl. July, Aug. Clt. 1822. Pl. cr.

Cult. These plants should either be grown in large pans of water, with an inch or two of mould in the bottom for the roots to run in, or in pots set in pans of water, or they may be grown in ponds. They require some care and shelter to preserve them through the winter in Britain.

. VI. MYRIOPHY'LLUM (from μυριος, *myrios*, a myriad, and φυλλον, *phyllon*, a leaf; in reference to the numerous divisions of the leaves). Vaill. act. acad. par. 179. t. 2. Lin. gen. no. 1066. Gærtn. fr. 1. t. 68. Lam. ill. t. 775. D. C. prod. 3. p. 68.—Pentapterophýllum, Dill. nov. gen. 7.—Pentápteris, Hall. helv. 1. p. 454.

LIN. SYST. *Monœ'cia*, *Tetrándria*, and *Octándria*, *Tetragýnia*. Flowers monoecious, rarely hermaphrodite. Male. Calyx 4-parted. Petals 4, caducous, ovate, alternating with the calycine lobes. Stamens 4-6 or 8. Female. Calyx adhering to the ovarium; limb 4-lobed. Petals none. Fruit separable into 4 hard, 1-seeded, indehiscent nuts. Albumen almost absent.—Floating aquatic herbs, rising above the water to flower. Leaves finely cut, opposite or verticillate. Flowers small, disposed in axillary whorls; or in whorled spikes, in consequence of the upper leaves being almost abortive; upper ones male, lower ones female.

SECT. I. PENTA'PTERIS (from πεντη, *pente*, five, and πτερον, *pteron*, a wing; application not evident). D. C. prod. 3. p. 68. Flowers usually monoecious. Anthers oblong. Leaves opposite or often in whorls.

* *Male flowers octandrous.*

1 M. SPICA'TUM (Lin. spec. 1409.) leaves finely cut into capillary segments, disposed in whorls; flowers in whorled interrupted, almost leafless spikes; floral leaves shorter than the flowers, lower ones a little serrated, the rest quite entire. ♃. W. H. Native of Europe and North America, in ditches, lakes, and pools, never in flowing water; plentiful in Britain. Fl. dan. 681. Smith, engl. bot. t. 83. Schkuhr, handb. t. 296. Petals reddish.

Spiked Water-milfoil. Fl. June, Aug. Britain. Pl. fl.

2 M. PECTINA'TUM (D. C. fl. fr. suppl. 529.) leaves finely cut into capillary segments, disposed in whorls; flowers in whorled, interrupted, almost leafless spikes; floral leaves a little longer than the flowers, all pectinately serrated. ♃. W. H. Native about Montpelier, in still water, and Denmark, and probably through the whole of Europe. Habit of the preceding species, but differing in the floral leaves. It appears to be intermediate between *M. spicàtum* and *M. verticillàtum*.

Pectinate-leaved Water-milfoil. Pl. fl.

3 M. ALTERNIFÒLIUM (D. C. fl. fr. suppl. p. 529.) leaves finely cut, disposed in whorls; flowers in nearly leafless spikes, alternate, lower ones in fascicles, the rest solitary; lower floral leaves pinnatifid, exceeding the flowers, upper ones entire, short. ♃. W. H. Native of the west of France, in still water about Nantes, and in Vascony. M. alternifòlium, Steud. nom.

Alternate-leaved Water-milfoil. Pl. fl.

4 M. VERTICILLA'TUM (Lin. spec. 1410.) leaves finely cut into capillary opposite segments; flowers in axillary whorls; floral leaves all pinnatifid, much longer than the flowers, and hardly distinguishable from the other leaves. ♃. W. H. Native of Europe and North America, in pools, lakes, and ditches, but never in running water. Smith, engl. bot. 218.—Clus. hist. 2. p. 252.

Var. β, *limòsum* (Heet. in litt.) lobes of leaves linear, acute, and regular. ♃. H. Native of Europe, in almost dry places.

Whorled-flowered Water-milfoil. Fl. Ju. Aug. Brit. Pl. fl.

5 M. QUITE'NSE (H. B. et Kunth, nov. gen. amer. 6. p. 89.) leaves finely cut into filiform lobes, about 15 lobes on each side. ♃. W. S. Native of the Andes about Quito, in the river Guancabamba.

Quito Water-milfoil. Pl. fl.

6 M. I'NDICUM (Willd. spec. 4. p. 407.) leaves in whorls, lower ones finely cut into capillary segments, upper ones lanceolate, cuneated, rather cut at the apex; flowers axillary, verticillate. ♃. W. S. Native of Ceylon and Coromandel. The flowers are said to be hermaphrodite.

Indian Water-milfoil. Pl. fl.

7 M. ELATINOÌDES (Gaud. fl. mal. p. 17. ann. sc. nat. 5. p. 105.) leaves 4 in a whorl, lower ones cut into capillary segments, upper ones pinnatifid, toothed or entire, oblong-lanceolate; flowers dioecious, female ones axillary. ♃. W. F. Native of the Maclove and F[illegible]nd Islands. Male flowers unknown.

Elatine-like Wat[illegible]ilfoil. Pl. fl.

8 M. TERNA'TUM (Gaud. l. c.) leaves 3 in a whorl, lower ones cut into capillary lobes, upper ones oblong, quite entire; flowers axillary, upper ones male, octandrous, lower ones female. ♃. W. F. Native of the Falkland Islands.

Ternate-leaved Water-milfoil. Pl. fl.

9 M. AMPHI'BIUM (Labill. nov. holl. 2. p. 70. t. 220.) leaves opposite, obovate, entire; flowers axillary, solitary. ♃. B. G. Native of Van Dieman's Land, in marshes. A creeping herb, with the habit of *Callitriche*. Flowers monoecious, male ones octandrous.

Amphibious Water-milfoil. Pl. cr.

* * *Male flowers hexandrous.*

10 M. HETEROPHY'LLUM (Michx. fl. bor. amer. 2. p. 191.) leaves in whorls, cut into capillary segments; spikes terminal, almost naked; floral leaves opposite, ovate, acute, sharply serrated, exceeding the flowers. ♃. W. H. Native of Carolina and Georgia, in still water. Potamogèton verticillàtum, Walt. car. p. 90.

Variable-leaved Water-milfoil. Pl. fl.

* * * *Male flowers tetrandrous.*

11 M. TUBERCULA'TUM (Roxb. fl. ind. 1. p. 471.) leaves in whorls, lower ones pinnatifid; spikes almost naked; bracteas oblong, a little toothed at the apex; carpels tubercular, acute on the back. ♃. B. S. Native of humid places and on the shores of lakes, near Calcutta. Flowers pink.

Tubercled-fruited Water-milfoil. Pl. fl.

12 M. INTERME'DIUM (D. C. prod. 3. p. 69.) leaves in whorls, lower ones cut into filiform lobes; floral ones oblong-linear, serrated, acuminated at both ends; carpels rather tubercular, blunt on the back. ♃. W. S. Native of the East Indies. Ammánnia pinnatífida, Lin. fil. suppl. 127.? Hottònia sessiliflòra, Vahl. symb. 2. p. 36. Willd. spec. 1. p. 813.?

Intermediate Water-milfoil. Pl. fl.

13 M. TETRA'NDRUM (Roxb. fl. ind. 1. p. 470.) leaves dis-

posed in whorls, cut into capillary segments; spikes almost leafless; bracteas pinnatified; carpels smoothish, blunt on the back. ♃. W. S. Native of the East Indies, in pools filled by the rain, and where it is called *Neerla-pamarum* by the Telingas. Flowers white.

Tetrandrous Water-milfoil. Pl. fl.

14 M. SCABRA'TUM (Michx. fl. bor. amer. 2. p. 190.) leaves in whorls, cut into linear distant lobes; flowers in axillary whorls; bracteas much like the leaves; fruit 8-angled; angles tubercular. ♃. W. H. Native of Carolina, Georgia, and North California, in stagnant water. Potamogèton pinnàtum, Walt. fl. car. 90. Carpels more closely connected than in any of the other species.

Scabrous-fruited Water-milfoil. Pl. fl.

15 M. TENE'LLUM (Bigel. fl. bost. ed. 2. p. 346. D. C. prod. 3. p. 69.) stem simple, almost leafless, erect, rooting at the base; leaves scale-formed, alternate, entire; flowers in the axils of the upper leaves, as well as disposed in interrupted spikes, having the flowers alternate. ♃. W. H. Native of North America, in watery places about New Cambridge, and in Newfoundland. Hýlas aphýllus, Bigel. mss. M. nùdum, Lapylaie, mss.

Slender Water-milfoil. Pl. fl.

SECT. II. PTILOPHY'LLUM (from πτιλον, ptilon, a soft feather, and φυλλον, *phyllon*, a leaf; in reference to the narrow segments of the leaves.). Nutt. gen. amer. 2. p. 211.—Púrshia, Rafin. but not of D. C. Flowers all hermaphrodite, tetrandrous. Petals wanting. Anthers roundish. Stig[illegible] minute, pubescent. Leaves alternate.

16 M. AMBI'GUUM (Nutt. l. c.) leaves alternate, petiolate, lower ones cut into capillary lobes, upper ones into linear lobes, uppermost ones almost entire or serrated. ♃. W. H. Native of North America, in ponds in New Jersey.

Var. α, *nàtans* (D. C. prod. 3. p. 70.) stems floating, dichotomous. ♃. W. H. Native of Jersey, New York, floating in water.

Var. β, *limòsum* (Nutt. l. c.) stem rooting, erect; leaves stiff, almost entire or trifid; lobes setaceous, acute. ♃. B. H. Native on the banks of the Delaware, and in New Jersey.

Ambiguous Water-milfoil. Pl. fl.

Cult. All the species of *Myriophýllum* being aquatic plants if cultivated should be grown in ponds, in which they may be either planted or the seeds thrown in. Small parts of the tropical species should be taken up in the autumn, planted in a pan of water, and then to be placed in the stove, in order to preserve them in a living state during the winter; and in the course of the April or May next season may again be returned to the pond in the open air, where they will thrive much better than if grown all the year round in pans of water or cisterns in a hot-house. None of the species are, however, worth growing except in botanical gardens.

Tribe II.

CALLITRICHI'NEÆ (plants agreeing with *Callitriche* in important characters). Link, enum. hort. berol. 1. p. 7. D. C. prod. 3. p. 70. Limb of calyx hardly discernible. Petals wanting. Stamen 1, rarely 2. Fruit 4-celled, 4-seeded (f. 103. *c*.).—Aquatic herbs, with opposite leaves, and insignificant axillary solitary flowers.

VII. CALLI'TRICHE (a name given by Pliny to a plant which had the colour of beautiful hair, from καλλος, *kallos*, beautiful, and θριξ τριχος, *thrix trichos*, a hair, but the present genus has nothing to do with the plant of Pliny). Lin. gen. 13. Lam. ill. t. 5. Gærtn. fruct. 1. p. 330. t. 68. A. Richard, dict. class. 3. p. 59. D. C. prod. 3. p. 70.—Stellària, Dill. gen. p. 119. t. 6. but not of Lin.

LIN. GEN. *Monándria*, *Monogýnia*, or *Polygàmia*, *Monœ'cia*. Flowers usually bisexual, monoecious, with 2 opposite petaloid bracteas at the base of each flower. Styles 2 (f. 103. *a*.), subulate.—Smooth annual aquatic herbs.

1 C. VE'RNA (Lin. spec. 2.) leaves triple-ribbed, the uppermost crowded and obovate; margin of fruit obtuse; fruit sessile. ⊙. W. H. Native throughout the whole of Europe, and of North America, in ditches and slow running streams; plentiful in Britain. Smith, engl. bot. t. 722. Wahl. fl. lapp. 2. Wallr. ann. bot. p. 1. C. aquática var. Smith, fl. brit. 1. p. 8. C. séssilis, Vahl. var. D. C. fl. fr. ed. 3. no. 3655. C. pállens, Goldb. act. mosc. 5. p. 118. Gray, brit. pl. 2. p. 555.

Var. α, *vulgàris* (D. C. prod. 3. p. 70.) leaves all obovate. C. vérna, Fl. dan. t. 129. C. aquática, Huds. fl. ang. p. 397.

Var. β, *intermèdia* (Hoffm. fl. germ. 1791. p. 2.) lower leaves linear, obtuse or emarginate, upper ones oval. Schkuhr, handb. t. 1. Pursh, fl. amer. sept. 1. p. 3. C. aquática, Bigel. fl. bost. p. 2.

Var. γ, *lineàris* (D. C. l. c.) leaves all linear, upper ones scarcely obovate, 3-nerved. In ditches about Moscow. Stems short, creeping.

Var. δ, *stellàta* (Hopp. bot. tasch. 1792. p. 758.) leaves all oval; stems short. C. æstivàlis, Thuill. fl. par. p. 2.

Var. ε, *cæspitòsa* (Schultz, prod. starg. p. 3.) leaves all oval, stiffish, small; stems short, stellately spreading. In very shallow water or among mud. C. vérna mínima, Wallr. ann. bot. p. 1.

Var. ζ, *rigídula* (Wallr. in litt. D. C. prod. 3. p. 70.) leaves all ovate-oblong, opaque, stiffish; stems rooting. Native of Thuringia.

Var. ϑ, *tenuifòlia* (Pers. ench. 1. p. 5.) leaves all linear, upper ones 3-nerved. In humid, hardly inundated places.

To this polymorphous species the following names probably appertain, viz. *C. dioíça*, Pentag. inst. bot. 2. p. 10. *C. Brùtia*, Pentag. l. c. *C. andrógyna* or *C. hermaphrodìta*. Schum; but these are extremely doubtful.

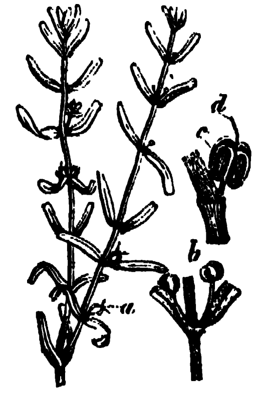
Spring Water-starwort. Fl. April, Oct. Britain. Pl. fl.

2 C. PEDUNCULA'TA (D. C. fl. fr. ed. 3. no. 3656.) lower leaves linear, upper ones oblong, 3-nerved; fruit pedicellate; margin of carpels obtuse. ⊙. W. H. Native of France, in stagnant water; also of Scotland, in ditches. Hook, in engl. bot. suppl. 2606. Stalk of fruit from 1 to 3 lines long, upper ones the shortest.

Stalked-fruited Water-starwort. Fl. Apr. Oct. Scotl. Pl. fl.

3 C. AUTUMNA'LIS (Lin. spec. p. 2.) leaves linear, abrupt, single ribbed, uniform; fruit sessile; margin of fruit membranous. ⊙. W. H. Native throughout Europe and North America, in clear pools, lakes, and slow running streams. Smith, engl. bot. t. 722. f. 2. C. aquática, var. Smith, fl. brit. 1. p. 8. C. séssilis var. D. C. fl. fr. C. angustifòlia, Hoppe, bot. tasch. 1792. p. 155. C. lineàris, Pursh, fl. amer. sept. 1. p. 3. C. vìrens, Goldb. act. mosc. 5. p. 119. Gray. brit. pl. 2. p. 556.—Gmel. sib. 3. t. 1. Flowers often hermaphrodite. Cells of leaves very fine. This plant is distinguished by its narrower leaves and deeper green colour at first sight.

FIG. 103.



Autumnal Water-starwort. Fl. June, Oct. Britain. Pl. fl.

4 C. TERRE'STRIS (Rafin. med. spec. xi. p. 358.) leaves approximate, short, oblong, obtuse, rather succulent; fruit sessile,

broad, short, emarginate. ⊙. W. H. Native of North America, in marshes and on the borders of rivers, especially in New Jersey. Torrey, fl. un. st. 1. p. 4. C. brevifòlia, Pursh, fl. amer. sept. 1. p. 3. Plant procumbent, diffuse.

Ground Water-starwort. Pl. proc.

Cult. The species of *Callítriche* are not worth cultivating. The seeds only require to be thrown in a pond of water, or the plants may be planted in it.

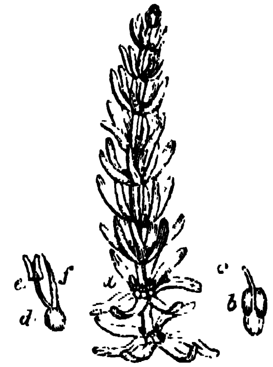
Tribe III.

HIPPURI'DEÆ (plants agreeing with *Hippùris* in important characters). Link, enum. hort. berl. 1. p. 5. Limb of calyx small, entire. Petals wanting. Stamen 1 (f. 104. *c*.). Fruit nucamentaceous (f. 104. *d*.), 1-celled, 1-seeded. Aquatic herbs, with whorls of narrow leaves and whorls of axillary sessile flowers.

VIII. HIPPU'RIS (from ιππος, *hippos*, a horse, and ουρα, *oura*, a tail; resemblance in stem from the crowded whorls of very narrow hair-like leaves). Lin. gen. no. 11. Lam. ill. t. 5. Gærtn. fruct. 2. t. 84. Juss. ann. mus. 3. t. 30. f. 3. D. C. prod. 3. p. 71.—Pinastélla, Dill. nov. gen. 168.

Lin. syst. *Monándria, Monogýnia.* Style filiform (f. 104. *f*.), received into the furrow of the anther (f. 104. *e*.). Fruit crowned by the limb of the calyx. Flowers usually hermaphrodite, but sometimes are found female and neuter from abortion.

FIG. 104.



1 H. vulga'ris (Lin. spec. p. 3.) leaves linear, many in a whorl, usually from 6-12. ♃. W. H. Native throughout Europe and North America, in ditches and lakes, in muddy places among grass and weeds. Œder. fl. dan. t. 87. Smith, engl. bot. t. 763. Drev. et Heyne, pl. cur. t. 93. Poit. fl. par. 1. t. 1. According to Torrey in fl. un. st. 1. p. 2. the Pennsylvanian and Canadian plant does not differ from the European, but the Hudson's Bay one is probably distinct according to Pursh, fl. amer. sept. 2. p. 774. and is probably the H. polyphýlla of Rafin. fl. lud. p. 13. Root creeping much.

Var. β, *fluviátilis* (Hoffm. fl. germ. 3. p. 1.) leaves longer, and membranous. ♃. W. H. Native of deep water, from which it hardly emerges. H. alopecùrus, Brouss. cat. hort. monsp. 1804. Compare D. C. fl. fr. 4. p. 415.

Common Marestail. Fl. May, June. Britain. Pl. 1 foot.

2 H. monta'na (Ledeb. in Rchb. icon. bot. 1. t. 86. no. 181.) plant weak; leaves 7 in a whorl, linear, acute. ♃. W. H. Native of the island of Unalaschka, in ditches and lakes. H. Eschòlzii, Cham. in litt. Habit of a species of *Gàlium*. Perhaps only a variety of *H. vulgàris*.

Mountain Marestail. Pl. ½ foot.

3 H. mari'tima (Hellen. diss. with a figure,) leaves linear, obtuse, 4 in the lower whorls, and 5-7 in the upper whorls. ♃. W. H. Native of Sweden and Finland, &c. in salt water. Horn. fl. dan. t. 1261. Rchb. t. 86. f. 182. H. lanceolàta, Retz, obs. 3. p. 7. t. 1. H. tetraphýlla, Lin. fil. suppl. 81. The leaves are much shorter and a little broader than those of *H. vulgàris*.

Maritime Marestail. Pl. 1 foot.

Cult. Not worth cultivating unless in botanical gardens. The species should be grown in ponds or cisterns of water, if cultivated.

Order XCV. CERATOPHY'LLEÆ (plants agreeing with *Ceratophýllum* in important characters). Gray. brit. pl. 2. p. 554. D. C. prod. 3. p. 73.

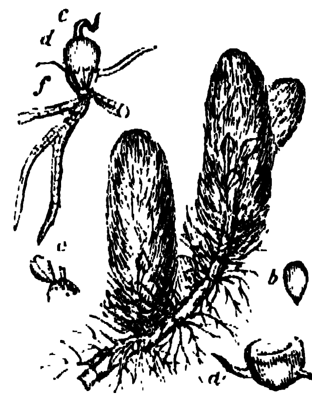
Flowers monoecious. Calyx or perigone free, many-parted (10-12); lobes equal. Petals none. Male. Stamens 12-20; filaments wanting; anthers ovate-oblong, 2-celled, sessile, and crowded in the centre of the calyx, furnished each with 2 (f. 105. *d*.) -3 points. Female. Ovary free, ovate, 1-celled. Stigma sessile, filiform, incurved, oblique (f. 105. *e*.). Nut 1-celled, 1-seeded (f. 105. *b*.), indehiscent, terminated by the hardened style. Seeds pendulous. Albumen none. Embryo straight, with a superior radicle, 4 cotyledons in a whorl, which are alternately smaller, and a many-leaved plumule.—Floating herbs, with whorls of multifid cellular leaves (f. 105. *f*.); the segments filiform, and serrated along the edges.

This is a very distinct order, but whose proper station in the natural system is not well known. It agrees with *Coníferæ* in the many-whorled cotyledons, but the habit is wholly different. In habit it agrees with *Myriophýllum* on the one hand, and on the other with *Hippùris*, and in many characters with the last, especially in the want of petals, in the 1-celled ovary, in the nucamentaceous fruit, in the solitary pendulous seed, as well as in habit, from the leaves being in whorls, from the axillary sessile, usually unisexual flowers, and in its habitat, but differs in the free ovarium an[illegible] many cotyledons.

I. CERATOPHY'LLUM (from κερας, *keras*, a horn, and φυλλον, *phyllon*, a leaf; in reference to the leaves being branched, like a stag's horn). Lin. gen. no. 1055. Gærtn. fruct. 1. p. 211. t. 44. Lam. ill. t. 775. Schkuhr, handb. 3. p. 254. t. 297.—Hydroceratophy'llum, Vaill. act. par. 1719. t. 2. f. 2. Dichotophýllum, Dill. gen. p. 91. t. 3.

Lin. syst. *Monœ̀cia, Polyándria.* The character is the same as that of the order, being the only genus.

FIG. 105.



1 C. deme'rsum (Lin. spec. 1409.) fruit armed with 3 spines, which are unequal, 1 terminal, and 2 lateral (f. 105. *c. d*.); segments of the calyx notched at the extremity. ♃. W. H. Native of Europe, in ditches and ponds, and all still water; plentiful in some parts of Brítain. Smith, engl. bot. t. 947. C. cornùtum, Rich. l. c. Gray. brit. pl. 2. p. 554. Dichotophy'llum demérsum, Mœnch. meth. 345. Vaill. l. c. t. 2. f. 1. Loes. pruss. t. 12. Leaves dichotomous, somewhat trifid, a little toothed along the lobes, when young crowded. (f. 105.)

Demersed Hornwort. Fl. Aug. Sept. Britain. Pl. fl.

2 C. subme'rsum (Lin. spec. 1409.) fruit destitute of spines, but furnished with 2 tubercles at the sides, and the base of the style at the apex; segments of the calyx acute, entire. ♃. W. H. Native of Europe, in ditches, ponds, and all still water with a muddy bottom; and of Porto Rico in the West Indies; plentiful in Britain. Oed. fl. dan. 510. Smith, engl. bot. t. 679. Schkuhr, handb. t. 297. C. verrucòsum, Rich. l. c. Gray, l. c. Leaves rather more divided than those of the first species, and the young ones are less crowded.

Submersed Hornwort. Fl. Sept. Britain. Pl. fl.

3 C. platyca'nthum (Cham. in Linnæa. 4. p. 504. t. 5. f. 6. a.) fruit obovate, winged, armed with 3 spines, with a few teeth between the spines; spines elongated, lateral ones flat. ♃. W. H. Native of California. C. demérsum, Schlecht. fl. berol. 1. p. 486.

Broad-spined Hornwort. Pl. fl.

4 C. oxyaca'nthum (Cham. in Linnæa. 4. p. 504. t. 5. f. 6. b.) fruit elliptic, compressed, armed with 3 spines; spines terete, elongated. ♃. W. H. Native of California?

Sharp-spined Hornwort. Pl. fl.

5 C. murica'tum (Cham. in Linnæa. 4. p. 504. t. 5. f. 6. c.) fruit elliptic, compressed, winged, muricated, armed with 3 spines; spines slender, weak; wing narrow, many-toothed. ♃. W. H. Native of Egypt and California? C. demérsum, Sieb. pl. ægypt.

Muricated-fruited Hornwort. Pl. fl.

6 C. tubercula'tum (Cham. in Linnæa. 4. p. 504. t. 5. f. 6. d.) fruit elliptic, rather compressed, finely tubercled, armed with 3 spines; spines slender, weak; wing none. ♃. W. S. Native of the East Indies. C. I'ndicum, Willd. herb. no. 17546. C. demérsum, Klein.

Tubercled-fruited Hornwort. Pl. fl.

7 C. apicula'tum (Cham. in Linnæa. 4. p. 504. t. 5. f. 6. e.) fruit elliptic, compressed, armed with one spine, and furnished with a tubercle on each side; spine weak; wing none. ♃. W. H. Native of Europe. C. submérsum, D. C. and Schkuhr handb. t. 297.

Apiculated Hornwort. Pl. fl.

Cult. The plants of this genus grow in ponds, pools, or ditches, but are not worth cultivating except in botanical gardens.

Order XCVI. LYTHRARIE'Æ (plants agreeing with *Lýthrum* in important characters). Juss. dict. sc. nat. 27. p. 453. D. C. mem. soc. gen. 3. pt. 2. p. 65. prod. 3. p. 75.—Salicarièæ, Juss. gen. 330.—Calycanthèmæ, Vent. tabl. 3. p. 298.—Salicarinæ, Link, enum. 1. p. 142.

Calyx monosepalous (f. 106. *a.* f. 107. *a.*), with a tubular (f. 107. *a.*) or campanulate tube; lobes valvate or separate in æstivation, their sinuses sometimes lengthened into other lobes (f. 106. *b.*), which are produced on the outside. Petals variable in number (f. 106. *c.*), inserted between the lobes of the calyx, very deciduous; sometimes wanting altogether. Stamens inserted into the tube of the calyx below the petals, to which they are sometimes equal in number; sometimes they are twice, thrice, or even 4-times as numerous, but they are very seldom fewer; anthers oval, 2-celled, inserted by the back (f. 106.). Ovarium free, 2 or 4-celled. Style filiform; stigma usually capitate (f. 106. *c.*). Capsule membranous, covered by the calyx (f. 106. *a.*), 1-celled, opening either longitudinally or in an irregular manner. Seeds numerous, small, exalbuminous, adhering to the central placenta. Embryo straight, with the radicle turned towards the hylum, and the cotyledons flat and foliaceous.—Herbs, rarely shrubs. Branches terete, but most frequently tetragonal. Leaves opposite, seldom alternate, entire, feather-nerved, without either stipulas or glands. Flowers axillary, or in spikes or racemes at the tops of the branches. This order is nearly allied to *Onagràriæ*, from which it is distinguished by the free, ribbed calyx. It is also separated from *Melastomàceæ* in the ovary being free and in the different position of the veins of the leaves. Astringency is the property of *Lýthrum Salicària*, which is reputed to have been found useful in inveterate diarrhœas; another species of the same genus is reputed, in Mexico, to be astringent and vulnerary. The flowers of *Lýthrum Hunteri* are employed in India, mixed with *Morínda*, for dyeing, under the name of *Dhawry*. The Mexicans consider *Heimia salicifòlia* a potent remedy in venereal diseases, and call it *Hauchinol;* its expressed juice, taken in doses of 4 ounces, excites violent perspiration. *Lawsònia inérmis* is the plant from which the henna of Egypt is obtained. Women of that country stain the nails of their fingers and feet with it. It is also used for dyeing skins and maroquins reddish-yellow, and for many other purposes. It contains no tannin. (Edinb. phil. journ. 12. p. 416.) The leaves of *Ammánnia vesicatòria* have a strong muriatic smell, they are extremely acrid, and are used by the native practitioners of India to raise blisters in rheumatisms, &c.; bruised and applied to the part intended to be blistered, they perform their office in half an hour, and most effectually. (Ainly 2. p. 93.)

Synopsis of the genera.

Tribe I.

Salicarie'æ. *Lobes of calyx separate or somewhat valvate in æstivation. Petals numerous* (f. 106. *c.*). *Alternate lobes of calyx at the sinuses formed from the other lobes. Seeds wingless.*

1 Rota'la. Calyx tubular, 3-toothed. Petals none. Stamens 3, inserted in the middle of the tube. Capsule 3-celled.

2 Chrytothe'ca. Calyx funnel-shaped, 4-cleft. Petals 4, small, or wanting. Stamens 2, inserted in the bottom of the calyx. Capsule 1-celled.

3 Suffre'nia. Calyx campanulate, 4-lobed, and furnished with a little tooth at each recess. Petals wanting. Stamens 2, inclosed. Capsule 2-valved, hardly 2-celled.

4 Amele'tia. Calyx campanulate, 8-lobed, the 4 at the sinuses tooth-formed. Petals wanting. Stamens 4. Capsule 1-celled, 2-valved.

5 Pe'plis. Calyx campanulate, 12-lobed, the 6 that rise from the sinuses smaller. Petals 6, small. Stamens 6. Capsule 2-celled.

6 Amma'nnia. Calyx campanulate, 8-14-toothed, those rising from the sinuses the smallest. Petals 4-7, but sometimes wanting. Stamens equal in number to the petals, rarely twice that number. Capsule 4-celled, or when mature only 1-celled.

7 Ly'thrum. Calyx 8-12-toothed, the alternate ones at the sinuses smaller and spreading. Petals 4-6, equal, inserted in the orifice of the calyx. Stamens equal in number, or twice the number of the petals, inserted in the middle or at the base of the calyx. Capsule 2-celled.

8 Cu'phea. Calyx tubular, 12-toothed. Petals 6-7, unequal. Stamens 11-14, rarely 6-7, unequal, inserted in the orifice of the calyx. Capsule 1-2-celled.

9 Acisanthe'ra. Calyx ventricose, 5-cleft. Petals 5. Stamens 12. Capsule round, covered, and crowned by the calyx, 2-celled.

10 Fatio'a. Calyx campanulate, 6-cleft, valvate in æstivation. Petals 6. Stamens 24, inserted in the bottom of the tube. Ovary 3-celled.

11 PE'MPHIS. Calyx turbinate, 12-lobed, the 6 at the sinuses the smallest. Petals 6. Stamens 12. Capsule 6-valved, 3-celled at the base.

12 HEI'MIA. Calyx bibracteolate at the base, campanulate, 12-lobed, those at the sinuses horn-formed. Petals 6. Stamens 12., nearly equal. Ovarium 4-celled.

13 DIPLU'SODON. Calyx bibracteate at the base (f. 106. *a.*), 12-lobed (f. 106. *b.*), those at the sinuses narrowest, the rest triangular. Petals 6 (f. 106. *c.*). Stamens 6-12-18-24-30-36. Capsule 2-valved, 2-celled, but at maturity only 1-celled.

14 PHYSOCALY'MNA. Calyx campanulate, 8-toothed, without any at the sinuses. Petals 8, rising from the sinuses of the calyx. Stamens 24. Capsule globose, 1-celled.

15 DE'CADON. Calyx campanulate, with 5 erect lobes, and 5 horn-formed ones at the sinuses. Petals 5. Stamens 10, 5 of which are very long. Ovary 3-celled.

16 NESÆ'A. Calyx campanulate, with 4-6 erect lobes, and as many horn-formed ones at the sinuses. Petals 4-6. Stamens 8-12, nearly equal. Ovarium 4-celled.

17 CRE'NEA. Calyx urceolate, 4-cleft. Petals 4. Stamens 8. Capsule 1-5-celled.

18 LAWSÒNIA. Calyx 4-parted. Petals 4. Stamens 8. Capsule 4-celled, globose.

19 ABA'TIA. Calyx subturbinate; limb 4-parted. Petals wanting. Stamens about 20, inserted near the base of the calycine tube. Capsule 1-celled, 2-valved, opening at the apex.

20 ANTHERY'LIUM. Calyx 4-parted, equal. Petals 4. Stamens 12-16. Capsule 3-4-valved, and probably 3-4-celled, when young.

21 DODE'CAS. Calyx with an urceolate tube and a 4-cleft limb. Petals 4. Stamens 12. Capsule 4-valved, 1-celled.

22 GINÒRIA. Calyx campanulate, 6-cleft. Petals 6. Stamens 12. Capsule 4-valved, 1-celled, dehiscent at the apex.

23 ADENA'RIA. Calyx campanulate, 4-5-cleft. Petals 4-5. Stamens 8-10. Ovary 2-celled. Fruit globose.

24 GRI'SLEA. Calyx tubular (f. 107. *a.*), with 4-6 erect teeth, and as many horn-formed, spreading ones at the sinuses. Petals 4-6. Stamens 8-12. Ovary 2-celled. Capsule globose (f. 107. *d.*).

TRIBE II.

LAGERSTRŒMIE'Æ. *Lobes of calyx valvate in the bud. Petals the same number as the lobes of the calyx, and inserted at its divisions at the top of the tube. Stamens inserted lower down in the calyx than the petals, twice or thrice the number of the petals. Seeds expanded into a membranous wing.—Shrubs or trees.*

25 LAGERSTRŒ'MIA. Calyx bibracteolate at the base, 6-cleft. Petals 6. Stamens 18-30. Capsule 3-6-valved, 3-6-celled.

26 LAFOE'NSIA. Calyx bibracteate at the base, campanulate, 8-10-toothed. Petals 10-12. Stamens 20-24. Ovary 2-celled. Berry spherical.

† *Genera belonging to Lythrarièæ, but are not sufficiently known.*

27 PHYSOPÒDIUM. Calyx turbinate, 5-toothed. Petals 5. Stamens 10. Ovary oblong.

28 SYMME'TRIA. Calyx campanulate, 6-cleft. Petals 6. Stamens 12. Ovarium 4-celled; cells biovulate. Drupe baccate, 1-3-celled; cells containing a one 1-seeded reniform nut each.

Tribe I.

SALICARIE'Æ (so named from the plants agreeing in habit and character with *Lythrum Salicària*, which has received its specific name from its resemblance to *Sàlix* in its leaves). D. C. mem. soc. h. n. gen. 3. pt. 2. p. 71. D. C. prod. 3. p. 75. Lobes of calyx more or less separate in æstivation, or somewhat valvate. Petals many, alternating with the lobes of the calyx, and inserted at the top of the tube at the divisions; sometimes wanting. Stamens inserted in the tube of the calyx below the petals. Seeds wingless.—Herbs or shrubs.

I. ROTA'LA (from *rota*, a wheel; in reference to the whorled leaves of the species). Lin. mant. 175. St. Hil. mem. mus. 2. p. 381. D. C. prod. 3. p. 75.

LIN. SYST. *Triándria, Monogýnia.* Calyx membranous, tubular, 3-toothed. Petals wanting. Stamens 3, inserted in the middle of the tube of the calyx. Capsule covered by the calyx, 3-valved, 3-celled, many seeded.—Small herbs. Leaves sessile, spreading. Flowers minute, axillary, solitary.

1 R. VERTICILLA'RIS (Lin. l. c.) leaves 4-8 in a whorl, linear, acute. ⊙. B. H. Native of the East Indies. En-epael, Rheed. mal. 9. t. 81. ex Lin. Capsule 3-valved, 3-celled.

Whorled-leaved Rotala. Pl. ½ foot.

2 R. DECUSSA'TA (D. C. prod. 3. p. 76.) leaves opposite, oval-oblong. ⊙. B. H. Native of New Holland, at Endeavour River. Ortegioìdes decussàta, Sol. mss. Entèlia ammannioìdes, R. Br. ex Salisb. in litt. Capsule 3-valved, many-seeded. Calyx 3-5? toothed? Stamens 3? Habit of *Pèplis* or *Ammánnia*.

Decussate-leaved Rotala. Pl. ½ foot.

3 R. MEXICA'NA (Schlecht. et Cham. in Linnæa. 5. p. 567.) leaves 3-4 in a whorl, usually opposite towards the tops of the branches, linear, a little dilated at the base; flowers in whorls; capsule 3-valved, 1-celled. ⊙. W. H. Native of Mexico, in slow running water, near Hacienda de la Laguna.

Mexican Rotala. Pl. 1½ inch.

Cult. Sow the seeds in a warm moist sheltered place in the open border.

II. CRYPTOTHE'CA (κρυπτος, *cryptos*, hidden, and θηκα, *theca*, a cover; capsule hidden by the calyx). Blum. bijdr. p. 1128. D. C. prod. 3. p. 76.

LIN. SYST. *Diándria, Monogýnia.* Calyx funnel-shaped, 4-cleft. Petals 4, small, or wanting. Stamens 2, opposite, inserted in the bottom of the calyx; anthers roundish. Style 1, lateral, obtuse. Capsule girded by the calyx, 1-celled, irregularly circumcised at the apex. Seeds numerous.—Suffruticose, branched herbs from Java, with angular stems. Leaves opposite. Peduncles axillary, many-flowered. This genus agrees with *Suffrènia* in the number of the stamens, and in the inflorescence with *Ammánnia.*

1 C. DICHÓTOMA (Blum. l. c.) leaves linear-lanceolate, broadest at the base, half stem-clasping; corymbs dichotomous; flowers 4-petalled. ♄. B. S. Native of Java, in bogs about Batavia, and on the margins of rivers about Buitenzorg.

Dichotomous Cryptotheca. Shrub 1 foot.

2 C. APE'TALA (Blum. l. c.) leaves on short petioles, lanceolate; peduncles many-flowered; flowers apetalous. ♄. B. S. Native of Java, on the banks of the river Tjidanie, in the province of Tjanjor.

Apetalous Cryptotheca. Shrub 1 foot.

Cult. These plants will do well in a mixture of loam, peat, and sand, and cuttings will root in sand under a bell-glass. The pots in which the plants are grown should be always kept in pans of water.

III. **SUFFRE'NIA** (in honour of De Suffren, a French botanist, author of Principes de Botanique, suivis d'un catalogue des plantes de Frioul et de Carnia, 1 vol. 8vo. Venice, 1802). Bell. act. taur. 7. t. 1. f. 1. D. C. prod. 3. p. 76.

Lin. syst. *Decándria, Monogýnia.* Calyx tubularly-campanulate; lobes 4, erect, ovate, acute; teeth 4, small at the sinuses. Petals wanting. Stamens 2, inclosed, inserted in the tube of the calyx. Style filiform; stigma capitate. Capsule oblong, 2-valved, when young 2-celled, but in the adult state only 1-celled, the dissepiment having vanished at the apex, many-seeded.—A nearly simple, erect herb. Leaves opposite, quite entire. Flowers small, sessile, solitary, axillary.

1 S. filifórmis (Bell. l. c.). ⊙. B. H. Native of Ticin, about Vercelli in rice-fields. D. C. fl. fr. no. 3651. exclusive of the synonyme of Lobel. Herb weak, 3-6 inches long. Flowers yellowish.

Filiform Suffrenia. Pl. ½ to 1½ foot.

Cult. The seed to be sown in wet or marshy ground in the open air.

IV. **AMELE'TIA** (from αμελητος, *ameletos*, neglected. The present genus was formerly included in the genus *Péplis*, from its characters having been overlooked). [illegible] C. mem. soc. hist. nat. gen. 3. pt. 2. p. 82. prod. 3. p. 76. Péplis species of Willd.

Lin. syst. *Tetrándria, Monogýnia.* Calyx campanulately-tubular; larger lobes 4, erect, ovate, acuminated, connivent, smaller ones 4, tooth-formed at the sinuses. Petals none. Stamens 4, inserted in the tube of the calyx. Ovarium ovate. Style filiform; stigma capitate. Capsule ovate, when young 2-celled, but in the adult state only 1-celled, from the dissepiment having vanished, 2-valved, many-seeded.—An herb with opposite, entire leaves. Spikes axillary, sessile, bracteate. Flowers small, bibracteolate at the base, sessile along the rachis, rising from the axils of the elongated bracteas. This genus is intermediate between *Ammánnia* and *Péplis.* The habit is peculiar.

1 A. I'ndica (D. C. l. c. t. 3. f. A.).—Native of the East Indies. Péplis I'ndica, Willd. spec. 2. p. 244. Ammánnia peploìdes, Spreng. syst. 1. p. 444. Branches nearly tetragonal. Leaves obovate-oblong, feather-nerved, bluntish. Spikes rather longer than the leaves. Bracteas linear-oblong, acute, longer than the flowers.

Indian Ameletia. Pl. ½ foot.

Cult. The seeds of this plant should be sown thinly in a pot, which should be placed in a hot-bed, and when the plants are about 2 inches high, the pot may be removed to the stove or greenhouse, where the plants will flower and ripen their seed.

V. **PE'PLIS** (πεπλις, *peplis*, the Greek name for the purslane; similar habit). Lin. gen. no. 446. Lam. ill. t. 262. D. C. prod. 3. p. 76.—Pórtula, Dill. gen. 7.—Glaucoìdes, Mich. gen. 18.—Chabræ'a, Adans. fam. 2. p. 234. but not of D. C. - Glaux, Vaill. bot. p. 80. t. 15. f. 5.

Lin. syst. *Hexándria, Monogýnia.* Calyx campanulate, with 12 lobes, of which 6 are broader than the rest and erect, the others spreading, subulate, and rising from the sinuses. Petals 6, minute, fugaceous, sometimes wanting. Stamens 6, alternating with the petals in front of the broader calycine lobes. Style hardly any; stigma capitate. Capsule 2-celled, many-seeded. Branched herbs, with opposite or alternate, entire leaves; and sessile, axillary, solitary, insignificant flowers.

1 P. Po'rtula (Lin. spec. 474.) leaves opposite, obovate, stalked; petals hardly visible; flowers axillary, solitary. ⊙. B. H. Native of Europe, in watery places, on a sandy, gravelly, or heathy soil, frequent; plentiful in some parts of England. Schkuhr, handb. t. 99. Fl. dan. t. 64. Curt. lond. t. 27. Smith, engl. bot. t. 1211. Pórtula diffùsa, Mœnch. Calyx reddish. Petals white, very minute, or wanting.

Common Water *Purslane.* Fl. June, Sept. Brit. Pl. cr.

2 P. biflòra (Saltzm. pl. exsic. 1825.) leaves opposite or alternate, obovate, cuneated at the base, on short petioles; flowers twin, axillary. ⊙. B. H. Native in humid places about Tangiers. Flowers rather larger than those of *P. pórtula.*

Two-flowered Water Purslane. Pl. creeping.

3 P. alternifòlia (Bieb. suppl. 277.) leaves alternate, linear, somewhat spatulate. ⊙. B. H. Native of Caucasus, about the Volga. P. Volgénsis, Fisch. in litt. 1810.

Alternate-leaved Water Purslane. Fl. Ju. Sept. Clt. 1816. Pl. creeping.

4 P.? dia'ndra (Nutt. in litt. ex D. C. prod. 3. p. 77.) leaves opposite, linear, upper ones somewhat alternate. ⊙. B. H. Native of North America, in marshes and bogs about the Arkansa. Leaves 8-9 lines long and hardly a line broad. Flowers axillary, sessile. Stigmas 2. Capsule globose. Stamens 2, according to Nuttall. Calyx 4-6-cleft. Perhaps a proper genus.

Diandrous Water Purslane. Pl. creeping.

Cult. The species of *Water Purslane* grow in any soil that is moist, where the seeds may be sown.

VI. **AMMA'NNIA** (in honour of John Ammann, once professor of botany at Petersburgh; author of Stirpium rariorum in imperio Rutheno sponte provenientium icones et descriptiones, 1 vol. 4to. Petersburgh, 1739). Houst. in Lin. gen. no. 155. Lam. ill. t. 77. D. C. mem. soc. gen. 3. pt. 2. p. 79. D. C. prod. 3. p. 77.—Cornèlia, Hard. spec. 2. p. 1. t. 1.

Lin. syst. *Tetra-Heptándria, Monogýnia.* Calyx campanulate, with 4-7, erect, flat teeth, and 4-7 horn-formed, spreading, smaller ones rising from the sinuses. Petals 4-7, alternating with the erect teeth of the calyx. Stamens equal in number to the petals, rarely double that number. Capsule oval-globose, membranous, 4-celled, or only 1-celled when mature. Seeds numerous, fixed to the central placenta, which is tetragonal.—Smooth aquatic plants. Stems usually tetragonal. Leaves opposite, quite entire. Flowers small, axillary, sessile, or on short pedicels, usually pink or red.

§ 1. *Flowers apetalous. Stamens 4. Some of the species are probably placed in this division from the petals being very caducous.*

1 A. parviflòra (D. C. prod. 2. p. 77.) stem erect, tetragonal, glabrous; leaves oblong, sessile; cymes axillary, many-flowered, longer than the leaves; calyx 4-toothed; capsule globose, hardly longer than the calyx. ⊙. B. F. Native of the East Indies. Herb slender.

Small-flowered Ammannia. Pl. ½ foot.

2 A. filifórmis (D. C. mem. soc. gen. 3. p. 95.) stem erectish, branched from the base; branches diffuse, filiform, tetragonal; leaves linear; umbels axillary, many-flowered, rather loose, pedunculate; flowers apetalous, tetrandrous; capsule globose, exceeding the calyx. ⊙. B. F. Native of Senegal. Lýthrum filifórme, Perr. in litt. Herb weak. 3-4 inches long.

Filiform Ammannia. Pl. ascending.

3 A. Senegale'nsis (Lam. ill. no. 155. t. 77. f. 2.) stem erect, terete, branched, and floriferous from the base, tetragonal at the apex; leaves linear-lanceolate, sessile, dilated at the base, cordate; umbels axillary, many-flowered, on short peduncles; flowers apetalous, tetrandrous; capsule globose, twice the

length of the calyx. ⊙. B. F. Native of Senegal. Lỳthrum multiflòrum, Perr. in litt.

Senegal Ammannia. Pl. ½ foot.

4 A. I'ndica (Lam. ill. no. 1555.) stem erect, branched, terete; branches rather tetragonal, erectish; leaves lanceolate, attenuated at the base; corymbs axillary, many-flowered, on short peduncles; flowers apetalous, tetrandrous. ⊙. B. F. Native of the East Indies, and the Island of Timor.

Indian Ammannia. Pl. ⅓ foot.

5 A. microca'rpa (D. C. mem. soc. gen. p. 93.) plant erect, branched, terete; branches rather tetragonal; leaves lanceolate-linear, sessile, somewhat dilated and cordate at the base; umbels axillary, many-flowered, on short peduncles; flowers apetalous, tetrandrous; capsule obovate, length of calyx. ⊙. B. F. Native of the Island of Timor. Intermediate between the preceding and the following species.

Small-fruited Ammannia. Pl. ½ foot.

6 A. Egypti'aca (Willd. hort. berol. t. 6.) stem erect, branched, terete at the base and tetragonal at the apex; branches spreading; leaves lanceolate, sessile, attenuated at the base, spreading; flowers sessile, axillary, crowded, apetalous, tetrandrous, disposed in something like whorls. ⊙. B. F. Native of Egypt, in rice-fields. Del. fl. ægypt. 37. t. 15. f. 3. Calyx acutely 8-toothed. Capsule spherical, when mature 1-celled.

Egyptian Ammannia. Fl. Jul. Aug. Clt. 1820. Pl. ½ to 1 ft.

7 A. vesicatòria (Roxb. fl. ind. 1. p. 447.) stems erect, branched; branches undivided; leaves sessile, lanceolate, attenuated at the base; flowers sessile, axillary, disposed in something like whorls, apetalous, tetrandrous. ⊙. B. F. Native of the East Indies, in humid cultivated fields. Pluk. alm. t. 136. f. 22. Burm. ind. t. 15. f. 3.? A. baccífera, Lin. spec. 175.? Capsule 1-celled. The leaves have a strong muriatic smell; they are extremely acrid, and are used by the native practitioners of India to raise blisters in rheumatism, &c., bruised and applied to the part of the body intended to be blistered; they perform their office in half an hour most effectually.

Blistering Ammannia. Pl. ½ to 1⅓ foot.

8 A. hasta'ta (D. C. prod. 3. p. 78.) stem branched, diffuse, rooting at the base, somewhat tetragonal, glabrous; leaves stem-clasping, and bluntly hastate at the base, linear-lanceolate; flowers axillary, sessile, solitary, apetalous, tetrandrous. ♄. B.? S. Native of Peru, in marshes. Isnárdia hastàta, Ruiz, et Pav. fl. per. 1. p. 66. t. 85. f. 6. Isnárdia subhastàta, Dietr. gart. 5. p. 137. ex Rœm. et Schultes, syst. 3. p. 477.

Hastate-leaved Ammannia. Shrub 1 foot.

9 A. elatinoìdes (D. C. mem. soc. hist. nat. gen. 3. pt. 2. p. 92. t. 3. f. B.) stems decumbent at the base; branches erect, filiform, somewhat tetragonal, simple; leaves sessile, all opposite, lower ones oblong, upper ones ovate; flowers sessile, apetalous, tetrandrous, nearly all solitary. ⊙. B. F. Native of Senegal. Lỳthrum uniflòrum, Perr. in litt. Capsule ovate, 4-celled. Calyx cylindrical, 4-toothed, with the sinuses scarcely exserted into teeth.

Elatine-like Ammannia. Pl. decumbent.

10 A. Borysthe'nica (D. C. prod. 3. p. 78.) stem branched, diffuse; leaves oblong, or obovate-lanceolate, lower ones opposite, upper ones alternate; flowers axillary, sessile, apetalous, and tetrandrous, almost always solitary. ⊙. B. F. Native at the Bosphorus, near Kiew and Krementschug. Péplis Borysthènica, Bess. ex Spreng. syst. 1. p. 135. Calyx 8-cleft, and the capsule is that of *Ammánnia*.

Bosphorus Ammannia. Pl. diffuse.

11 A. occidenta'lis (D. C. prod. 3. p. 78.) stems ascending, rooting at the base; leaves lanceolate, tapering into the petiole at the base; flowers axillary, sessile, apetalous, tetrandrous, nearly all solitary. ⊙. B. H. Native of Porto Rico. Péplis occidentàlis, Spreng. syst. 2. p. 135. Calyx 8-toothed. Young capsule 4-celled, but the mature capsule is nearly 1-celled, as in *Ammánnia*. Habit of *Péplis*.

Western Ammannia. Fl. July. Clt. 1829. Pl. creeping.

§ 2. *Tetrapétalæ* (from τετρα, *tetra*, 4, and πεταλον, *petalon*, petal; petals 4). *Calyx 8-toothed. Petals and stamens 4.*

12 A. Ca'spica (Bieb. fl. taur. 2. p. 457. suppl. p. 111.) stem tetragonal, erect, branched; leaves lanceolate, attenuated at the base; flowers axillary, glomerate, sessile, tetrandrous; petals 4, small, or wanting. ⊙. B. H. Native at the river Cyrus, towards the Caspian Sea. Habit of *A. Ægyptìaca*, but the petals are 4, ex Bieb. Like *A. sanguinolénta*, but the teeth of the calyx are more stiff and acute. Flowers purple.

Caspian Ammannia. Fl. June, Aug. Clt. 1818. Pl. ¾ ft.

13 A. ramòsior (Lin. spec. 174.) stems tetragonal, erect, branched; leaves linear-lanceolate, dilated at the base, and rather stem-clasping; lower flowers disposed in compact whorls, upper ones solitary, opposite; petals 4, obovate-roundish; stamens 4. ⊙. B. H. Native of Virginia and Carolina, in bogs. A. purpùrea, Lam. dict. 1. p. 131. Petals and filaments purple.

More-branched Ammannia. Fl. Jul. Aug. Clt. 1759. Pl. 1 ft.

14 A. latifòlia (Lin. spec. 174.) stems tetragonal, erect, branched; leaves linear-lanceolate, bluntly and auriculately cordate at the base; flowers axillary, 1-3-together, sessile; petals and stamens 4. ⊙. B. F. Native of Jamaica, and probably of South Carolina. Sloane, hist. 1. t. 7. f. 4. Lam. ill. t. 77. f. 1. Petals are said to be white. Perhaps the plant is apetalous.

Broad-leaved Ammannia. Fl. July, Aug. Clt. 1733. Pl. 1 to 2 feet.

15 A. hu'milis (Michx. fl. bor. amer. 1. p. 99.) stem procumbent at the base, slender, tetragonal, branched; leaves linear-lanceolate, attenuated at the base; flowers axillary, solitary, sessile; petals 4, orbicular; stamens 4. ⊙. B. H. Native from Carolina to Virginia, along the banks of the rivers in marshes. Torr. fl. un. st. 1. p. 189. A. ramòsior, Walt. car. 88. Petals white or pale-purple. Capsule 4-celled.

Humble Ammannia. Fl. July, Aug. Clt. 1823. Pl. proc.

16 A. verticilla'ta (Lam. ill. 1. no. 1554. t. 77. f. 3.) stem erect, tetragonal, branched; leaves lanceolate, nearly sessile, attenuated at the base; flowers crowded in whorls in the axils of the leaves; petals 4, obovate; stamens 4. ⊙. B. H. Native of marshy places about Padua, and in rice grounds near Florence, and probably also of the East Indies and China. Cornèlia verticillàta, Hardw. spec. 2. p. 9. t. 1. A. I'ndica, Lam. dict. 9. p. 328. A. baccífera, Lin. spec. 175? A. víridis, Willd. in Horn. hort. hafn. 1. p. 146. Habit of *A. Ægyptiaca* and *A. vesicatòria*, but differs in the flowers being 4-petalled, not apetalous. Calyx 4-toothed. Capsule roundish, equal in length to the tube of the calyx, 1-celled, of an obscure purple colour, ex Hardw.

Whorled-flowered Ammannia. Fl. July, Aug. Clt. 1819. Pl. ½ foot.

17 A. densiflòra (Roth, nov. spec. 99.) stems ascending, branched, creeping at the base; leaves sessile, linear-lanceolate, rather cordate at the base; branches all densely beset with flowers from the base, so much so as to appear spike-formed; bracteas spreadingly recurved; flowers axillary, sessile; petals 4, obovate; stamens 4. ⊙. B. F. Native of the East Indies. Petals whitish. Capsule subglobose, smaller than the calyx.

Dense-flowered Ammannia. Pl. ¾ foot.

18 A. multiflòra (Roxb. fl. ind. 1. p. 447.) stem straight, tetragonal; angles acute; leaves linear, dilated and cordately sagittate at the base, stem-clasping; peduncles axillary, 3-7-flowered; petals 4, roundish. ⊙. B. F. Native about Calcutta, in fields. Petals red. Capsule 1-celled.

Many-flowered Ammannia. Pl. ½ to 1 foot.

19 A. DE′BILIS (Ait. hort. kew. ed. 1. vol. 1. p. 163.) stems angular, branched; leaves lanceolate, attenuated at the base; flowers in axillary fascicles; petals 4, obovate; stamens 4; capsule bilocular? ⊙. B. F. Native of the East Indies. Petals pale purple.

Weak Ammannia. Fl. Jul. Aug. Clt. 1778. Pl. ½ foot.

20 A. DIFFU′SA (Willd. enum. 1. p. 167.) stems ascending, branched, tetragonal at the apex; branches diffuse; leaves lanceolate, bluntish, narrowed at the base, upper ones cordate; corymbs axillary, 3-7-flowered, pedunculate; petals and stamens 4. ⊙. B. F. Native country and fruit unknown. Petals white.

Diffuse Ammannia. Fl. July, Aug. Clt. 1820. Pl. ascend.

21 A. CATHÓLICA (Schlecht. et Cham. in Linnæa. 2. p. 378.) flowers solitary, sessile, tetrandrous; calyx 8-toothed, outer teeth narrower, longer, erect, about equal in length to the petals, which are fugaceous; capsule ovoid, inclosed, 4, rarely 3-celled; leaves lanceolate, tapering to the base. ⊙. B. F.

Var. α, *Philippénsis* (Schlecht. et Cham. l. c.) stem weak, rooting at the base. Native of the Island of Lucon, in moist sandy places.

Var. β, *Brasiliénsis* (Schlecht. et Cham. l. c.) stem firm, erect.

Universal Ammannia. Pl. ½ foot

22 A. ROTUNDIFÒLIA (Roxb. fl. ind. 1. p. 446.) stems diffuse, creeping at the base, but ascending at the apex; leaves almost sessile, nearly orbicular; flowers nearly sessile, crowded in the axils of the upper leaves, and constitut[illegible]rminal spikes; petals 4, ovate; stamens 4. ⊙. B. H. [illegible]ive of Nipaul, near Katmandu; and of Bengal. D. Don, prod. fl. nep. p. 220. This plant has the appearance of a species of *Goniocárpus*. Stems 2-3 inches high. Capsule 4-lobed, girded by the permanent calyx and corolla. Petals pink.

Round-leaved Ammannia. Fl. July, Aug. Clt. 1819. Pl. ¼ to ½ foot.

§ 3. *Pentándræ* (in reference to the flowers being pentandrous). *Petals and stamens* 5. *Calyx* 10-*toothed*.

23 A. PENTA′NDRA (Roxb. fl. ind. 1. p. 448.) stems creeping at the base, simple, but erect and branched at the apex; branches simple; leaves sessile, lanceolate; flowers axillary, sessile, solitary, 5-petalled, and pentandrous. ⊙. B. F. Native of the East Indies, in humid places, and of Java, in rice-fields. Blum. bijdr. p. 1130. Petals purple. Capsule 4-celled, but when mature, almost 1-celled, longer than the calyx.

Pentandrous Ammannia. Fl. Jul. Aug. Clt. 1823. Pl. ½ ft.

24 A. NA′NA (Roxb. fl. ind. 1. p. 418.) stems creeping at the base, but erect at the apex and branched; branches branched again; leaves sessile, wedge-shaped; flowers solitary, 5-petalled, and pentandrous. ⊙. B. F. Native of the East Indies, in marshes. Petals purple. Very like the *A. pentándra*, but much smaller. Capsule 1-celled.

Dwarf Ammannia. Pl. ¼ to ½ foot.

§ 4. *Dyplostèmoneæ* (from δυπλοος, *double*, and στημον, *stemon*, a stamen). *D. C. prod.* 3. *p.* 80. *Petals* 4-7. *Stamens twice the number of the petals.*

25 A. DODECA′NDRA (D. C. mem. soc. hist. nat. gen. 3. pt. 2. p. 89. t. 2.) leaves linear-lanceolate, acute, sessile, bluntly somewhat auricled at the base; flowers axillary, almost sessile, 1-3-together; petals 6-7; stamens 12-14. ⊙. B. H. Native of Senegal. Lýthrum grandiflòrum, Perr. in litt. Herb greenish-glaucous, erect. Petals violaceous. Capsule 4-5-celled, 4-5-valved, length of calyx.

Dodecandrous Ammannia. Pl. ½ to 1 foot.

26 A. SANGUINOLE′NTA (Swartz, fl. ind. occid. 1. p. 272.) leaves linear-lanceolate, acutish, but bluntly and auriculately cordate at the base, half stem-clasping; flowers almost sessile, axillary, 3-5 together; petals 4; stamens 8. ⊙. B. F. Native of Jamaica, in bogs and ditches; and of Hispaniola and Mexico. Petals blood-coloured. Capsule 4-celled. A. octándra β, Poir. suppl. 1. p. 328.

Bloody-flowered Ammannia. Fl. Jul. Aug. Clt. 1803. Pl. ½ ft.

27 A. OCTA′NDRA (Lin. fil. suppl. 127.) leaves linear-lanceolate, sessile, acutely and auriculately cordate at the base; flowers axillary, almost sessile, 1-3-together; petals 4; stamens 8. ⊙. B. F. Native of the East Indies, in boggy places. Roxb. cor. 2. t. 133. A. coccínea, Pers. ench. 1. p. 147. Capsule 4-celled. Flowers red.

Octandrous Ammannia. Fl. Jul, Aug. Clt. 1820. Pl. 2 ft.

28 A. AURICULA′TA (Willd. hort. berol. 1. p. 7. t. 7.) leaves linear-lanceolate, sessile, bluntly and auriculately cordate at the base; corymbs axillary, many-flowered, on short peduncles; petals 4; stamens 8. ⊙. B. F. Native of Egypt and Senegal, in rice fields. Del. fl. eg. p. 36. t. 15. f. 2. A. racemòsa, Poir. suppl. 1. p. 329. Lýthrum ramòsum, Perr. in litt. Stems tetragonal.

Auriculate-leaved Ammannia. Pl. 1 foot.

† *Species not sufficiently known.*

29 A. RU′BRA (Hamilt. in D. Don, prod. fl. nep. p. 220.) stem erect, almost simple, tetragonal, rooting at the base; leaves oblong, obtuse, sessile; flowers sessile, solitary; floriferous branchlets opposite, hardly longer than the leaves. ⊙. B. H. Native of Nipaul. Stem 3-4 inches high. Petals red.

Red-flowered Ammannia. Fl. Jul. Aug. Clt. 1818. Pl. ¼ ft.

30 A. RÒSEA (Poir. suppl. 1. p. 329.) stems weak; branches filiform; leaves linear, sessile, acutish, floral ones small; flowers usually solitary, sessile; capsule globose. ⊙. B. F. Native of the East Indies. Flowers small, rose-coloured. Plant small.

Rose-coloured-flowered Ammannia. Pl. ½ foot.

31 A. RE′PENS (Rottl. ex Mart. acad. munch. phil. 6. p. 150.) stems rooting, tetragonal; leaves on short petioles, oblong, bluntish; flowers axillary, solitary, sessile. ⊙. B. H. Native of the East Indies.

Creeping Ammannia. Pl. creeping.

32 A. PA′LLIDA (Lehm. sem. hort. hamb. 1823. p. 3.) stem erect, tetragonal; leaves lanceolate, acuminated, dilated and cordate at the base; flowers in glomerate whorls. ⊙. B. F. Native country unknown. Perhaps the same as *A. latifòlia.*

Pale Ammannia. Pl. 1 foot.

33 A.? SAGITTA′TA (D. C. prod. 3. p. 80.) branches somewhat tetragonal, glabrous, herbaceous; leaves linear, sessile, bluntly sagittate at the base; capsules globose, somewhat tetragonal, in glomerate whorls, 4-toothed at the apex? ⊙. B. F. Native of St. Domingo. Jussiæ′a sagittàta, Poir. suppl. 3. p. 198.

Sagittate-leaved Ammannia. Pl. ½ foot.

34 A.? PINNATI′FIDA (Lin. fil. suppl. 127.) stems procumbent, rooting, compressed; leaves scattered, linear, pinnatifid; lobes filiform; flowers axillary; capsule tetragonal. ⊙.? B. F. Native of Java. From the capsule being 4-cornered it is probable that this plant ought to be excluded from the genus. It is perhaps a species of *Myriophýllum*, but differs from that genus in the leaves being scattered.

Pinnatifid-leaved Ammannia. Pl. procumbent.

Cult. The species of *Ammánnia* being all annuals, and for the most part natives within the tropics, the seeds of them must be sown in pots, which should be placed in a hot-bed frame or in a stove, and when the plants have grown to the height of 2 inches, they may be transplanted into other pots, 3 or 4 plants in each; these pots should be placed in the stove or warm part of a green-house, placing each in a pan of water. Some of the plants may also be planted out in the open ground, in a sheltered moist situation. None of the species are worth growing, unless in botanic gardens.

VII. LY'THRUM (λυθρον, *lythron*, black-blood; from the purple colour of the flowers). Juss. gen. p. 332. D. C. prod. 3. p. 80.—Salicària, Tourn. inst. 253.—Lýthrum species of Lin. and Lam.

LIN. SYST. *Dodecándria, Monogýnia.* Calyx cylindrical, striated, with 8-12 teeth, of which from 4-6 are broader than the rest, and erect; the others smaller and spreading. Petals 4-6, inserted in the orifice of the calyx, alternating with its erect teeth. Stamens inserted in the middle, or at the base of the tube of the calyx, twice as numerous as the petals, or occasionally fewer. Style filiform; stigma capitate. Capsule oblong, included in the calyx, 2-celled, many-seeded. Placentas thick, adnate to the dissepiment.—Herbs, seldom subshrubs. Leaves entire. Flowers axillary, purple or white. Stems square.

SECT. I. AMMANNIOÌDES (containing plants with the habit of *Ammánnia*). D. C. in mem. soc. gen. and prod. 3. p. 81. Stamens 4-6. Petals wanting? Calyx tubularly campanulate.

1 L.? NUMMULARIÆFÒLIUM (Lois. not. p. 74 but not of Pers.) glabrous; stem herbaceous, branched; leaves obovate-roundish, obtuse, opposite, but some of the rameal ones are alternate; flowers axillary, solitary, apetalous. ⊙. H. Native of Corsica. Calyx nearly of *Ammánnia*, 8-16-toothed, the alternate teeth small and horn-formed. Petals wanting, or falling off very early. Stamens 4-8, inclosed. Capsule ovate, 2-celled. This plant is an *Ammánnia* in flower, but a *Lýthrum* in fruit.

Money-wort-leaved Purple Loosestrife. Pl.

SECT. II. HYSSOPIFÒLIA (plants agreeing in character with *L. hyssopifòlium*). D. C. mem. soc. gen. 3. part 2. p. 78. prod. 3. p. 81.—Hyssopifòlia, C. Bauh. pinn. p. 218.—Pythagòrea, Rafin. journ. phys. aug. 1819. p. 96. but not of Lour. Stamens equal in number to the petals, rarely double that number. Flowers solitary in the axils of the leaves, never disposed in spikes. Plants nearly all glabrous in every part.

* *Stamens usually equal in number to the petals.*

2 L. THYMIFÒLIUM (Lin. spec. 642.) leaves alternate, linear, acutish; flowers almost sessile, shorter than the leaves; bracteas foliaceous, linear, usually longer than the calyx; petals 4-5; stamens 2. ⊙. B. H. Native of Egypt, Mauritania, and many parts of the south of Europe, in salt marshes by the sea side; and a plant very much resembling the present species, if not the same, was collected about Conception in Chili, by Captain Dumont D'Urville.—J. Bauh. hist. 3. p. 792. Barrel. icon. t. 773. f. 2. Pentaglóssum linifòlium, Forsk. descrip. no. 11. Salicària thymifòlia, Lam. fl. fr. Stems erect. Flowers small, pale lilac.

Var. β, *màjor* (D. C. prod. 3. p. 81.) stems more branched, elongated; leaves linear-lanceolate. ⊙. B. H. Native about Montpelier. L. bibracteàtum, Salzm. in litt. Habit of *L. hyssopifòlium*, but the character is that of *L. thymifòlium.*

Thyme-leaved Purple-Loosestrife. Fl. July, Aug. Clt. 1816. Pl. ½ to 1 foot.

3 L. THESIOÌDES (Bieb. fl. taur. 1. p. 367.) leaves alternate, linear-lanceolate; capsule nearly globose, 4-toothed, pedicellate. ⊙. B. H. Native of Caucasus. Flowers the size of those of *L. thymifòlium*, but the fruit is globose, and the plant is probably generically distinct.

Thesium-like Purple-Loosestrife. Fl. July, Sept. Clt. 1828. Pl. 1 foot.

4 L. LINEA'RE (Lin. spec. 641.) leaves linear, for the most part opposite, acute; flowers on short pedicels, about the length of the leaves, bibracteate at the base; petals and stamens 6. ♃. H. Native of Virginia and Carolina, by the sea side. Pursh, fl. amer. sept. 1. p. 334. Pythagòrea lineàris, Rafin. l. c. Stem erect, angular. Calyx 10-striped. Corolla white.

Linear-leaved Purple-Loosestrife. Fl. July, Aug Clt. 1812. Pl. 3 to 4 feet.

5 L. ALA'TUM (Pursh, fl. amer. sept. 1. p. 334. but not of Presl.) leaves opposite, ovate-oblong, acute, rather cordate at the base, sessile, or on very short petioles; branches twiggy, tetragonally winged; flowers almost sessile, erect, 6-petalled, hexandrous, furnished with two minute bracteas. ♃. F. Native of North America, in a part of Lower Georgia, and of Mexico. Sims, bot. mag. 1812. L. vulnerària, Schrank, hort. mon. t. 27. L. acinacifòlium, Moc. et Sesse, fl. mex. icon. ined. L. Kennedyànum, H. B. et Kunth, nov. gen. amer. 6. p. 194. L. Virgínicum, Kenn. ex Kunth. Pythagòrea alàta, Rafin. l. c. Flowers beautiful purple. An elegant half-shrubby plant.

Winged-stemmed Purple-Loosestrife. Fl. May, Nov. Clt. 1812. Pl. 1 to 4 feet.

6 HYSSOPIFÒLIUM (Lin. spec. 642.) leaves linear-lanceolate, bluntish; lower ones opposite, upper ones alternate; flowers axillary, solitary, nearly sessile, each with a pair of small bracteas at the base; stamens 6. ⊙. B. H. Native throughout the whole of Europe, also to be found in North and South America, New Holland, and the Cape of Good Hope, where it has probably been introduced; in partially dried up pits or ditches, or places where wa[illegible]as stagnated during winter. In England, on Hounslow [illegible]h; in several parts of Cambridgeshire, Huntingdonshire, Bedfordshire, Oxfordshire, Suffolk, and Worcestershire, but by no means common. Jacq. fl. austr. t. 133. L. hyssopifòlium, Smith, engl. bot. t. 292. Hyssopifòlia, Bauh. pin. 218. Salicària hyssopifòlium, Lam. Mœnch. Flowers small, light purple. The L. hyssopifòlium, Brot. fl. lus. 2. p. 214. is said by Link to be a distinct species, which he calls L. meonánthum, but the character given by Brotero is too imperfect to decide this point.

Var. β, *acutifòlium* (D. C. prod. 3. p. 82.) leaves acutish. ⊙. H. Native of temperate parts of Europe. L. thymifòlium, Hoffm. fl. germ. 1800. p. 213. but not of Lin.

Var. β, *virgultòsum* (D. C. prod. 3. p. 82.) stems suffruticose; flowers on long pedicels. ⊙. H. Native of St. Domingo. L. lineàre, Bertero, ined. L. virgàtum, Spreng. in herb. Balb. Perhaps a proper species.

Var. δ? *tenéllum* (D. C. l. c.) leaves oblong. Native of the Cape of Good Hope. L. tenéllum, Thunb fl. cap. Perhaps a proper species.

Hyssop-leaved Purple-Loosestrife. Fl. May. Britain. Pl. 1 foot, straggling and recumbent.

7 L. TRIBRACTEA'TUM (Salzm ex Schlecht. et Cham. in Linnæa. 2. p. 356.) stem branched to the apex; branches alternate; leaves lanceolate, obtuse, and as if they were roundly truncate; flowers axillary, each furnished with a pair of bracteas at the base; petals 5; stamens 5; calyx 10-toothed. ⊙. H. Native of the south of Europe. Barrel. icon. 773. f. 2.? Petals purple. Less glaucous than *L. hyssopifòlium.* Parts of flowers quinary.

Three-bracteated Purple-Loosestrife. Pl. 1 foot.

8 L. LANCEOLA'TUM (Ell. sketch. 1. p. 544.) stem branched, suffruticose at the base, quadrangular, winged; branches diffuse, rather pubescent; leaves opposite, almost sessile, oblong-lanceolate, acutish, glabrous, rounded at the base, with the margins a little ciliated; pedicels axillary, 3-4-together; flowers verticillate, dodecandrous; style inclosed; petals 5-6-7. ♃. H. Native of Carolina, and probably of Mexico, in marshes and humid places. L. virgàtum, Walt. car. 120. Pursh, fl. amer. sept. 1

p. 334. exclusive of the synonyme of Willd. L. setureiæfòlium, Moc. et Sesse, fl. mex. icon. ined. L. diffùsum, Sweet, fl. gard. 149. Flowers purple, as large as those of *L. salicària.*

Lanceolate-leaved Purple-Loosestrife. Fl. July, Aug. Clt. 1800. Pl. 2 to 3 feet.

9 L. a'lbum (H. B. et Kunth, nov. gen. amer. 6. p. 193.) stems suffruticose; leaves scattered, linear, acute; flowers on short pedicels, each furnished with 2 bracteoles at the base; petals 6-7; stamens 6-7. ♄. G. Native of Mexico, about Salimanca. Petals white, obovate-oblong.

White-flowered Purple-Loosestrife. Shrub 1 to 2 feet.

10 L. mari'timum (H. B. et Kunth, l. c.) stem shrubby; leaves opposite and scattered, lanceolate, acute, obtuse at the base, glaucescent beneath; flowers on short pedicels, erect, each furnished with 2 bracteoles at the base; petals 6; stamens 6. ♄. G. Native of Peru, on the shores of the Pacific Ocean near Patibilca; of the Sandwich islands; and of Mexico, in humid places near Jalapa, and other parts of South America. L. lycioìdes, herb. Willd. Petals purple, obovate-oblong.

Maritime Purple-Loosestrife. Shrub 1 to 2 feet.

* * *Stamens twice the number of the petals, and therefore* 12 *or* 14 *in number.*

11 L. quintupline'rvium (Neuw. reis. vol. 2. ex flora, 1821. p. 302.) shrubby, much branched; leaves opposite, ovate, sessile, 5-6-nerved; flowers opposite, sessile, 5-petalled, and dodecandrous; bracteoles ovate, 3-nerved. ♄. S. Native of Brazil. Nees et Mart. nov. act. bonn. p. 23. [illegible]ers pale blue. Habit of *Rhèxia.*

Quintuple-nerved-leaved Purple-Loosestrife. Sh. 3 to 4 feet.

12 L. punicifòlium (Schlecht. et Cham. in Linnæa. 2. p. 356.) plant glaucous; leaves elliptic, rather cordate at the base, obtuse at the apex, with scabrous margins; flowers on short pedicels; calyx 12-toothed; petals 6; stamens 12, alternate ones exserted. ♃. H. Native of Crete and Sicily. L. thymifòlium, Sieb. fl. cret. exsic.—Barrel. icon. t. 773. f. 1. Differs from *L. hyssopifòlium* in the root being perennial, in the leaves being cordate, with scabrous edges, in the flowers being twice the size, and in the alternate stamens being exserted.

Pomegranate-leaved Purple Loosestrife. Pl. 1 foot?

13 L. Græffe'ri (Tenore, prod. fl. nep. suppl. 2. p. 28. cat. 1819. p. 45.) herbaceous; leaves alternate, elliptic-oblong, obtuse, upper ones linear-lanceolate; stems diffuse, branched, angular; flowers solitary, axillary, on short pedicels; bracteoles small, acute; petals 6, oblong-obovate; stamens 12, twice the length of the calyx. ⊙. B. H. Native of Naples, near Caresta; in the marshes of western Liguria; in the Balearic Islands; in the Island of Cos; in the bogs of Murcia; and about Tangiers. L. acutàngulum, Lag. cat. hort. madr. 1814. p. 16. L. hyssopifòlium, d'Urv. enum. p. 52. L. Græffe'ri, Cambess. mem. mus. 14. p. 16. Perhaps the same as L. nummulariæfòlium, Pers. ench. 2. p. 8.? but not of Lois. L. Gussòni, Presl. del. prag. p. 55.—Cup. pamph. sic. 1. t. 62. Flowers purple.

Græffer's Purple-Loosestrife. Fl. June, July. Clt. 1800. Pl. ½ foot.

14 L. Pre'slii (Guss. pl. rar. p. 188.) stem nearly simple, erectish, quadrangular; angles winged; leaves alternate, oblong, cordate; flowers axillary, solitary, 6-petalled, dodecandrous; stamens longer than the calyx. ⊙. or ♂. B. H. Native of Calabria, in boggy inundated places. L. alàtum, Presl. del. prag. p. 55.—Barrel. obs. p. 140. icon. t. 773. f. 1.?

Presl's Purple-Loosestrife. Pl. 1 ft.

15 L. flexuòsum (Lag. cat. hort. madr. 1814. p. 16.) leaves oblong, somewhat cordate at the base; flowers pedicellate, erect, fruit horizontal; calyx striated; petals 6, ovate, somewhat cordate; stamens 12. ⊙. B. H. Native of Spain, in the province of Murcia; also of Liguria and Mauritania. Flowers rose-coloured. Branches flexuous. Perhaps sufficiently distinct from *L. Græffèri.*

Flexuous-stemmed Purple-Loosestrife. Pl. ½ to 1 foot.

Sect. III. Salica'ria (from *Salix*, a willow; willow-like leaves). D. C. mem. soc. hist. nat. gen. 3. pt. 2. p. 77. prod. 3. p. 82. Stamens twice the number of the petals. Flowers numerous in the axils of the upper leaves, which are degenerated into the form of small bracteas, therefore the flowers appear as if they were in whorls, and racemose spikes.

16 L. Salica'ria (Lin. spec. 640.) leaves opposite, lanceolate, cordate at the base; flowers in whorled leafy spikes, almost sessile. ♃. H. Native of Europe, in ditches and watery places, especially about the margins of ponds and rivers; plentiful in Britain. Smith, engl. bot. 1061. Curt. lond. fasc. 3. t. 28. Fl. dan. 671. Flowers of a variable crimson or purple. Leaves opposite, or 3 or even 4 in a whorl. Stamens 12-14. Petals 6-7. Plant variable with regard to smoothness or pubescence. It is astringent, and is useful in inveterate diarrhœas.

Var. β, *gràcile* (D. C. cat. hort. monsp. 123.) spikes numerous, very slender; flowers alternate, solitary or twin; leaves, stems, and calyxes velvety. ♃. H. Native in humid places.

Var. γ, *bracteòsum* (D. C. prod. 3. p. 83.) spikes elongated at the tops of the branches and stem; bracteas deflexed after flowering, longer than the flowers. ♃. H. Native country unknown.

Var. δ, *pubéscens* (Pursh, fl. bor. amer. 1. p. 334.) ♃. H. Native of North America, from Canada to New England, but according to Torrey, fl. un. st. 1. p. 471. its native country is doubtful.

Willowy or Common Purple-Loosestrife. Fl. July, Aug. Britain. Pl. 2 to 4 feet.

17 L. tomentòsum (Mill. dict. no. 2.) leaves opposite, ovate, cordate at the base, clothed with white tomentum, as well as the stem and calyxes; flowers numerous, in axillary whorls, forming an interrupted leafy spike. ♃. H. Native of North America. Flowers fine purple. Leaves sometimes 3 in a whorl.

Tomentose Purple-Loosestrife. Fl. July, Aug. Clt. 1700. Pl. 1 to 2 feet.

18 L. virga'tum (Lin. spec. 642. but not of Walt.) leaves lanceolate, attenuated at the base; panicle twiggy; flowers 3 together, axillary, distinctly pedicellate. ♃. H. Native of Tauria, Siberia, Russia, Austria, Germany, and Belgium. Sims, bot. mag. t. 1003. Jacq. austr. 1. t. 7. Salicària virgàta, Mœnch. L. Austrìacum, Jacq. vind. 243. Flowers purple. Plant more loose and glabrous than *L. Salicària.*

Var. β, *acuminàtum* (Willd. spec. 2. p. 866.) racemes terminal, elongated, crowded with flowers. ♃. H. Native of Iberia.

Twiggy Purple-Loosestrife. Fl. June, Sept. Clt. 1776. Pl. 2 to 3 feet.

† *Species not sufficiently known.*

19 L. Hunte'ri (D. C. prod. 3. p. 83.) leaves opposite; calyx tubular, 6-lobed; petals 6, lanceolate, erect; stamens 12; style subulate; capsule 2-celled, 4-valved. ♄. S. Native of the East Indies, where it is called *Dhawry.* W. Hunt, asiat. res. 4. p. 42. Petals of a beautiful red. The flowers, mixed with those of *Morinda,* are used for dyeing in India.

Hunter's Purple-Loosestrife. Shrub.

20 L.? ape'talum (Spreng. syst. 2. p. 454.) stem shrubby; leaves linear, acute, alternate; flowers in whorls, apetalous, hexandrous. ♄. S. Native of Brazil. Perhaps a species of *Ammánnia.*

Apetalous Purple-Loosestrife. Pl. 1 foot.

21 L. dipe'talum (Lin. fil. suppl. 250.) shrubby, hispid and clammy; leaves sessile, ovate, opposite or 3 in a whorl; flowers axillary, pedicellate, nodding. ♄. S. Native of South America. Petals purple. Perhaps a species of *Cùphea.*

Dipetalous Purple-Loosestrife. Shrub.

Cult. The hardy perennial kinds of *Lythrum* are handsome border flowers; they grow in any common soil, and are easily increased by dividing the plants at the root. The seeds of the annual kinds require to be sown in a moist situation in spring.

VIII. CU'PHEA (from *κυφος, cuphos*, curved; in reference to the curved form of the capsule). Jacq. hort. vind. 2. p. 83. St. Hil. mem. mus. 1. p. 29. H. B. et Kunth, nov. gen. amer. 6. p. 196. D. C. prod. 3. p. 83.—Cùphea, Melànium, and Parsónsia, P. Browne, l. c.—Melanium and Cùphea, Spreng.—Balsamòna, Vand. fasc. in Rœm. script. p. 110. t. 4.—Melvílla, Anders.—Bánksia, Domb. herb. but not of Lin. fil.

Lin. syst. *Dodecándria, Monogýnia.* Calyx tubular, gibbous at the base on the upper side; limb wide, 12-toothed, with 6 of the teeth erect, and the other 6 small or nearly obsolete, rising from the sinuses of the inner teeth. Petals 6-7, unequal. Stamens 11-14, rarely 6-7, unequal, inserted in the throat of the calyx. Gland under the ovarium thick. Style filiform; stigma simple or rather bifid. Capsule membranous, covered by the calyx, 1-2-celled, at length cleft by the deflexed placenta as well as the calyx. Seeds nearly orbicular, compressed, wingless.—Herbs or subshrubs. Leaves opposite, rarely in whorls, quite entire. Peduncles interpetiolar, 1-flowered, rarely many-flowered. Flowers usually drooping. Calyx coloured. Petals violaceous or white.

§ 1. *Circæoideæ* (containing plants whose habit is like that of *Circæ'a*). *D. C. prod.* 3. *p.* 83. *Stems herbaceous, erect. Racemes somewhat spicate, terminal. Flowers small.*

1 C. micra'ntha (H. B. et Kunth, l. c. p. 196.) stem herbaceous, erect, branched, rather pilose; leaves on short petioles, oblong, acute, rounded at the base, scabrous on the margins, rather pilose on both surfaces; pedicels solitary or twin, upper ones disposed in spicate racemes; calyxes rather hispid; petals nearly equal. ⊙. F. Native of South America, on the banks of the river Orinoco near St. Barbara, and at San Carlos de Rio Negro. Petals small, violaceous. Stamens 11. Ovary 3-seeded.

Small-flowered Cuphea. Pl. ½ ft.

2 C. circæoìdes (Smith ex Sims, bot. mag. t. 2201.) stem herbaceous, erect, branched, rather pilose; leaves petiolate, ovate, acute, pubescent; racemes terminal; pedicels scattered; calyxes hispid; petals nearly equal. ⊙. F. Native of Brazil, in shady places about Pernambuco. Petals small, violaceous. Petioles nearly an inch long. Bracteoles linear.

Circæa-like Cuphea. Fl. Sept. Clt. 1821. Pl. ¾ ft.

3 C. spica'ta (Cav. icon. 4. p. 56. t. 381.) stem herbaceous, erect, branched, rather pilose; leaves petiolate, ovate-oblong, acute at both ends, glabrous, with scabrous margins; racemes spicate, axillary, and terminal; pedicels opposite; calyxes hairy; petals unequal. ⊙. F. Native of South America, in many parts. Petals small, pale red. Stamens 12. Dorsal tooth of calyx large. Style villous. Ovarium 40-75-ovulate.

Var. α, tròpica (Schlecht. et Cham. in Linnæa. 2. p. 358.) hind tooth of calyx large; stem hairy.

Var. β, extratròpica (Schlecht. et Cham. l. c.) hind tooth of calyx a little larger than the rest; stem pubescent.

Spicate-flowered Cuphea. Pl. 1 ft.

4 C. origanifòlia (Cham. et Schlecht. in Linnæa, 2. p. 372.) root creeping; stem simple, slender, beset with viscid pubescence and glandular pili; leaves ovate, petiolate, finely denticulated, with a few glandular hairs on the nerves beneath; flowers pedicellate, interpetiolar, opposite; calyx gibbous at the base; stamens 11; style villous; ovarium containing above 30 ovula. ♃. S. Native of Brazil.

Marjoram-leaved Cuphea. Pl. 1½ ft.

5 C. salicifòlia (Schlecht. et Cham. in Linnæa. 5. p. 569.) stem suffruticose, erect, glabrous; leaves lanceolate, attenuated at the base, and bluntish at the apex, glabrous; calyx pilose on the inside at the insertion of the stamens; petals 6, unequal; filaments pilose. ♃. S. Native of Mexico, on the banks of rivulets near Masantla. Petals purple.

Willow-leaved Cuphea. Pl. 1 ft.

§ 2. *Longiflòræ* (from *longus*, long, and *flos*, a flower; in reference to the long flowers of the species). *D. C. prod.* 3. *p.* 81. *Stem herbaceous or hardly suffruticose; flowers axillary, disposed in racemose spikes; calyx long, tubular, spurred at the base, not gibbous. Petals small or wanting.*

6 C. Melví'lla (Lindl. bot. reg. t. 852.) stem herbaceous, erect; leaves sessile, lanceolate, attenuated at both ends, scabrous; racemes terminal, simple, many-flowered; petals wanting. ♃. S. Native of Guiana, at Essequibo. Melvílla speciòsa, Anders. journ. sc. ex Lindl. Calyx red at the base, and green at the apex. Pollen green.

Melville's Cuphea. Fl. May. Clt. 1823. Pl. 2 to 3 feet.

7 C. Jorullé'nsis (H. B. et Kunth, nov. gen. amer. 6 p. 208.) stems herbaceous; branches compressed, clothed with clammy pubescence; leaves oblong-lanceolate, acute, on very short petioles, rounded at the base, stiff, scabrous on both surfaces; pedicels 1-3 [illegible]her, alternate, racemose at the tops of the branches; calyx clothed with clammy pubescence, 6-toothed. ♃.? S. Native of Mexico, on Mount Jorullo. Calyx red. Petals wanting. Ovarium 12-14-ovulate. Stamens 11, very unequal, exserted.

Jorullo Cuphea. Pl 1 to 2 feet.

8 C. trìcolor (Moc. et Sesse, fl. mex. icon. ined. D. C. prod. 3. p. 81.) stem herbaceous, erect, pubescent; leaves nearly sessile, oblong, acute; pedicels axillary, disposed in a terminal raceme; calyx puberulous, 6-toothed; petals 6, reflexed. ♃. S. Native of Mexico. Lýthrum álbum, Moc. et Sesse, fl. mex. icon. ined. Pedicels 4-6 lines long, somewhat secund. Calyx red, green at the apex. Petals small, white. Stamens 11, hardly unequal, very little exserted.

Tricolor-flowered Cuphea. Pl. 1 to 2 feet.

9 C. micrope'tala (H. B. et Kunth, l. c. p. 209. t. 551.) stem shrubby, much branched; branches and calyxes rather roughish; leaves oblong-lanceolate, acute at both ends, stiff, scabrous; flowers supra-axillary, secund; ovarium strumose at the apex; petals 6, minute. ♄. S. Native of Mexico. C. strumòsa, Moc. et Sesse, fl. mex. icon. ined. Calyx 12-toothed, scarlet, yellowish at the apex. Petals white. Filaments red. Ovarium 2-celled, many-seeded, with a thick lateral gland at the base.

Small-petalled Cuphea. Fl. July, Aug. Clt. 1824. Shrub 3 to 6 feet.

10 C. verticilla'ta (H. B. et Kunth, l. c. p. 207. t. 552.) stem herbaceous; branches and calyxes hairy; leaves 3 or 4 in a whorl, almost sessile, oblong, acutish, rounded at the base, scabrous from strigæ above, and pilose beneath; flowers extra-axillary, solitary or twin, alternate; petals 5-8, unequal. ♃. S. Native of Peru, in hot places. Calyx 10-16-toothed, coloured, with the limb violaceous. Petals violaceous.

Whorled-leaved Cuphea. Pl. 1 to 2 feet.

11 C. lysimachioìdes (Schlecht. et Cham. in Linnæa. vol. 2. p. 374.) stem simple, straight, rarely a little branched, scabrous like the rest of the plant, and beset with viscid glandular hairs; leaves lanceolate, acuminate, petiolate, verticillate or opposite:

flowers interpetiolar, verticillate, pedicellate; calyx with a short spur at the base; petals 6; stamens 11; style villous; ovarium 3-ovulate. ♃. S. Native of Brazil. Petals rose-coloured.

Lysimachia-like Cuphea. Pl. 1 to 2 feet.

12 C. secundiflòra (Moc. et Sesse, fl. mex. icon. ined.) stem herbaceous, erect, and is, as well as the calyxes, pubescent; leaves on long petioles, ovate, long-acuminated; raceme terminal, subspicate, short; flowers secund; petals 6, rather unequal, spreading. ☉. F. Native of Mexico. Herb with the habit of the first section, but the flowers are referrible to the present. Calyx white. Petals violaceous, 2 upper ones the largest.

Secund-flowered Cuphea. Pl. 1 foot.

13 C. cordifòlia (H. B. et Kunth, l. c. p. 206.) stem herbaceous; branches clothed with clammy pubescence; leaves on short petioles, ovate-oblong, acute, cordate at the base, with revolute margins, stiff, scabrous on both surfaces; peduncles interpetiolar, alternate, somewhat racemose; calyx hispid, clammy; petals unequal. ♃. ? S. Native of New Granada. Calyx 12-toothed. Petals 6, violaceous. Stamens 10-12, exserted, unequal. Ovarium 18-30-ovulate.

Heart-leaved Cuphea. Pl.

14 C. mimuloìdes (Cham. et Schlecht. Linnæa. 5. p. 570.) branches brachiate, and are, as well as the peduncles and calyxes, minutely puberulous; leaves elliptic or lanceolate; pedicels alternate and opposite the leaves, and longer than them; petals 6, minute; stamens 11. ☉. F. Native of Mexico, in humid places near Mesachica. Calyx [illegible]s long.

Mimulus-like Cuphea. Pl. ½ foot.

15 C. cyanæ'a (Moc. et Sesse, fl. mex. icon. ined. ex D. C. prod. 3. p. 85.) stem herbaceous, erect; branches hispid; leaves opposite, petiolate, ovate-cordate, acuminated, villous on both surfaces; peduncles interpetiolar, alternate, subracemose; calyx rather hispid; petals 2, spatulate, unguiculate. ☉. F. Native of Mexico. Nearly allied to the preceding, but differs in the leaves being all opposite, and standing on petioles, almost an inch long. Calyx red at the base, and yellowish at the apex. Anthers and petals purplish blue. Perhaps the petals are only 2 or probably 6, 3 of which may be deciduous.

Blue-petalled Cuphea. Pl. ½ to 1 foot.

16 C. cocci'nea (D. C. prod. 3. p. 85.) stem shrubby, erect, pubescent at the apex; leaves petiolate, cordate, acute; peduncles many-flowered, disposed in a terminal panicle; petals oblong, acute, reflexed. ♄. S. Native of Mexico, on the mountains of Tuxtla. Lŷthrum cordifòlium, Moc. et Sesse, fl. mex. icon. ined. Calyxes scarlet. Petals and genitals of the same colour.

Scarlet-flowered Cuphea. Shrub 1 to 2 feet.

17 C. Lla'vea (La Llave ex Lexarc. nov. veg. mex. 1. p. 20.) stems numerous, hispid; branches ascending; leaves almost sessile, ovate-lanceolate, strigose; pedicels interfoliaceous, erect; petals 2, obovate, large, the rest abortive; stamens 11. ♃. S. Native of Mexico, on the mountains. Petals pale scarlet. Calyx with a greenish front, and with the back and throat purplish brown. Three of the stamens very long.

La Llave's Cuphea. Pl. 1 to 2 feet.

18 C. linarioìdes (Cham. et Schlecht. Linnæa. 2. p. 367.) stem filiform, erect, always with one side pubescent, intermixed with longer glandiferous hairs; leaves nearly sessile, ovate or ovate-lanceolate, acute, with a few glandular pili on the edges and nerves; flowers interpetiolar, solitary, alternate, pedicellate; calyx furnished with an ascending spur; stamens 11; style glabrous; ovary 3-ovulate. ♄. ? S. Native of Brazil. Petals 6, violaceous.

Linaria-like Cuphea. Pl. 1 foot.

19 C. Bustamo'nta (La Llave ex Lexarc. l. c. p. 21.) stems herbaceous, procumbent; branches ascending: leaves ovate-cordate, on short petioles, acuminated, rather hispid; lateral nerves parallel; flower interfoliaceous, pendulous; outer calycine teeth much elongated; petals 6, upper 2 the largest; stamens 9.—Native of Mexico. There are varieties of this plant with violaceous and rose-coloured petals, marked each with a longitudinal purplish line.

Bustamont Cuphea. Pl. procumbent.

20 C. tuberòsa (Cham. et Schlecht. in Linnæa. 2. p. 372.) root woody, tuberous; stems erect, branched at the apex; branches alternate, rarely opposite; leaves ovate, petiolate, scabrous; flowers pedicellate, interpetiolar, alternate or opposite, forming terminal racemes; calyx with a short spur at the base; petals 6, unequal; stamens 11; style glabrous; ovarium 11-18-ovulate. ♃. S. Native of the southern provinces of Brazil. Flowers purplish. Calyx 5 lines long.

Tuberous-rooted Cuphea. Pl. 1 to 3 feet.

§ 3. *Lythroìdeæ* (from *Lythrum*, and *idea*, like; plants resembling the genus *Lŷthrum* in habit). *D. C. prod.* 3. *p.* 85. *Stems herbaceous. Pedicels interpetiolar, 1-flowered, not spicately racemose. Calyx gibbous at the base, not spurred. Petals rather large, longer than calyx. Stamens* 11-12.

21 C. viscossíssima (Jacq. hort. vind. 2. p. 83. t. 177.) stem herbaceous, erect, branched, clothed with clammy pubescence, hispid; leaves opposite, petiolate, ovate-lanceolate, rather scabrous; flowers pedicellate, solitary, deflexed; calyx 6-toothed, clothed with clammy down; petals 6, unequal. ☉. F. Native of America, from Brazil to Pennsylvania, in humid shady places. Sweet, fl. gard. t. 60. Lŷthrum petiolàtum, Lin. spec. p. 641. L. Cûphea, Lin. fil. suppl. 249. Flowers purple. Ovary 4-6-seeded. Stamens 12. Style pilose.

Very-clammy Cuphea. Fl. July, Aug. Clt. 1776. Pl. 1 foot.

22 C. glutinòsa (Cham. et Schlecht. in Linnæa. 2. p. 369.) plant clammy, pubescent, mixed with longer glanduliferous hairs; stem branched at the apex; leaves lanceolate, acute, on short petioles; flowers interpetiolar, pedicellate; calyx with a short spur; petals shorter than the calyx; stamens 6; style villous; ovarium 4-15-ovulate. ♄. S. Native of Brazil, common. Petals violaceous.

Glutinous Cuphea. Pl. ½ to 1 foot.

23 C. balsamòna (Schlecht. et Cham. in Linnæa. 2. p. 363.) stem erect, hispid from glandular spreading pili; leaves opposite, ovate, attenuated at both ends, petiolate, with cartilaginous finely denticulated margins, scabrous on both surfaces; flowers pedicellate; calyx short, 6-toothed, with a very short acute spur; stamens 11, inclosed; ovarium 5-6-ovulate; style glabrous. ☉. F. Native of Brazil everywhere in humid places, and of Mexico near Jalapa. Balsamòna Pinto, Vand. fl. lus. et bras. spec. p. 30. t. 4. Petals violaceous. Flowers forming leafy racemes at the tops of the stem and branches; racemes shorter than the leaves, 2-4-flowered, rarely reduced to one flower.

Balsam Cuphea. Pl. 1 foot.

24 C. procu'mbens (Cav. icon. 4. p. 55. t. 380.) stem herbaceous, assurgent; branches procumbent, clothed with clammy villi; leaves opposite, on short petioles, ovate-lanceolate, rather hispid; flowers pedicellate, solitary, deflexed; calyx clothed with clammy pili, 6-toothed; petals 6, obovate, 2 of which are larger than the rest; the two longest stamens are woolly beyond the anthers. ☉. F. Native of Mexico. Ker. bot. reg. t. 1981. Petals pale purple. Stamens 11, hairy. Calyx purplish, dilated, and greenish at the apex. Petals rose-coloured.

Procumbent Cuphea. Fl. July, Sept. Clt. 1816. Pl. proc.

25 C. lanceola'ta (Ait. hort. kew. ed. 2. vol. 3. p. 150.)

stem herbaceous, erect, clothed with clammy pubescence; leaves opposite, on short petioles, lanceolate, rather pilose; flowers pedicellate, solitary, deflexed; calyx beset with clammy pili, 6-toothed; petals 6, obovate, two of which are larger than the rest; the two longer stamens woolly beyond the anthers. ⊙. F. Native of Mexico. H. B. et Kunth, nov. gen. amer. 6. p. 605. Petals violaceous. Very like *C. procúmbens*, but differs in being erect. Ovarium usually 18-ovulate, ex Kunth.

Lanceolate-leaved Cuphea. Fl. Aug. Sep. Clt. 1796. Pl. 1½ ft.

26 C. ÆQUIPE'TALA (Cav. icon. 4. p. 57. t. 382. f. 2.) stem herbaceous, ascending, branched, hispid from stiff bristles, as well as the calyx; leaves on short petioles, oval-oblong, attenuated at both ends, ciliated; flowers pedicellate, solitary, spreading; petals 6, obovate, nearly equal; filaments of 2 of the stamens bearded, the rest glabrous. ⊙. F. Native of Mexico, between Acapulco and the town of Mexico. Calyx 7-9 lines long. Petals purplish violet. Stamens 11-12.

Equal-petalled Cuphea. Pl. ascending.

27 C. VIRGA'TA (Cav. icon. 4. p. 57. t. 382. f. 1.) stem herbaceous, twiggy, branched, hispid from stiff bristles, as well as the calyxes; leaves almost sessile, ovate-lanceolate, bluntish at the base, hispid; flowers pedicellate, solitary, spreading; petals 6, obovate, nearly equal; many of the filaments are bearded. ⊙. F. Native of New Spain, in shady humid places, near Salvatierra, and of Mexico near Jalapa. C. nitídula, H. B. et Kunth, nov. gen. 6. p. 206. C. adscéndens, Moc. et Sesse, fl. mex. icon. ined. Petals red.

Twiggy Cuphea. Pl. 1 foot.

§ 4. *Melàniæ. Stems herbaceous. Pedicels axillary, very short, 1-flowered. Calyx gibbous at the base, or furnished with a short spur. Petals small. Stamens* 6-9 *or even* 10.

28 C. PARSÓNSIA (R. Br. ex Steud. nom. p. 245.) stem herbaceous, prostrate, branched, rather scabrous; leaves opposite, on short petioles, oval, acute at both ends, glabrous, as well as the calyxes; flowers solitary, almost sessile; petals 6, oblong, nearly equal; stamens 6, 2 of which are a little longer than the rest. ♃. S. Native of Jamaica, St. Domingo, and Porto Rico, in moist rocky places. Parsónsia herbàcea, &c. P. Browne, jam. 199. t. 21. f. 1. Lŷthrum Parsónsia, Lin. spec. 641. Swartz, obs. 193. Melànium scàbrum, Spreng. syst. 2. p. 455. Parsónsia prostràta, Bert. ined. Duvernàya, Desp. in herb. Juss. Flowers pale red.

Parsons's Cuphea. Pl. prostrate or creeping.

29 C. MELA'NIUM (R. Br. et Steud. nom. p. 245.) stems herbaceous, prostrate, pubescent at the apex; leaves opposite, almost sessile, elliptic, acuminated at both ends; flowers almost sessile, solitary, alternate; petals 6, oblong. ♃. S. Native of Jamaica. Melànium, &c. P. Browne, jam. 2, p. 217. Lŷthrum Melànium, Lin. spec. 641. Swartz, obs. p. 103. Melànium alliàceum, Spreng. syst. 2. p. 454. Plant fetid when bruised. Flowers purple. Stamens 8-10, unequal, short. Stigma acute. Ovarium 6-7-ovulate, ex Swartz.

Black Cuphea. Pl. prostrate.

30 C. HI'RTA (D. C. prod. 3. p. 86.) stem herbaceous, erect, branched, hairy; leaves opposite, sessile, lanceolate, scabrous on both surfaces; flowers pedicellate, usually solitary, erect; calyx hairy, striped; petals oblong. ⊙. F. Native of St. Domingo. Lŷthrum Domingénse, Spreng. in herb. Balb. Melànium hírtum, Spreng. syst. 2. p. 454. Stamens 6, ex Spreng. Petals small, purple. Fruit few-seeded.

Hairy Cuphea. Pl. 1 foot.

§ 5. ***Fruticòsæ*** (from ***frutex***, a shrub; the plants contained in this section are shrubby). ***D. C. prod.* 3. *p.* 86. *Stems shrubby. Pedicels alar,* 1-*flowered. Calyx gibbous, or furnished with a short spur at the base. Flowers small.***

* *Stamens* 10.

31 C. SWARTZIA'NA (Spreng. syst. 2. p. 455.) stem shrubby, decumbent, rather scabrous; leaves on short petioles, ovate, cordate, acute, wrinkled, scabrous on both surfaces; racemes secund, leafy; calyx pubescent, 10-toothed; petals 5; stamens 10. ♄. S. Native of St. Domingo, in woods. Lŷthrum cordifòlium, Swartz, fl. ind. occ. 2. p. 866. Petals blood-coloured, nearly equal.

Swartzian Cuphea. Shrub decumbent.

32 C. DECA'NDRA (Ait. hort. kew. 2. edit. vol. 3. p. 151.) stem shrubby, erect, much branched; branches scabrous, compressed at the apex; leaves ovate, acute, ciliated, tapering into the petiole at the base; flowers few, racemose, somewhat secund at the tops of the branches; petals 5-6; stamens 10. ♄. S. Native of Jamaica, on the tops of the mountains among rocks. Lŷthrum ciliàtum, Swartz, fl. ind. occ. 2. p. 868. C. decándra and racemòsa Jamaicénsis, Spreng. syst. 2. p. 455. Flowers purple.

Decandrous Cuphea. Fl. June, Oct. Clt. 1789. Sh. 1 foot.

33 C. RACEMÒSA (Spreng. syst. 2. p. 455.) stems suffruticose, diffuse; leaves ovate, petiolate; racemes terminal; pedicels opposite, long, bracteate; branches and calyxes beset with viscid hairs. ♄. S. Native of South America. Lŷthrum racemòsum, Mutis in Lin. fil. suppl. p. 250. This species is not sufficiently known, but it is nearly related to *C. Swartziàna*.

Racemose-flowered Cuphea. Shrub diffuse.

* * *Stamens* 11.

34 C. SERPYLLIFÒLIA (H. B. et Kunth, nov. gen. amer. 6. p. 201. t. 550. but not of Sims,) stem shrubby, procumbent; branches elongated, clothed with hispid pubescence, viscid; leaves ovate-elliptic, acute, rounded at the base, strigose on both surfaces, and viscid; flowers interpetiolar, alternate; calyx clammy and hispid; petals 6, unequal. ♄. S. Native of Santa Fé de Bogota. Ovarium 7-ovulate. Petals elliptic, purple. Stamens 11, unequal.

Wild-thyme-leaved Cuphea. Shrub procumbent.

35 C. MICROPHY'LLA (H. B. et Kunth, nov. gen. amer. 6. p. 201.) stem shrubby, much branched; branches clammy and hairy; leaves ovate-oblong, acute, rounded at the base, viscid and rather scabrous; flowers interpetiolar, alternate; calyx clammy, hispid; petals 6, rather unequal. ♄. S. Native of Peru, near Ayavaca. Calyx dark purple. Petals violaceous. Filaments 11, villous, purple. Ovarium 9-10-ovulate.

Small-leaved Cuphea. Shrub 3 feet.

36 C. SCA'BRIDA (H.B. et Kunth, l.c. 6. p. 203.) stems shrubby, and are, as well as the branches, bifariously pubescent; leaves oblong, acute at both ends, stiff, rather scabrous from strigæ above, glabrous beneath as well as the calyxes; flowers alternate, interpetiolar; petals 6, rather unequal; stamens 9-11. ♄. S. Native of Mexico, at Salamanca. Petals and stamens purple. Ovary 16-ovulate.

Scabrous Cuphea. Shrub 1 foot.

37 C. ANTISYPHILÍTICA (H. B. et Kunth, l. c. 6. p. 202.) stems shrubby, procumbent, roughish; branches pubescent; leaves ovate-oblong, acute, rounded at the base, scabrous; flowers alternate; calyx hispid; petals equal; stamens 11. ♄. S. Native of South America, where it is called *Chiagari*, and where it is used by the inhabitants in the cure of syphilitic complaints. Petals violaceous. Stamens villous. Ovarium 4-ovulate.

Antisyphilitic Cuphea. Shrub proc.

38 C. STRIGULÒSA (H. B. et Kunth, l. c.) stem shrubby;

branches and calyxes clammy and hispid; leaves ovate-oblong, acute, rounded at the base, scabrous; flowers alternate; petals 6, nearly equal; stamens 11. ♄. S. Native at the bottom of the Andes near Ibague. Petals violaceous. Filaments villous. Ovarium 7-8-ovulate.

Strigulose Cuphea. Shrub 1 foot.

39 C. DENTICULA'TA (H. B. et Kunth, l. c. p. 198.) stem shrubby; branches clammy, hairy; leaves lanceolate-oblong, acute, cuneated at the base, sharply and ciliately toothletted, glabrous; flowers interpetiolar on the branches, opposite, somewhat racemose; calyxes hispid; petals 6, nearly equal; stamens 11, inclosed. ♄. S. Native of Cumana, in humid places near St. Fernando. Petals spatulate, 2 superior ones violaceous, the rest white. Filaments villous. Ovarium 10-14-ovulate.

Denticulated-leaved Cuphea. Shrub 1 to 3 feet.

40 C. LOXE'NSIS (H. B. et Kunth, l. c. 6. p. 200.) stem shrubby; branches clothed with glandular hairs; leaves oblong, acute, rounded at the base, scabrous above, and pilose on the nerves beneath; flowers interpetiolar, alternate; calyx hispid; petals 6, nearly equal; stamens 11, inclosed. ♄. S. Native of Mexico near Jalapa; and at Loxa in Peru. Petals pale violet. Filaments villous. Ovary 5-6-ovulate.

Loxa Cuphea. Shrub 1 foot.

41 C. HYSSOPIFÒLIA (H. B. et Kunth, l. c. 6. p. 199.) stem shrubby; branches strigose; leaves lanceolate, acutish, obtuse at the base, glabrous above, but beset with strigose pili on the nerve and veins; flowers interpetiolar, alternate; calyx glabrous; petals 6, rather unequal; stamens 11, inclosed. ♄. S. Native of Mexico, near Jalapa. Petal[illegible] violet. Filaments villous. Ovary 5-6-ovulate.

Hyssop-leaved Cuphea. Shrub 6 feet.

42 C. GRA'CILIS (H. B. et Kunth, l. c. 6. p. 199.) stems shrubby, procumbent; branches filiform, elongated, and are, as well as the calyxes, puberulous; leaves lanceolate, acute at both ends, 1-nerved, glabrous; flowers interpetiolar, alternate; petals 6, rather unequal; stamens 11, inclosed. ♄. S. Native on the banks of the Orinoco, near Atures in sandy places. Petals violaceous. Filaments villous. Ovarium 3-4-ovulate.

Slender Cuphea. Shrub procumbent.

43 C. CORDA'TA (Ruiz et Pav. fl. per. prod. p. 119. t 11.) stem suffruticose; leaves cordate, acute; petals 6, the 2 superior ones roundish and large, the 4 lower ones small, oblong; stamens 11. ♄. S. Native of Peru, on hills. Lower leaves coriaceous, upper ones oblong. Branches, peduncles, and calyxes clammy.

Cordate-leaved Cuphea. Shrub 1 foot.

44 C. TRINITA'TIS (D.C. prod. 3. p. 88.) stems suffruticose; leaves ovate, acute at both ends; petals nearly equal, oblong; pedicels axillary, longer than the leaves. ♄. S. Native of the Island of Trinidad. C. serpyllifòlia, Sims, bot. mag. 2580. but not of H. B. et Kunth. Allied to *C. Loxénsis* and *C. gràcilis.* Stamens probably 11.

Trinidad Cuphea. Fl. May. Clt. 1822. Shrub 1 foot.

45 C. MULTIFLÒRA (Lodd. bot. cab. t. 808.) stem suffruticose, branched; leaves oblong, acute at both ends; flowers alternate, interpetiolar; petals 6, nearly equal, oblong-linear. ♄. S. Native of Trinidad. Petals violaceous.

Many-flowered Cuphea. Fl. May, Sept. Clt. 1820. Sh. 1 ft.

46 C. LIGU'STRINA (Schlecht. et Cham. in Linnæa. 2. p. 360.) stem shrubby, procumbent; branches extra-axillary, obsoletely tetragonal, clothed with clammy pubescence, interspersed with long, coloured, glanduliferous hairs, as well as the peduncles and calyxes; leaves oblong-lanceolate, with rather scabrous edges; flowers interpetiolar, pedicellate, spurless; hind tooth of calyx large; style villous; ovary 18-32-ovulate; petals 6, about equal in length; filaments villous; stamens 11, length of calycine teeth. ♄. S. Native of Brazil. Petals violaceous. Calyx 3-4 lines long. Branches extra-axillary.

Privet-like Cuphea. Shrub decumbent 1 foot.

47 C. CALOPHY'LLA (Schlecht. et Cham. in Linnæa. 2. p. 361.) stem shrubby, sparingly branched; branches axillary, when young clothed with short down and longer purplish glanduliferous pili, as well as the branches and calyxes; leaves elliptic, acute at both ends, on short petioles, scabrous; racemes compound; flowers alternate, pedicellate, spurless; teeth of calyx nearly equal; style villous; ovary 5-6-ovulate; filaments villous; petals 6, nearly equal. ♄. S. Native of Brazil, in the province of Rio Janeiro. Petals violaceous, about the length of the calyx.

Beautiful-leaved Cuphea. Shrub 1 foot.

48 C. ERICOÌDES (Schlecht. et Cham. in Linnæa. 2. p. 366.) shrub erect, branched; branches filiform, puberulous; leaves sessile, linear or acerose, 3 in a whorl, and imbricated in 6 rows, scabrous, 3-nerved; flowers crowded at the tops of the branches, pedicellate; calyx with a short spur; style glabrous; ovarium 3-ovulate; stamens 11, inclosed. ♄. S. Native of Brazil. Petals pale purple, nearly equal. Filaments ciliated. Calyx 3 lines long.

Heath-like Cuphea. Shrub 1½ foot.

49 C. THYMOÌDES (Schlecht. et Cham. in Linnæa. 2. p. 368.) smoothish, shrubby; stem filiform, branched, decumbent; branches beset with short hairs on one side; but the stem, leaves, and calyx are furnished with longer glanduliferous hairs; leaves sessile, lanceolate, obtuse, a little ciliated on the margins; flowers interpetiolar, scattered, pedicellate; calyx furnished with a short blunt spur; style glabrous; ovarium 8-ovulate; petals 6, nearly equal; stamens 11, villous. ♄. S. Native of Brazil. Petals purple. Calyx 4 lines long.

Thyme-like Cuphea. Shrub decumbent.

50 C. INGRA'TA (Schlecht. et Cham. in Linnæa. 2. p. 371.) shrubby, much branched; branches pubescent on one side, but every where beset with long stiff glanduliferous hairs; leaves broadly lanceolate, tapering into the short petiole, with reflexed, rather scabrous edges, rather pilose; flowers interpetiolar, alternate, pedicellate; calyx with a short spur; petals one-half shorter than the calyx; style villous; ovarium 10-12-ovulate; stamens 11, villous. ♄. S. Native of Brazil. Petals pale violet. Calyx beset with glandular pili, 4-5 lines long.

Ungrateful Cuphea. Shrub.

*** *Flowers with* 12 *stamens.*

51 C. PARVIFLÒRA (Hook. exot. fl. 151.) stem suffruticose, pubescent; leaves elliptic-lanceolate, tapering into the short petiole at the base, almost quite entire, with somewhat ciliated margins; flowers in terminal racemes; petals 6, oblong, nearly equal; stamens 12. ♄. S. Native about Demerara. Petals rose-coloured. Stamens short, inclosed. Branches clothed with glandular pubescence.

Small-flowered Cuphea. Fl. Oct. Clt. 1824. Shrub ½ ft.

52 C. HIRTE'LLA (H. B. et Kunth, nov. gen. amer. 6. p. 197.) stem shrubby; branches hairy; leaves oblong, acute, cuneated at the base, viscid, hairy; flowers subracemose at the tops of the branches, opposite; calyx clothed with clammy hairs; petals 6, unequal; stamens 12, inclosed. ♄. S. Native of New Granada, near Guadua. Petals white. Ovarium 10-seeded.

Hairy Cuphea. Shrub 1 foot.

53 C. FRUTICÒSA (Spreng. neue entd. 2. p. 156.) stem shrubby, branched, diffuse; branches and calyxes clothed with clammy pili; leaves petiolate, linear-lanceolate, glabrous; flowers in loose racemes; calyx 6-toothed; petals 6; stamens 12. ♄. S. Native of Brazil. Petals violaceous.

Shrubby Cuphea. Shrub 1 foot.

54 C. FLORIBU'NDA (Lehm. sem. hort. hamb. 1831.) shrubby; branches very hispid, elongated; leaves ovate-oblong; peduncles interpetiolar; petals equal; stamens 2, elongated; style very smooth; ovarium many-seeded. ♄. S. Native of Mexico.

Bundle-flowered Cuphea. Shrub 1 to 2 feet.

† *Species not sufficiently known.*

55 C. BRACTEA'TA (Lag. nov. gen. et spec. hort. madr. 1814. p. 16. no. 212.) stem shrubby, beset with retrograde spreading hairs; leaves ovate, acute, somewhat undulated; flowers solitary, interfoliaceous. ♄. S. Native of New Spain. Perhaps the same as Lýthrum Tuxtlénse, Moc. et Sesse, fl. mex. icon. ined.

Bracteate Cuphea. Shrub 1 foot.

56 C. CILIA'TA (Ruiz et Pav. fl. per. prod. p. 119. t. 11.) stem suffruticose; leaves linear, ciliated; petals 6, nearly equal. ♄. S. Native of Peru, on hills. Bánksia ciliàta, Domb. herb. Lýthrum cistifòlium, Lher. in herb. Stem much branched from the base; branches terete, villous at the apex. Leaves oblong, rather scabrous. Pedicels axillary, 1-flowered, length of the calyx. Calyx rather gibbous at the base. Flowers small, purple. Probably referrible to section *Melàniæ*.

Ciliated-leaved Cuphea. Shrub.

57 C. FLA'VA (Spreng. nov. prov. 14.) stem shrubby; leaves cordate-lanceolate, revolute, quite glabrous; flowers terminal, somewhat racemose; calyx striated, 6-toothed. ♄. S. Native of Brazil. Petals yellow.

Yellow-flowered Cuphea. Shrub.

58 C. FRUTICULÒSA (Schrad. ill. pl. bras. in Gœtt. anz. 1821. p. 715.) stem suffruticose, branched; leaves petiolate, elliptic-ovate, acutish, glabrous above, hairy on the margins and the veins beneath; racemes terminal, few-flowered. ♄. S. Native of Brazil. C. fruticòsa, Neuw. reis. bras. no. 31.

Shrubby Cuphea. Shrub.

59 C. CORYMBI'FERA (Neuw. reis. bras. 1821. p. 302.) stems herbaceous, diffuse, clothed with clammy pubescence above; leaves ovate-oblong, on short petioles, roughish; flowers terminal, corymbose. ♃. S. Native of Brazil, along the banks of rivers.

Corymb-bearing Cuphea. Pl. diffuse.

60 C. MEGAPOTA'MICA (Spreng. syst. append. 192.) stem herbaceous, simple, glabrous; leaves opposite, linear-lanceolate; corymbs terminal, few-flowered; calyx glabrous. ♃. S. Native of Brazil, at Rio Grande.

Rio Grande Cuphea. Pl. 1 foot.

61 C. APANXALÒA (Herm. mex. 353. f. 2.). Native of Mexico. Nothing is known of this plant.

Apanxaloa Cuphea. Pl.

Cult. Some of the species of *Cuphea* are very elegant when in flower. They grow well in a mixture of loam, sand, and peat; and cuttings of the perennial-herbaceous, and shrubby kinds root freely in the same kind of earth. The seeds of annual kinds require to be raised on a hot-bed.

IX. ACISANTHE'RA (from *ακις*, *akis*, a point, and *ανθηρα*, *anthera*, an anther; anthers pointed). P. Browne, jam. 217. Juss. gen. 332. D. C. prod. 3. p. 88.

LIN. SYST. *Decándria, Monogýnia.* Calyx ventricose, 5-cleft, the sinuses never drawn out into other segments. Petals 5. Stamens 10; anthers sagittate, variable. Capsule covered and crowned by the calyx, roundish, 2-celled, with 2 placentas, many seeded.—An herb, with opposite leaves. Flowers alternate, axillary, solitary. This genus differs from *Rhéxia* in the quinary parts of the flower, not quaternary, in the cells of the capsule being 2, not 3-4, and in the form of the anthers.

1 A. QUADRA'TA (Juss. in Poir. suppl. 1. p. 111.) ♃. S. Native of Jamaica, in meadows. P. Browne, l. c. t. 22. f. 1. Rhéxia Acisanthèra, Lin. amœn. 5. p. 396. Lun. hort. jam. 1. p. 5. Herb erect, branched at the apex; branches square. Leaves 3-nerved, ovate, crenated.

Square-branched Acisanthera. Fl. July, Sept. Cl. 1801. Pl. 1 to 1½ foot.

Cult. See *Cùphea* for culture and propagation.

X. FATIO'A (this genus is dedicated to Nicolas Fatio de Duillers, a physician of Geneva, who was one of the first who wrote on thermometers, and he was also the first who proposed inarching the branches of fruit trees. Compare Haller. bibl. bot. 2. p. 43.). D. C. prod. 3. p. 88. D. C. coll. mem. 10. t. 2.

LIN. SYST. *Icosándria, Monogýnia.* Calyx bractless at the base, campanulate, 6-cleft; lobes triangular, valvate in æstivation. Petals 6, inserted at the top of the tube of the calyx, and alternating with the calycine lobes. Stamens 24, inserted in the bottom of the calycine tube. Ovary 3-celled. Style filiform, longer than the stamens. Stigma simple. Fruit unknown. Tree or shrub. Branchlets tetragonal, glabrous, rising in fascicles from the nodes of the branches, or in whorls. Leaves opposite, oval, white beneath, quite entire. Peduncles axillary, 3-5-flowered.

1 F. NIPAULE'NSIS (D.C. l. c.) ♄. F. Native of Nipaul. Leaves glabrous and dark green above, but white from short velvety down beneath.

Nipaul Fatioa. Shrub.

Cult. See *Heim*[illegible] culture and propagation, p. 718.

XI. PE'MPHIS (from *πεμφις*, *pemphis*, a blister, which the globular form of the capsule represents). Forst. gen. t. 34. Juss. gen. 331. D. C. prod. 3. p. 89.—Lýthrum species Lin. and Lam.

LIN. SYST. *Dodecándria, Monogýnia.* Calyx turbinate, permanent, 12-furrowed; lobes 12, the 6 inner ones erect, and the 6 outer ones or those produced from the sinuses smaller and spreading. Petals 6, obovate, inserted at the top of the calycine tube, and alternating with the larger or erect lobes of the calyx. Stamens 12, inserted in the middle of the calycine tube, alternately smaller. Ovarium globose. Style short. Stigma capitate. Capsule membranous, 6-valved, 3-celled at the base, circumcised, filling the calyx. Seeds numerous, fixed to the central placenta, which is tridentate.—A canescent shrub. Leaves opposite, quite entire. Pedicels axillary, solitary, bibracteate at the base. Flowers white.

1 P. ACI'DULA (Forst. l. c.) ♄. S. Native of Ceylon, Java, Timor, Madagascar, &c. on the sea shore. Lýthrum Pémphis, Lin. fil. suppl. 249. Lam. ill. 408. f. 2. Melànium fruticòsum, Spreng. syst. 2. p. 455. Mángium porcellánicum, Rumph. amb. 3. p. 84. P. angustifòlia, Roxb. hort. beng. p. 91.

Acidulous Pemphis. Shrub.

Cult. See *Heímia* for culture and propagation, p. 718.

XII. HEI'MIA (in honour of Dr. Heim, a celebrated Berlin physician). Link et Otto, abb. berl. 63. D. C. prod. 3. p. 89. Chrysóliga, Willd. herb.—Nesæ'a spec. Kunth.—Ginòria, Moc. et Sesse, fl. mex. icon. ined. but not of Jacq.

LIN. SYST. *Dodecándria, Monogýnia.* Calyx bibracteolate at the base, campanulate, 12-toothed, the 6 inner teeth largest and erect, and the 6 outer ones, or those produced from the sinuses, small, spreading, and horn-formed. Petals 6, alternating with the erect inner lobes of the calyx. Stamens 12, nearly equal, exserted. Capsule nearly globose, covered by the calyx, 4-celled, rarely only 3-celled from abortion, 4-valved, opening at the cells. Seeds wingless, numerous.—Smooth American shrubs. Peduncles 1-flowered. Flowers yellow.

1 H. SALICIFÒLIA (Link et Otto, l. c. t. 28.) leaves opposite or 3 in a whorl, but the upper ones are usually alternate, on short petioles, lanceolate, acute, tapering at the base; flowers pedicellate; capsule ovoid. ♄. F. Native of Brazil; and Mexico on the declivities of the burning mount Jorullo. Sweet, fl. gard. 281. Nesæ'a salicifòlia, H. B. et Kunth. Ginòria flàva, Moc. et Sesse, fl. mex. icon. ined. Chrysóliga salicifòlia, herb. Willd. Ly'thrum flàvum, Spreng. syst. 2. p. 454. Flowers yellow. Petals roundish-obovate.

Willow-leaved Heimia. Fl. July, Sept. Clt. 1821. Shrub 4 to 6 feet.

2 H. MYRTIFÒLIA (Hort. berol. ex Schlecht. Linnæa. 2. p. 347.) leaves nearly opposite or alternate, lanceolate, acute, smaller than those of *H. salicifòlia*; flowers nearly sessile; capsule globose. ♄. F. Native of Brazil, in the Island of St. Catharine, at the entrance to Rio Janeiro. Ly̆thrum apétalum, Spreng. syst. 2. p. 454. Flowers yellow.

Myrtle-leaved Heimia. Fl. Aug. Sept. Clt. 1826. Shrub 3 to 4 feet.

3 H. LINARIÆFÒLIA (Hort. ex Loud. hort. brit. p. 479.) leaves linear; flowers yellow. ♄. F. Native of South America.

Toad-flax-leaved Heimia. Fl. Aug. Sept. Clt. 1826. Shrub 3 to 4 feet.

4 H. SYPHILI'TICA (D. C. prod. 3. p. 89.) leaves alternate, erect, crowded, linear-lanceolate, attenuated at both ends; petals obovate-oblong. ♄. F. Native of Mexico, at Yechpixtla, where it is called *Hanchinol* by the inhabitants. Ginòria syphilítica, Moc. et Sesse, fl. mex. icon. ined. This plant is said to possess powerful antisyphilitic properties; its expressed juice, taken in doses of 4 ounces, excites violent perspiration and secretion of urine, and is said to cure venereal disorders in an incredibly short space of time.

Syphilitic Heimia. Shrub 4 to 6 feet.

Cult. The species of *Heimia* are very pretty shrubs when in flower; they only require to be sheltered from frost in winter; this may be done by mats, if the plants are planted against a south wall in the open ground; and if in pots they should be placed in the greenhouse. Cuttings of them strike readily either in sand or mould under a hand-glass.

XIII. DIPLUSODON (from διπλοος, *diploos*, double, and *οδους οδοντος*, *odous odontos*, a tooth; a double row of teeth in the calyx). Pohl. pl. bras. 1. p. 82. Friedlándia, Schlecht. et Cham. in Linnæa. 2. p. 348.—Dubæ'a, D. C. diss. ined. 1827. —Nesæ'a species of Kunth.

LIN. SYST. *Dodecándria, Monogýnia.* Calyx bibracteate at the base, hemispherically campanulate (f. 106. *a.*), 12-nerved; limb 12-cleft (f. 106. *b.*), the 6 inner segments largest and erect, and the 6 outer ones, or those from the sinuses, smaller. Petals 6 (f. 106. *e.*), inserted in the calycine tube, and alternating with the erect segments of the calyx. Stamens 12-36, equal, inserted in the lower part of the tube of the calyx, exserted. Capsule globose, covered by the calyx, 2-celled, 2-valved, many seeded. Seeds oval, compressed, girded by an obscure thickish wing.—Shrubs, with quite opposite decussate entire leaves, and racemosely panicled inflorescence.

* *Leaves linear,* 1-*nerved. Outer teeth of calyx erect.*

1 D. HEXA'NDER (D. C. prod. 3. p. 94.) glabrous; branches terete; leaves oblong-linear, with revolute edges, obtuse, on short petioles; flowers on short pedicels; bracteas oblong; stamens 6? ♄. S. Native of Brazil, in the province of Minas Geraes. Friedlándia hexándra, Mart. herb. Habit nearly of *Hypéricum angustifòlium.* Floral branches short, opposite, and slender. Petals reddish-purple. Stamens probably 12.

Hexandrous Diplusodon. Shrub 1 to 2 feet.

2 D. ANGUSTIFÒLIUS (D. C. l. c.) quite glabrous; branches rather tetragonal, slender; leaves linear, with revolute edges, hardly 1-nerved, obtuse, rather coriaceous: pedicels short; bracteas ovate-oblong; stamens? ♄. S. Native of Brazil, in the province of Minas Geraes. Friedlándia angustifòlia, Mart. herb. Habit almost of *Hibbértia angustifòlia.* Stem much branched. Leaves 3-4 lines long, hardly a line broad, greyish as well as the calyxes. Petals and stamens unknown.

Narrow-leaved Diplusodon. Shrub 1 foot.

3 D. CANDÓLLEI (Pohl, herb. ex D. C. l. c.) branches somewhat tetragonal; under sides of leaves as well as the calyxes clothed with adpressed villi; leaves almost sessile, linear, 1-nerved, with revolute margins; flowers on short pedicels; bracteas ovate, acute, longer than the tube of the calyx; stamens 12. ♄. S. Native of Brazil, in the province of Minas Geraes. Habit of a heath. Shrub much branched. Like *D. angustifòlius,* but easily distinguished from that plant by the hairs on the leaves and calyxes. Leaves 3 lines long, but hardly a line broad.

De Candolle's Diplusodon. Shrub 1 foot.

* * *Leaves 3-nerved; lateral nerves marginal, rising from the base. Outer calycine teeth erect.*

4 D. EPILOBIOÌDES (D. C. prod. 3. p. 94.) smoothish; branches nearly terete; when young as well as the leaves, white from fine, short, velvety down; leaves on short petioles, oblong-linear, with somewhat revolute edges, 1-nerved, or the larger ones 3-nerved; pedicels 3-times shorter than the leaves; bracteas linear; stamens 12-15. ♄. S. Native of Brazil, in the province of Minas Geraes. Friedlándia epilobioìdes, Mart. mss. Petals of a rose-purple colour. Habit of *Epilòbium Dodonæ'i.*

Willow-herb-like Diplusodon. Shrub 1 to 2 feet.

5 D. PUNCTA'TUS (Pohl, pl. bras. 1. p. 89. t. 72.) quite glabrous, branches rather tetragonal, slender; leaves sessile, lanceolate, marginate, rather dotted, somewhat coriaceous; bracteas lanceolate, glabrous; stamens 12. ♄. S. Native of Brazil, in the province of Goyaz. Corolla bluish-red. Pairs of leaves remote, 6 lines long and 2 broad. Outer calycine teeth tubercle-formed.

Dotted-leaved Diplusodon. Shrub 1 foot.

6 D. THYMIFÒLIUS (D. C. prod. l. c.) branchlets tetragonal; both surfaces of leaves and calyxes rather downy; leaves almost sessile, oblong, obtuse, 3-nerved, the lateral nerves almost marginal; pedicels shorter than the leaves; bracteas oblong, obtuse, shorter than the calycine tube; stamens 12. ♄. S. Native of Brazil, in the province of Minas Geraes, in the dry fields near Tejuco, at the height of 3000 feet. Friedlándia thymifòlia, Mart. herb. Petals rose-coloured. Leaves 2-3 lines long and 1 line broad.

Thyme-leaved Diplusodon. Shrub 1 foot.

* * * *Leaves feather-nerved, rarely feather-veined.*

7 D. VIRGA'TUS (Pohl, pl. bras. 1. p. 90. t. 73.) glabrous; branches tetragonal; leaves nearly sessile, lanceolate, attenuated at the base; bracteas oblong, glabrous; pedicels short; stamens 18. ♄. S. Native of Brazil, in the provinces of Minas Geraes and Goyaz. Friedlándia albiflòra, Mart. herb. Leaves 8-9 lines long, and 3-4 broad. Flowers white.

Twiggy Diplusodon. Shrub 4 feet.

8 D. MYRSINI'TES (D. C. l. c.) quite glabrous; branches tetragonal; leaves oval or obovate, acute, narrowed at the base, with the lateral veins nearly obsolete; pedicels much shorter than the leaves; bracteas oval-oblong, obtuse; stamens 12. ♄. S. Native of Brazil, in the province of Minas Geraes.

Friedlándia myrsinìtes, Mart. herb. Branches purplish. Leaves thickish. Petals purplish-violet. Style exserted.

Myrtle-like Diplusodon. Shrub 1 to 2 feet.

9 D. VACCINIFÒLIUS (D. C. l. c.) quite glabrous, much branched; branches rather tetragonal; leaves sessile, lower ones cordate, broadly ovate, upper ones oval, all 1-nerved, the lateral veins being hardly discernible; flowers nearly sessile; bracteas oval; stamens 15. ♄. S. Native of Brazil, in the province of Minas Geraes. Friedlándia vaccinifòlia, Mart. herb. Flowers violaceous. Branches, leaves, and calyxes reddish. Leaves 4 lines long, lower ones rather ciliated.

Whortle-berry-leaved Diplusodon. Shrub 1 to 2 feet.

10 D. AMŒ'NUS (D. C. l. c.) glabrous; branches bluntly tetragonal; leaves petiolate, lanceolate, obtuse, with revolute, scabrous margins, with 2 nerves only on each side; flowers pedicellate; bracteas spatulate-lanceolate; lobes of calyx spreading; stamens 12. ♄. S. Native of Brazil, at Chepada and Barbacena. Friedlándia amœ'na, Cham. et Schlecht. in Linnæa. 2. p. 350. Flowers yellow, like those of *Heimia salicifòlia,* disposed in leafy racemes.

. *Pleasing* Diplusodon. Shrub 1 to 2 feet.

11 D. BUXIFÒLIUS (D. C. l. c.) glabrous; branches acutely tetragonal; leaves nearly sessile, ovate, coriaceous, with smooth margins, having 3 nerves on each side; flowers almost sessile; bracteas elliptic-lanceolate, ciliated, shorter than the calyx; stamens 12. ♄. S. Native of Brazil. Friedlándia buxifòlia, Cham. et Schlecht. in Linnæa. 2. p. 351. Inner calycine teeth erect, outer ones reflexed. Petals purplish.

Box-leaved Diplusodon. Shrub 1 to 2 feet.

12 D. PARVIFÒLIUS (D. C. l. c.) branches somewhat tetragonal; leaves and calyxes hairy from stiff, short, crowded down; leaves sessile, subcordate, roundish, coriaceous, with revolute edges, having 3 nerves on each side, which are hairy beneath; flowers almost sessile; bracteas roundish, shorter than the calyx when in flower, deciduous; stamens 12. ♄. S. Native of Brazil, in the province of Bahia, at Sincora. Friedlándia parvifòlia, Mart. herb. Leaves 3-4 lines long and 2 lines broad. Flowers small, red. Outer calycine teeth reflexed.

Small-leaved Diplusodon. Shrub 1 to 2 feet.

13 D. HELIANTHEMIFÒLIUS (D. C. l. c.) branches tetragonal, rather velvety; leaves oval-oblong, attenuated at the base, on short petioles, the margins rather revolute, velvety beneath from short stellate down, having 2 or 3 nerves on each side; flowers almost sessile; bracteas ovate, rather shorter than the calycine tube; calyx glabrous; stamens 12. ♄. S. Native of Brazil, on Serro Frio. Friedlándia helianthemifòlia, Mart. herb. Petals red. Superior leaves 7-8 lines long and 2 lines broad, standing on petioles, a line long.

Sun-rose-leaved Diplusodon. Shrub 1 to 2 feet.

14 D. PEMPHOÌDES (D. C. l. c.) branches tetragonal, puberulous; leaves ovate, sessile, not attenuated at the base, rather scabrous above, but velvety from stellate down beneath, having 2 or 3 nerves on each side; flowers almost sessile; bracteas oval, deciduous; calyx glabrous; stamens 12. ♄. S. Native of Brazil, in mountain fields, at Serro Frio. Outer segments of calyx reflexed. According to Martius this plant is only a variety of the preceding, but differs especially from that species in the leaves being half stem-clasping at the base, not attenuated.

Pemphis-like Diplusodon. Shrub 1 to 2 feet.

15 D. SERPYLLIFÒLIUS (D. C. l. c.) branches tetragonal, hairy; leaves oval-obovate, on short petioles, glabrous above, but villous on the margins and on the veins beneath; flowers almost sessile; bracteas elliptic-obovate, villous beneath on the margins; calyx villous; stamens 12? ♄. S. Native of Brazil, in the province of Minas Geraes. Leaves flat, 4-8 lines long. Calyx very villous at the apex before the flowers expand, not as in *D. microphyllus,* naked. Outer calycine segments short, subulate, and somewhat spatulate. Petals elliptic, narrowed at the base, apparently white.

Wild-thyme-leaved Diplusodon. Shrub 1 to 2 feet.

16 D. MICROPHY'LLUS (Pohl, pl. bras. 1. p. 93. t. 76.) leaves ovate, on short petioles, acutish, ciliated, glabrous above, but pilose on the veins beneath; bracteas oblong, bluntish, having one pilose line on the back as well as being ciliated; stamens 12. ♄. S. Native of the province of Minas Geraes. Branches tetragonal, hairy. Corolla pale yellow.

Small-leaved Diplusodon. Shrub 2 feet.

17 D. HIRTE'LLUS; hairy; branches tetragonal; leaves almost sessile, elliptic-spatulate, glabrous above, and hairy beneath, having 2-3 nerves on each side; bracteas elliptic-spatulate, ciliated, and with a hairy line on the back; calyx pilose; outer segments of calyx reflexed; stamens 12. ♄. S. Native of Brazil, in the province of Minas Geraes. Friedlándia hirtélla, Cham. et Schlecht. in Linnæa. 2. p. 352. Friedlándia villósula, Mart. herb. Flowers violaceous.

Rather-hairy Diplusodon. Shrub 1 to 2 feet.

18 D. HIRSU'TUS (D. C. l. c.) plant canescent from hairs; leaves almost sessile, elliptic, or ovate, obtuse, hairy on both surfaces, rather revolute at the edges, with 4-5 nerves on each side; flowers almost sessile; bracteas elliptic; outer calycine teeth reflexed; stamens 12. ♄. S. Native of Brazil. Friedlándia hirsùta, Cham. et Schlecht. in Linnæa. 2. p. 352. Friedlándia verbenæfòlia, Mart. herb. Petals violaceous. Stamens 12. or perhaps mor[illegible]

Hairy Diplusodon. Shrub 1 to 2 feet.

19 D. LANCEOLA'TUS (Pohl, pl. bras. 1. p. 98. t. 81.) branches nearly terete, the whole plant scabrous from short down; leaves on short petioles, lanceolate, acute, scabrous above and rather pilose, but hairy beneath, having 5 nerves on each side; flowers sessile; bracteas oval, ciliated, pilose; stamens 36. ♄. S. Native of Brazil, in the province of Goyaz. Corolla greyish red.

Lanceolate-leaved Diplusodon. Shrub 2 feet.

20 D. ALUTA'CEUS (Pohl, pl. bras. 1. p. 97. t. 80.) the whole plant clothed with short stiffish down; branches nearly terete; leaves on short petioles, oblong, acute, alutaceously rough above, rather tomentose beneath, with rough ciliated edges, having 6 nerves on each side; bracteas oval tomentose; flowers sessile, outer calycine teeth erect; stamens 24. ♄. S. Native of Brazil, in the province of Goyaz. Leaves nearly 2 inches long and 10-12 lines broad. Corolla greyish red.

Alutaceous Diplusodon. Shrub 2 feet.

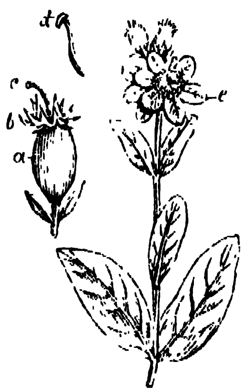
21 D. SCA'BER (Pohl, pl. bras. 1. p. 96. t. 79.) branchlets compressed, rather scabrous; branches and stems terete and glabrous; leaves on short petioles, oblong, acutish at both ends, scabrous from dots above and from hairs beneath, having 5 nerves on each side; flowers sessile; bracteas obovate, narrowed at the base, ciliated; outer calycine segments erect; stamens 24. ♄. S. Native of Brazil, in the province of Goyaz. Leaves an inch long and 5-6 lines broad. Corolla greyish-red, small.

Scabrous Diplusodon. Shrub 1½ foot.

22 D. NI'TIDUS (D. C. prod. 3. p. 94.) plant quite glabrous; branches acutely tetragonal; leaves petiolate, ovate, bluntish, coriaceous, having 5-6 nerves on each side; floral leaves oblong; pedicels 1-flowered, bibracteolate in the middle; bracteas linear; outer teeth of calyx short, reflexed; stamens 12. ♄. S. Native of Brazil, between the provinces of Bahia and Minas Geraes. Friedlándia nítida, Mart. herb. Lower leaves an inch long. Flowers reddish-purple, disposed in leafy racemes.

Shining-leaved Diplusodon. Shrub 1 to 2 feet.

FIG. 106.



23 D. ova'tus (Pohl, pl. bras. 1. p. 95. t. 69.) quite glabrous; branchlets compressed, at length terete; leaves sessile, ovate, acute, glabrous, feather-nerved; flowers on short pedicels; bracteas lanceolate, glabrous; outer teeth of calyx spreading; stamens 16. ♄. S. Native of Brazil, in the province of Minas Geraes. Leaves broad. Corolla greyish red.

Ovate-leaved Diplusodon. Sh. 1 foot.

24 D. oblóngus (Pohl, pl. bras. 1. p. 95. t. 78.) quite glabrous; branches acutely tetragonal; leaves on short petioles, oblong, quite glabrous, having 4-5 veins on each side, which are reddish beneath; flowers sessile, much shorter than the floral leaves; bracteas oblong, with rather ciliated edges; stamens 12. ♄. S. Native of Brazil, in the province of Goyaz, in dry fields. Corolla greyish red.

Oblong-leaved Diplusodon. Shrub 3 feet.

25 D. ramosi'ssimus (Pohl, pl. bras. 1. p. 94. t. 77.) glabrous, much branched; branches opposite, from compressed to terete; leaves on short petioles, coriaceous, oblong, ciliated, pilose above and glabrous beneath, having 5 veins on each side; rameal and floral leaves smaller, and almost sessile, triple-nerved; flowers on short pedicels; bracteas lanceolate, glabrous; outer calycine teeth erect; stamens 16. ♄. S. Native of Brazil, in the province of Goyaz, in grassy fields. Corolla greyish red. Leaves more than 2 inches long and 1 broad.

Much-branched Diplusodon. Shrub 3 feet.

26 D. strigòsus (Pohl, pl. bras. 1. p. 88. t. 71.) plant beset with hispid villi; branchlets compressed, at length terete; leaves sessile, ovate, or oblong-elliptic, acutish, rounded at the base, ciliated, strigose, having 7-8 nerves on each side; flowers almost sessile; bracteas roundish-elliptic, pilose; calycine teeth nearly equal; stamens 24-30. ♄. S. Native of Brazil, in the province of Goyaz. Calycine lobes beset with scaly strigæ. Corolla bluish red. Leaves 3 inches long and 2 broad.

Strigose Diplusodon. Shrub 3 feet.

27 D. villòsus (Pohl, pl. bras. 1. p. 91. t. 74.) stem and branches villous; branchlets tetragonal; cauline leaves on short petioles, upper ones oblong-oval, acute, ciliated, villous above and strigose beneath, having 3-4 nerves on each side; flowers almost sessile; bracteas oblong-elliptic, villous, much shorter than the calyx, which is also villous; outer teeth of calyx reflexed; stamens 15-18. ♄. S. Native of Brazil, in the province of Minas Geraes. Corolla bluish red. Leaves 9 lines long and 4 broad. Habit of *D. lythroìdes*.

Villous Diplusodon. Shrub 2 feet.

28 D. lythroi'des (D. C. prod. l. c.) stem and branches terete, beset with short spreading villi; leaves sessile, broadly ovate, acutish, villous, having 4-6 nerves on each side; flowers almost sessile, aggregate in the axils of the leaves; bracteas oval, acutish, shorter than the tube of the calyx, which is villous; outer calycine segments erect; stamens 12, rarely 15. ♄. S. Native of Brazil, in the province of Minas Geraes. Friedlandia lythroìdes, Mart. herb. Leaves vary from opposite to 3 in a whorl. Flowers large, rose-coloured, sometimes verticillate.

Var. β, glabréscens (D. C. l. c.) branches rather hairy; leaves glabrous above, hairy beneath on the nerves and on the calyxes. ♄. S. Petals deep purple.

Lythrum-like Diplusodon. Shrub 2 feet.

29 D. villosi'ssimus (Pohl, pl. bras. 1. p. 94. t. 77.) stem and branches terete and villous; cauline and rameal leaves on short petioles, ovate, acutish, cordate at the base, ciliated, clothed with white villi; bracteas oblong-ovate, tomentose; stamens 18. ♄. S. Native of Brazil, in the province of Minas Geraes. Corolla bluish red.

Very villous Diplusodon. Shrub 1½ foot.

30 D. stachyoìdes (D. C. l. c.) herbaceous? hairy; stem or branches tetragonal; leaves on short petioles, ovate, rather cordate, acute, having 5 nerves on each side; flowers on short pedicels; bracteas rhomboid-ovate, acute, length of calycine tube; outer teeth of calyx erect; stamens 16. ♄. S. Native of Brazil. Friedlándia stachyoìdes, Cham. et Schlecht. in Linnæa. 2. p. 353. Flowers purplish.

Stachys-like Diplusodon. Pl. 1 foot.

31 D. floribu'ndus (Pohl, pl. bras. 1. p. 87. t. 70.) branches terete, rather pilose; leaves sessile, ovate, acute, cordate at the base, pilose, having 4 nerves on each side, rising from the base of the middle nerve; flowers nearly sessile; bracteas ovate, acute, pilose; stamens 24; outer calycine teeth erect. ♄. S. Native of Brazil, in the province of Goyaz. Flowers bluish-red. Leaves an inch long and 6-7 lines broad.

Bundle-flowered Diplusodon. Shrub 1 to 2 feet.

32 D. divarica'tus (Pohl, pl. bras. 1. p. 84. t. 67.) plant smoothish, and rather glaucescent; branches terete; leaves sessile, roundish-ovate, cordate at the base, having 5 nerves on each side; nerves pubescent as well as the branchlets and calyxes; flowers almost sessile; branches roundish, tomentose; outer calycine teeth tubercle-formed; stamens 18. ♄. S. Native of Brazil, in the province of Goyaz, on dry mountains. Corolla purple.

Divaricate Diplusodon. Shrub 1 foot.

33 D. margina'tus (Pohl, pl. bras. 1. p. 83. t. 66.) quite glabrous; leaves sessile, ovate, or roundish-ovate, cordate at the base, glabrous, pruinose, with purplish edges; nerves 5-6 on each side, rising from the lower part of the middle nerve; flowers pedicellate; bracteas ovate; outer calycine teeth short and spreading; stamens 30. ♄. S. Native of Brazil, in the province of Goyaz. Corolla purple. Leaves 2 inches long, and 12-13 lines broad.

Marginate-leaved Diplusodon. Shrub 2 feet.

34 D. imbrica'tus (Pohl, pl. bras. 1. p. 85. t. 68.) glabrous; leaves sessile, ovate, acutish, cordate at the base, glabrous, pruinose, dotted when examined by a lens, imbricated: having 4 nerves on each side, rising from the lower part of the middle nerve; pedicels 1-flowered, shorter than the leaves; bracteas oval-elliptic; teeth of calyx reflexed; stamens 18. ♄. S. Native of Brazil, in the province of Goyaz. Corolla purple. The nerves of the leaves almost agree with those of the following division of the genus.

Imbricate-leaved Diplusodon. Shrub 2 feet.

* * * * *Leaves palmately, many-nerved.*

35 D. glauce'scens (D. C. l. c.) quite glabrous; branches terete; leaves sessile, cordate, orbicular, hardly apiculated, coriaceous, palmately 7-nerved; pedicels shorter than the leaves; bracteas ovate, shorter than the tube; outer calycine teeth linear; stamens 12. ♄. S. Native of Brazil, on mountains at Serro Frio, Itambe, &c. in the provinces of the mines. Allied to *D. rotundifòlius*, but is easily distinguished by the smaller bracteas. Leaves 10-11 lines long and 8-9 broad.

Glaucescent Diplusodon. Shrub 1 to 2 feet.

36 D. rotundifòlius (D. C. l. c.) quite glabrous; branches terete; leaves sessile, cordate, orbicular, palmately 7-nerved,

crowded, coriaceous, pruinose; pedicels shorter than the leaves; bracteas broadly ovate, a little longer than the tube of the calyx; outer calycine teeth linear; stamens 12. ♄. S. Native of Brazil, in the province of Minas Geraes. Friclándia rotundifòlia, Mart. mss. Leaves longer than the internodes. Petals apparently white from the dried specimen. Bracteas large.

Round-leaved Diplusodon. Shrub 1 to 2 feet.

37 D. SPECIÒSUS (D. C. l. c.) quite glabrous; branches terete; leaves sessile, roundish-ovate, acute, many-nerved, coriaceous; pedicels 1-flowered, short; bracteas ovate, a little longer than the tube of the calyx; outer calycine teeth reflexed; stamens 24. ♄. S. Native of Brazil. Nesæ'a speciòsa, Kunth, nov. gen. amer. 6. p. 191. in a note. Dubyæ'a melastomoides, D. C. in herb. mus. par. July, 1827.

Shewy Diplusodon. Shrub 1 to 2 feet.

Cult. All the species of *Diplùsodon* are very elegant when in flower, but none of them have yet been introduced to our gardens. However, should they ever be, we would advise their being grown in a mixture of loam, peat, and sand, draining the pots in which they are planted well with sherds; they will be easily propagated by cuttings, like other plants of the same order. Judging from the elevated situations in which they naturally grow in the provinces of the mines in Brazil, we should imagine that many of them will stand in the open air in warm sheltered situations, especially against a south wall, at least they will be sufficiently hardy to stand as greenhouse plants, although we would recommend, on their first introduction, that they be treated as stove plants, until their hardiness be ascertained.

XIV. PHYSOCALY'MNA (from *φυσα*, *physa*, a bladder, and *καλυμμα*, *calymma*, a covering; in reference to the inflated bracteas, which inclose the flower before expansion). Pohl, in flora, 1827. p. 152. with a figure, and pl. bras. 1. p. 99. tt. 92, 93. D. C. prod. 3. p. 89.

LIN. SYST. *Icosándria, Monogýnia.* Calyx bibracteolate at the base, campanulate, inflated, 8-toothed, without any teeth from the sinuses. Petals 8, oval, with undulately crenated margins, inserted in the top of the tube of the calyx. Stamens 24, rising from the base of the calyx beneath the germ. Ovary globose. Style filiform, exserted; stigma capitate. Capsule globose, probably 1-celled.—A tree, with red wood. Leaves oval, quite entire, scabrous, somewhat plicate at the apex, feather-nerved, pilose on the veins beneath. Panicle large, spreading, thyrsoid, with opposite branches. Bracteas glabrous, roundish, mucronate, concave, inclosing the flower-bud before expansion. Calyx purplish. Corolla purplish red.

1 P. FLORIBU'NDA (Pohl, pl. bras. 1. p. 100. tt. 92, 93.). ♄. S. Native of Brazil, in the province of Goyaz. Leaves opposite, decussate, on short petioles. Flower-bud inclosed by 2 inflated bracteas before expansion. The flowers resemble those of a species of *Lagerstrœ'mia.* The wood is rose-coloured, and much esteemed by cabinet makers. It is the celebrated rose-wood of commerce. In Germany this wood is called *Rosenholz.* In the province of Goyaz in Brazil *Cego machado*; in the province of Rio Janeiro *Pao de rosa*; and in England *rose-wood.*

Bundle-flowered Physocalymna or Brazilian Rose-wood. Tree 26 to 30 feet.

Cult. This tree is most splendid when in flower. It has not yet, like the species of the last genus, been introduced to our gardens. The treatment recommended for the species of *Diplùsodon* will answer this tree also.

XV. DE'CADON (from *δεκας*, *dekas*, ten, and *οδους οδοντος*, *odous odontos*, a tooth; in reference to the 10 teeth of the calyx). Gmel. syst. 677. Ell. sketch. 1. p. 513. D. C. prod. 3. p. 90.—Lýthrum species of Lin.—Nesæ'a species of Kunth.

LIN. SYST. *Decándria, Monogýnia.* Calyx hemispherically campanulate, bractless at the base, 10-toothed; inner 5 teeth erect, outer 5 or those from the sinuses spreading and horn-formed. Petals 5, alternating with the inner teeth of the calyx. Stamens 10, 5 of which are very long. Ovarium sessile, almost globose, 3-celled. Capsule covered by the calyx. Seeds minute, wingless.—A downy North American herb. Leaves opposite, or 3 in a whorl. Peduncles 3 or many-flowered, furnished with 2 bracteas at the origin of each pedicel. Petals purple.

1 D. VERTICILLA'TUM (Ell. l. c. with an excellent description). ♃. B. H. Native from Canada to Florida, in swamps. Lýthrum verticillàtum, Lin. spec. 641. Anónymos aquática, Walt. car. 137. Décodon aquáticus, Gmel. syst. 677. Nesæ'a verticillàta, H. B. et Kunth, nov. gen. amer. 6. p. 191. Leaves petiolate, lanceolate. Peduncles many-flowered. Flowers purple, disposed in aggregate, corymbose whorls.

Whorled-flowered Decadon. Fl. July, Sept. Clt. 1757. Pl. 2 to 4 feet.

Cult. See *Lýthrum* for culture and propagation, p. 713. It is a pretty border-plant when in flower.

XVI. NESÆ'A (*Nesæa*, in mythology, a sea-nymph). Comm. in Juss. gen. p. 332. D. C. mem. soc. gen. 3. pt. 2. p. 74. prod. 3. p. 90.—Nesæ'a species of Kunth.—Lýthrum species of Lin.

LIN. SYST. *Octo-Dodecándria, Monogýnia.* Calyx hemispherically-campanu[illegible]ctless at the base, 8-12-lobed: the inner 4 or 6 lobes ere[illegible] and the outer 4-6 or those from the sinuses spreading and horn-formed. Petals 4-6, alternating with the erect lobes. Stamens 8-12, nearly equal. Ovarium sessile, almost globose, 4-celled. Capsule covered by the calyx. Seeds minute, wingless. Herb glabrous. Peduncles 3-flowered, furnished with 2 bracteas at the origin of each pedicel. Petals blue.

1 N. TRIFLÒRA (H. B. et Kunth, nov. gen. amer. 5. p. 191. in a note). ♃. B. S. Native of the Mauritius, in humid grassy places, not of America, as had been formerly supposed. Lýthrum triflòrum, Lin. fil. suppl. p. 249. exclusive of the country. Ly'thrum triántha, Vent. herb. Trótula triánthis, Comm. herb. Willem. herb. maur. 3. with an excellent description. Leaves opposite, oblong-lanceolate, obtuse or acute, on short petioles. Flowers 3, on short pedicels, on the apex of the peduncle. Corolla blue.

Three-flowered Nesæa. Fl. Aug. Clt. 1802. Pl. 2 to 3 ft.

Cult. See *Diplùsodon* for culture and propagation.

XVII. CRE'NEA (meaning not explained by Aublet). Aubl. guian. 1. p. 523. Lam. ill. t. 407. Meyer, prim. esseq. p. 186. D. C. prod. 3. p. 90.

LIN. SYST. *Octándria, Monogýnia.* Calyx urceolate, 4-cleft; lobes broad, triangular, but none are produced at the sinuses. Petals 4, inserted between the lobes of the calyx. Ovarium roundish. Style filiform. Stigma oblong. Capsule 1-5-celled, covered by the calyx, many-seeded. Seeds very minute.—Herbs or subshrubs. Leaves opposite, glabrous. Peduncles axillary, 1 or many-flowered. Flowers white. In the capsules examined by Aublet they were 5-celled, but in those examined by Meyer and De Candolle, only 1-celled at maturity. Perhaps the capsules are 4-8-celled at first, but as they become more mature the dissepiments vanish, and the capsule becomes therefore 1-celled?

1 C. MARI'TIMA (Aubl. guian. l. c. t. 209.) stem nearly herbaceous, nodose; branches tetragonal; angles winged; leaves ovate-oblong; peduncles many-flowered. ♃. B. S. Native of

Cayenne, in saltish water by the sea-side. Pedicels 1-4, disposed in a kind of umbel at the top of the peduncle. Flowers white.

Sea-side Crenea. Pl. 2 to 3 feet.

2 C. RE'PENS (Meyer, l. c.) stem suffruticose, creeping; leaves spatulate; peduncles 1-flowered. ♄. B. S. Native of Guiana, in the island of Arowabisch, in sandy placec inundated by the sea. Flowers white.

Creeping Crenea. Shrub creeping.

Cult. Should either of the species of *Crènea* be ever introduced to the gardens, we would recommend their being grown in sand, kept moist by salted water, or the pots in which they are grown may be placed in pans filled with salted water.

XVIII. LAWSO'NIA (in honour of Isaac Lawson, M.D., author of a Voyage to Carolina, 4to. London. 1709.). Lin. gen. no. 482. Lam. ill. t. 296. f. 1. D. C. prod. 3. p. 90.

Lin. syst. *Octándria, Monogýnia.* Calyx 4-parted, spreading, permanent, having no teeth or lobes produced at the sinuses. Petals 4, alternating with the lobes of the calyx, obovate, unguiculate, spreading. Stamens 8, approximating by pairs, which alternate with the petals. Ovarium sessile. Capsule hardly dehiscent, or a membranous berry, 4-celled, globose. Seeds angular, numerous in the cells.—A smooth shrub. Leaves quite entire. Flowers white, disposed in panicles or corymbs. *Lawsònia acronýchia* of Lin. fil. or more properly *Acronýchia læ'vis* of Forster, is a genus that does not belong to this order. It has been referred to *Aurantiàceæ* by Labillardiere in sert. austr. cal. p. 66.

1 L. A'LBA (Lam. dict. 3. p. 106[illegible]ves opposite, lanceolate, quite entire; flowers in panicles. ♄. S. Native of the East Indies, Levant, and north of Africa, where it is frequently cultivated in gardens. *Cyprus* of the ancients. *Henna* or *Alhenna* of the Arabs. Alcánna, Rumph. amb. 4. t. 17. Mail-Anschi, Rheed. mal. 1. p. 73. t. 40. L. inérmis and L. spinòsa, Lin. spec. 4. p. 498. L. inérmis, Desf. atl. 1. p. 325. Young trees unarmed. Old trees having the branchlets hardened into spines. Flowers white. The powdered leaves, made into a paste, are much used by Egyptian women to dye their nails yellow, which they esteem an ornament. The colour lasts for 3 or 4 weeks before there is occasion to renew it. The plant is supposed to possess vulnerary and astringent properties.

White-flowered Lawsonia. Clt. 1752. Shrub 6 to 10 feet.

† *Species not sufficiently known.*

2 L. FALCA'TA (Lour. coch. 229.) leaves scattered, falcate, rather crenated; flowers corymbose. ♄. G. Native of Cochinchina, among bushes. Flowers white in racemose terminating corymbs. Berry 4-celled, many-seeded, but frequently 2-3 or 1-celled only. Leaves with a strong ungrateful smell.

Falcate-leaved Lawsonia. Shrub 6 feet.

3 L. COCCI'NEA (Smith, in Rees' cycl. 20. no. 3.) branches spinescent; leaves elliptic-obovate, acute; lobes of calyx twice the length of the tube. ♄. S. Native of Banda.

Scarlet Lawsonia. Shrub.

Cult. The species of *Lawsònia* thrive well in a mixture of loam and peat; and cuttings strike root readily in sand, with a hand-glass over them, in heat.

XIX. ABA'TIA (in honour of Pierre Abat, formerly professor of botany at Seville). Ruiz et Pav. syst. fl. per. et chil. 1. p. 136. gen. t. 14. fl. per. et chil. 5. t. 463. D. Don, in edinb. new phil. journ. jan. 1831.

Lin. syst. *Icosándria, Monogýnia.* Calyx with a short, somewhat turbinate tube, having the throat beset with numerous hairs; limb 4-parted; lobes lanceolate. Petals none. Stamens about 20, inserted near the base of the calycine tube; filaments flat, glabrous. Ovary globose, 1-celled, very villous. Style terete. Stigma small, truncate, pruinose. Capsule 1-celled, 2-valved, many-seeded, opening at the apex; valves placentiferous in the middle. Placentas at length free, connate at the base. Seeds small, angular, convex on one side, furnished with a small wing-like crest at the apex.—Shrubs clothed with fascicles of cinereous tomentum. Leaves opposite, petiolate, simple, crenated. Flowers racemose. Pedicels 1-flowered, solitary, or in fascicles, each propped by a bractea. This genus was formerly placed in the order *Bixíneæ* before its relationship was well known.

1 A. RUGÒSA (Ruiz et Pav. l. c.) leaves wrinkled above; anthers oblong. ♄. S. Native of Peru, on cold hills at Rondos, Pillao, and Nanyan. At Pillao it is commonly called *Taucca-taucca.*

Wrinkled-leaved Abatia. Shrub.

2 A. PARVIFLÒRA (Ruiz et Pav. l. c. fl. per. et chil. 5. t. 463.) leaves flat above; anthers roundish. ♄. S. Native of Peru, about Muna, where it is also called *Taucca-taucca.*

Small-leaved Abatia. Shrub.

Cult. See *Lawsònia* for culture and propagation, p. 722.

XX. ANTHERY'LIUM (meaning unknown to us). Rohr, act. soc. hist. nat. hafn. 2. pt. 1. p. 211. D. C. prod. 3. p. 91.

Lin. syst. *Dodecándria, Monogýnia.* Calyx 4-parted, equal; the sinuses not produced into other lobes. Petals 4, alternating with the lobes of the calyx, and hardly longer than them. Stamens 12-16, inserted in the bottom of the calyx. Ovarium sessile, ovate. Style filiform. Capsule many-seeded, ovate, 3-4-sided, 3-4-valved, and when young 3-4-celled; but in the adult state dehiscent, and bearing at the apex a 3-4-angled thick placenta.—A glabrous tree. Leaves opposite or alternate, ovate, quite entire. Spines 2, under each leaf, similar to spiny pulvini. Pedicels axillary, numerous, 1-flowered, crowded in fascicles. This genus is probably more nearly allied to *Legnòtis*, a genus belonging to *Rhizophòreæ.*

1 A. RÒHRII (Vahl. l. c.). ♄. S. Native of the islands of St. Thomas and Porto Rico.

Rohr's Antherylium. Tree.

Cult. See *Lawsònia* for culture and propagation, p. 722.

XXI. DO'DECAS (*δωδεκα, dodeka*, twelve; in reference to the number of stamens). Lin. fil. suppl. p. 36. Ern. Meyer, act. soc. nat. cur. bonn. 12. p. 800. D. C. prod. 3. p. 91.

Lin. syst. *Dodecándria, Monogýnia.* Calyx 4-cleft; tube urceolate; lobes deltoid; the sinuses not produced into other lobes. Petals 4, almost orbicular. Stamens 12; filaments adnate to the tube of the calyx a long way. Anthers oblong, adnate. Style flexuous, obtuse. Capsule globose, half 4-valved, 1-celled. Central placenta stipitate, many-seeded.—A shrub, with tetragonal branches. Leaves opposite, obovate-oblong, quite entire. Pedicels axillary, usually 1-flowered, bibracteolate.

1 D. SURINAME'NSIS (Lin. fil. suppl. p. 245. Ern. Meyer, l. c.). ♄. S. Native of Surinam. Habit of *Lýcium bárbarum.*

Surinam Dodecas. Shrub 6 to 8 feet.

Cult. See *Lawsònia* for culture and propagation, p. 722.

XXII. GINO'RIA (so named by Jacquin in honour of the Marquis Carlo Ginori, who had a botanic garden near Florence, kept up by his son Lorenzo). Jacq. amer. p. 148. t. 91. D.C. prod. 3. p. 91.—Ginòra, Lin. gen. no. 605. Lam. ill. t. 407.—Genòria, Pers. ench. no. 1184.

Lin. syst. *Dodecándria, Monogýnia.* Calyx campanulate, permanent, 6-cleft; lobes lanceolate, acuminated, spreading; the sinuses not produced into other lobes. Petals 6, roundish, on long claws. Stamens 12; anthers reniform. Style subulate.

Capsule roundish, 4-valved, 4-furrowed, 1-celled ? opening from the apex. Seeds small, inserted in a large, roundish placenta. —A shrub. Leaves opposite, lanceolate. Pedicels axillary, 1-flowered. Flowers large, blue.

1 G. AMERICA'NA (Jacq. l. c.). ♄. S. Native of Cuba, on the banks of rivers, where it is called by the inhabitants *Rosa del Rio* or *River-rose*. Flowers nearly an inch in diameter, with a red calyx and blue corolla. Capsule dark red.

American Ginoria. Shrub 3 to 4 feet.

Cult. An elegant plant when in flower. Its culture and propagation is the same as that for *Lawsònia*, p. 722.

XXIII. ADENA'RIA (from αδην, *aden*, a gland; in reference to the petals, calyxes, and ovarium being beset with glandular dots). H. B. et Kunth, nov. gen. amer. 6. p. 185. D. C. prod. 3. p. 91.—Antherýlium species, Spreng. syst. 2. p. 474.

LIN. SYST. *Octo-Decándria, Monogýnia.* Calyx turbinately campanulate, 4-5-cleft; the sinuses not produced into other lobes. Petals 4-5, unguiculate, inserted between the lobes of the calyx. Stamens 8-10, inserted in the base of the calyx, exserted. Ovarium stipitate, 2-celled. Style inclosed; stigma 2-lobed. Fruit globose, half covered by the calyx, probably indehiscent. Seeds angular, very numerous.—American trees. Leaves opposite, quite entire, beset with glandular dots beneath, as well as on the calyxes, petals, and ovarium. Flowers white, disposed in axillary umbels.

1 A. GRISLEOÌDES (H. B. et Kunth, l. c.) branches nearly terete, finely hairy; leaves oblong, acuminated, membranous, glabrous; umbels on short peduncles. ♄. S. Native of South America, on the banks of the river Magdalena, near Badilla. Antherýlium grisleoìdes, Spreng. l. c. Leaves like those of *Grislea secúnda*. Petals spotted with red or brown glands like the rest.

Grislea-like Adenaria. Tree 20 feet.

2 A. PURPURA'TA (H. B. et Kunth, l. c.) branchlets terete, when young puberulous; leaves oblong, acuminated, purplish, glabrous, but puberulous on the nerves and veins beneath; umbels almost sessile. ♄. S. Native of New Granada, on the banks of Smith's and Quilquasa rivers; and at Guayaquil. Antherýlium purpuràtum, Spreng. l. c.

Purplish-leaved Adenaria. Tree 20 to 30 feet.

3 A. FLORIBU'NDA (H. B. et Kunth, l. c. p. 188. t. 549.) branchlets tetragonal, clothed with canescent pubescence, as well as the under side of the leaves, but the upper surface is quite glabrous; leaves oblong-lanceolate, acuminated; umbels on short peduncles. ♄. S. Native along with the preceding species. Antherýlium floribúndum, Spreng. l. c.

Bundle-flowered Adenaria. Tree 20 feet.

Cult. See *Lawsònia* for culture and propagation, p. 722.

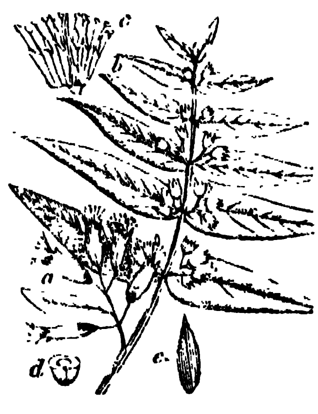
XXIV. GRI'SLEA (in honour of G. Grisley, a Portuguese chemist; author of Viridarium Lusitanicum, Lisbon, 1661, 8vo. republished by Seguier in 1749. It is also in Ray's Sylloge stirpium exterarum). Lœfl. itin. p. 245. Lin. gen. no. 474. H. B. et Kunth, nov. gen. amer. 6. p. 184. D. C. prod. 3. p. 92.—Woodfórdia, Salisb. par. lond. t. 42.

LIN. SYST. *Octo-Dodecándria, Monogýnia.* Calyx coloured, tubular (f. 107. *a.*), 8-12-toothed; the 4 or 6 inner teeth erect; and the 4 or 6 outer ones, or those produced from the sinuses, horn-formed and smaller. Petals 4-6, oblong, unguiculate, inserted in the top of the calycine tube, between the inner teeth of the calyx. Stamens 8-12 (f. 107. *c.*), exserted, inserted in the base of the calyx. Capsule globose, inclosed in the calyx.—Shrubs. Leaves opposite, quite entire, dotted with black glands beneath. Peduncles axillary, many-flowered. Flowers red.

1 G. SECU'NDA (Lœfl. itin. p. 245. H. B. et Kunth, nov. gen. amer. 6. p. 185.) branchlets glabrous; leaves on short petioles, puberulous on both surfaces, but paler beneath; flowers usually with 4 petals and 8 stamens. ♄. S. Native of South America, between Cumana and the Orinoco, and near Caraccas. Perhaps the plant of Lœfling, who says the leaves are glabrous, the calyxes 4-toothed, and the flowers secund, is the same as that of Humboldt, who says that the leaves are puberulous, the flowers axillary, and calyx 8-toothed. Perhaps both plants have 5 petals and 10 stamens in the flowers. Calyx greenish. Petals hardly conspicuous, flesh-coloured. Stamens long, purple.

Secund-flowered Grislea. Clt. 1820. Shrub 4 to 6 feet.

FIG. 107.



2 G. TOMENTÒSA (Roxb. cor. 1. p. 29. t. 31.) branchlets pubescent; leaves sessile, clothed with hoary tomentum beneath, but smoothish above; flowers usually with 6 petals and 12 stamens. ♄. S. Native of the north of Coromandel, on hills (Roxb.), China (Lin.), and the islands of Timor and Java. Ker. bot. reg. 30. Lýthrum fruticòsum, Lin. spec. 641. Woodfórdia floribúnda, Salisb. par. lond. t. 42. Calyx and stamens red. Petals hardly conspicuous. (f. 107.)

Tomentose Grisle[illegible] Fl. May, Ju. Clt. 1804. S[illegible] ft.

3 G. PUNCTA'TA (Hamilt. ex Smith in Rees' cycl. vol. 17. no. 2.) leaves petiolate, lanceolate, smooth; branches and flowers erect; calyx 4 times longer than broad; petals 6; stamens 12. ♄. S. Native of the East Indies. Flowers red. Alabastra turbinate.

Dotted Grislea. Shrub.

Cult. Pretty shrubs and profuse flowerers. Their culture and propagation is the same as that for *Lawsònia*, p. 722.

Tribe II.

LAGERSTRŒMIE'Æ (plants agreeing with *Lagerstrœ'mia* in important characters). D. C. mem. soc. hist. nat. gen. 3. pt. 2. p. 70. Lobes of calyx exactly valvate in æstivation. Petals numerous, alternating with the calycine lobes, and inserted at the top of the calycine tube between its lobes. Stamens inserted lower down in the calycine tube than the petals, and twice or thrice their number. Seeds expanded into membranous wings. —Trees or shrubs.

XXV. LAGERSTRŒ'MIA (so named by Linnæus from Magnus Lagerstrœm of Gottenburg, who procured many curiosities from China, and gave them to the public). Willd. spec. 2. p. 1178. D.C. prod. 3. p. 93.—Lagerstrœ'mia and Munchaùsia, Lin. gen.

LIN. SYST. *Icosándria, Monogýnia.* Calyx bibracteolate at the base, 6-cleft; lobes distinct, but none produced from the sinuses. Petals 6, unguiculate. Stamens 18-30. Capsule 3-6-valved, girded by the calyx, 3-6-celled.—East Indian trees, and shrubs. Branches tetragonal. Leaves opposite, quite entire. Peduncles axillary, usually constituting panicles or racemes at the tops of the branches. Flowers purple, red or white, showy.

SECT. I. LAGERSTRŒ'MIA (see genus for derivation). Lin. gen. no. 667. Calyx neither furrowed nor plaited. The 6 outer stamens longer and thicker than the rest.

1 L. I'NDICA (Lin. spec. 784.) leaves roundish-ovate, acute, glabrous; panicle many-flowered, terminal; petals curled on

long claws. ♄. S. Native of China, Cochinchina, and Japan, not in India, unless cultivated in gardens. Curt. bot. mag. t. 405.—Rumph. amb. 7. t. 28. Sibi, Kœmpf. amœn. p. 855. Flowers flesh-coloured, large, and handsome. Branchlets acutely tetragonal, nearly 4-winged.

Indian Lagerstrœmia. Fl. Aug. Oct. Clt. 1759. Shrub 6 to 10 feet.

2 L. PARVIFLÒRA (Roxb. cor. 1. p. 47. t. 66.) leaves oblong or oval, obtuse, rather scabrous; peduncles axillary, 3-6-flowered; petals flat, on short claws. ♄. S. Native of the mountains called the Circars, in the East Indies. The peduncles being numerous at the tops of the branches, may be called a panicle. The flowers are small and white. The wood is used for various economical purposes in its native country. Leaves downy beneath.

Small-flowered Lagerstrœmia. Clt. 1818. Sh. 6 to 12 feet.

SECT. II. MUNCHAU'SIA (so named from Baron Gerlach Adolphus de Munchausen). Lin. mant. 153. Juss. gen. 331.—Banàva, Cam. ex Ray, hist. 3. luz. p. 80. Calyx neither furrowed nor plaited. Stamens equal among themselves.

3 L. SPECIÒSA (Pers. ench. 2. p. 72.) leaves oval, glabrous, somewhat attenuated at both ends; panicle terminal; petals flat, orbicular, on long claws. ♄. S. Native of China. Munchaúsia speciòsa, Lin. mant. p. 243. Murr. prod. with a figure. Munch. hausv. 5. p. 356. ex Willd. Lagerst. Munchaúsia, Willd. spec. 2. p. 1179. L. màjor, Retz. Upper leaves alternate. Petals 9 lines long. Flowers very shewy, disposed in terminal racemes.

Shewy Lagerstrœmia. Tree.

4 L. GRANDIFLÒRA (Roxb. hort. beng. p. 38.) leaves ovate, cordate at the base, acuminated at the apex, glabrous on both surfaces; panicles subcorymbose, terminal; petals oval-oblong, on short claws. ♄. S. Native of the East Indies, at Chittagong. Calyx large, cleft into 5 parts beyond the middle. Petals an inch long. Style compressed, thick, exserted. D. C. mem. hist. nat. gen. 3. pt. 2. p. 84.

Great-flowered Lagerstrœmia. Clt. 1818. Shrub.

SECT. III. ADA'MBEA (*Adamba* is the Malabar name of *L. reginæ* and *Katau-adambæ* of *L. hirsùta*). Lam. dict. 1. p. 39. D. C. prod. 3. p. 93. Calyx furrowed and plaited longitudinally. Stamens nearly equal in length.

5 L. REGÌNÆ (Roxb. cor. 1. p. 46. t. 65.) leaves oblong, glabrous; panicle terminal; calyxes tomentose; petals orbicular, undulated, on short claws. ♄. S. Native of the East Indies, in woods on the Circars, and in Java; also of Malabar, in sandy or stony places. Adámbea glàbra, Lam. l. c.—Rheed. mal. 4. tt. 20, 21. Flowers large, nearly 2-3 inches in diameter, of a beautiful rose-colour in the morning, growing deeper through the day, until they become purple in the evening. Angles of branches winged.

Queen's Lagerstrœmia. Clt. 1792. Tree 20 feet.

6 L. HIRSU'TA (Willd. spec. 3. p. 1178.) leaves oblong, pubescent; panicle corymbose, terminal; petals flat, oval. ♄. S. Native of Malabar, on the mountains. Rheed. mal. 4. t. 22. Adámbea hirsùta, Lam. dict. 1. p. 39. Flowers red.

Hairy Lagerstrœmia. Shrub.

7 L. FLORIBU'NDA (Jack, mal. misc. 1. no. 2. p. 38.) leaves nearly opposite, ovate-oblong, glabrous; panicle terminal, much branched, many-flowered, clothed with rusty villi; stamens unequal; calyx turbinate, furrowed. ♄. S. Native of Penang. Flowers smaller and more numerous than those of *L. regìnæ*, but of the same colour. Perhaps belonging to a different section.

Bundle-flowered Lagerstrœmia. Tree 20 feet.

Cult. *Lagerstrœ'mia* is a splendid genus of shrubs. *L. I'ndica* is a hardy stove plant and easily cultivated, and flowers freely. The rest of the species are more tender, and more difficult to preserve through the winter, at which time they require a great heat and but little water, for if they are too freely watered at this season it is a great chance if they survive. In summer they grow freely, at which time they require plenty of room to grow, and to be plentifully supplied with water. Cuttings of them all root readily if planted in sand, with a hand-glass placed over them in heat.

XXVI. LAFOE'NSIA (in honour of the duke of Lafoens, formerly president of the Academy of Sciences of Lisbon). Vand. fl. lus. et bras. (1788) p. 33. t. 2. f. 13. ed. Rœm. p. 112. D. C. prod. 3. p. 93.—Calypléctus, Ruiz et Pav. prod. fl. per. (1794). p. 73.

LIN. SYST. *Icosándria, Monogýnia.* Calyx bibracteolate at the base, campanulate, plicately 10-12-toothed at the apex; teeth as if they were joined together by a peculiar membrane. Petals 10-12. Stamens twice the number of the petals. Ovarium 2-celled. Berry corticate, spherical. Placenta central, globose.—American trees. Leaves opposite, quite entire. Peduncles solitary, 1-flowered. Flowers large, white or pale. The bracteas under the flower caducous.

1 L. SPECIÒSA (D. C. prod. 3. p. 94.) leaves oblong, acuminated; fruit spherical, smooth. ♄. S. Native of New Granada, on the Andes near Almaguer. Calypléctus speciòsus, H. B. et Kunth, nov. gen. amer. 6. p. 183. t. 548. A. and B. Flowers white. Petals oblong, with somewhat lobed and undulated edges.

Shewy Lafoensia. Tree 20 to 30 feet.

2 L. ACUMINA'TA (D. C. l. c.) leaves oblong, bluntly acuminated; fruit spherical, stellately rayed from the middle to the apex. ♄. S. Native of Peru, in warm groves about Pozuzo, where it is called by the inhabitants *Cabeza de Monge.* Calypléctus acuminàtus, Ruiz et Pav. syst. fl. per. p. 129. Racemes large. Fruit sessile, ex Ruiz et Pav.

Acuminated-leaved Lafoensia. Shrub 4 to 6 feet.

3 L. PUNICÆFÒLIA (D. C. mem. soc. hist. nat. gen. 3. pt. 2. p. 86. t. 1.) leaves oblong, bluntly acuminated, with the middle nerve porose at the apex underneath; fruit ovate, globose, smooth, somewhat apiculated. ♄. S. Native of St. Martha. Calypléctus punicæfòlius, Bert. ined. Lafoénsia Mexicàna, Moc. et Sesse, fl. mex. icon. ined. does not appear to be different.

Pomegranate-leaved Lafoensia. Tree.

4 L. VANDELLIA'NA (D. C. prod. 3. p. 94.) leaves obovate, retuse at the apex, with one gland in the recess, and running down the short petiole at the base, coriaceous, glabrous, shining above; calyx half 10-cleft; fruit ovate-globose, somewhat apiculated. ♄. S. Native of Brazil. Lefoénsia, Vand. fl. lus. et bras. p. 33. t. 3. f. 13. and Rœm. script. p. 112. t. 7. f. 13. Ovary on a short stipe. Style subulate. Petals oblong, serrated, emarginate at the apex, furnished with a nectariferous scale at the base of each.

Vandelli's Lafoensia. Tree.

Cult. See *Lagerstrœ'mia* for culture and propagation.

† *Genera not sufficiently known, and probably not belonging to the present order.*

XXVII. PHYSOPO'DIUM (from *φυσα, physa,* a bladder, and *πους ποδος, pous podos,* a foot; in reference to the tumid pedicels). Desv. in ann. sc. nat. 1826. vol. 9. p. 403.

LIN. SYST. *Decándria, Monogýnia.* Calyx turbinate, 5-toothed, beset with strigose hairs inside. Petals 5, oval-oblong. Stamens 10, twice the length of the petals, alternate ones a little shorter. Anthers oblong, 2-celled. Ovarium oblong. Style capillary, subulate at the apex. Fruit unknown.—Shrub twining. Leaves alternate, quite entire and glabrous, lanceolate. Flowers in spicate panicles, secund, bracteolate; pedicels tumid at the apex. According to Desvaux the present genus is allied to the *Lythràriæ*, but the æstivation of the calyx, the fruit, and seeds is unknown.

1 P. VOLU'BILE (Desv. l. c.) ♄. ◠. S. Native of the Island of Bourbon. Stem terete. Leaves long, lanceolate, stiff, rather mucronate.

Twining Physopodium. Shrub tw.

Cult. See *Lagerstrœmia* for culture and propagation, p. 724.

XXVIII. SYMME'TRIA (from *συμμετρια*, *symmetria*, symmetry; in reference to the proportion of the parts of the flower). Blume, bijdr. p. 1130. D. C. prod. 3. p. 94.

LIN. SYST. *Dodecándria, Monogýnia.* Calyx campanulate, 6-cleft. Petals 6, small, inserted in the calyx. Stamens 12, alternate ones shortest, at length inflexed and marcescent. Ovarium girded by the disk, 4-celled; cells 2-ovulate. Style thick. Stigma obtuse, 4-sided. Drupe baccate, umbonate, covered by the calyx, 1-3-celled; cells containing one nut each; nuts reniform, 1-seeded, covered with fibrous aril. Embryo inverted and curved in the albumen.—A tree, with opposite, obovate, obtuse, obsoletely-denticulated, coriaceous, glabrous leaves, which are full of fine parallel veins. Corymbs axillary, short. Flowers small. The seeds and fruit of this genus disagree entirely with the other genera of this order.

1 S. OBOVA'TA (Blume, l. c.) ♄. S. Native of Java, in mountain woods, where it is called by the inhabitants *Kikukuran.*

Obovate-leaved Symmetria. Tree.

Cult. See *Lagerstrœ'mia* for culture and propagation, p. 724.

ORDER XCVII. TAMARISCI'NEÆ (plants agreeing with *Támarix* in important characters). Desv. diss. inst. gall. lect. 1815. ex ann. sci. nat. (1825) 4. p. 344. Aug. St. Hil. mem. mus. (1816) 2. p. 205. Link, enum. (1821) 1. p. 291.—Tamaríscus, Tourn. inst. 661.—Támarix, Lin. gen. 375. Lam. ill. t. 213. Willd. act. ac. berol. (1812). 13. (ed. 1816) p. 77.

Calyx 4-5-parted, permanent; lobes imbricate in æstivation. Petals inserted into the base of the calyx, marcescent, imbricate in æstivation, equal in number to the lobes of the calyx, and alternating with them. Stamens either equal in number to the petals, or twice that number; filaments either free or monadelphous. Ovarium free, superior, pyramidal, trigonal. Style short; stigmas 3. Capsule trigonal, 3-valved, 1-celled, many-seeded. Placentas 3, either at the base of the cavity, or along the middle of the valves. Seeds erect or ascending, oblong, compressed, comose at the apex, exalbuminous. Embryo with a small straight inferior radicle, and plano-convex oblong cotyledons.—Shrubs, rarely perennial suffruticose herbs, with twiggy branches. Leaves alternate, small, scale-formed, entire, usually glaucous. Flowers in close spikes or racemose spikes; pedicels bracteate. Corollas white or red.

According to De Candolle, this order is allied to *Portulàceæ* from the similitude of the flowers with those of *Telèphium*, but differs in the parietal exalbuminous comose seeds; but according to Auguste St. Hilaire it is more nearly allied to *Lythrarièæ* and *Onagràriæ*, from the former it differs in the æstivation of the petals, as well as in their insertion at the base of the calyx, and in the parietal seeds; from the latter in the free ovarium, and in the imbricate æstivation of the calyx. Dr. Ehrenberg, however, asserts that the order has hypogynous stamens. The same botanist in separating the *Támarix Songàrica* of Willd., and referring it to the vicinity of *Reaumùria*, establishes the affinity of *Tamariscineæ* to the order *Reaumurièæ*.

The bark of all is slightly bitter, and probably tonic. *Támarix Gállica* and *T. Africàna* are remarkable for the quantity of sulphate of soda which their ashes contain. Dr. Ehrenberg found that the manna of Mount Sinai is produced by a variety of *Támarix Gállica*. This substance being analyzed by M. Mitscherlich was found to contain no crystallizable matter, but to consist wholly of pure mucilaginous sugar.

Synopsis of the genera.

1 TA'MARIX. Calyx 4-5-parted. Petals 4-5. Stamens 4-5. Stigmas 3, long, glandular and oblique at the apex. Seed inserted at the base of the valves, or almost in the centre of the capsule; hairs on seeds simple.

2 MYRICA'RIA. Calyx 5-parted. Petals 5. Stamens 10. Stigmas 3 in a head. Seeds parietal in the middle of the valves; hairs on seeds feathery.

3 HOLOLA'CHNA. Calyx 4-5-parted. Petals 4-5. Stamens 8-10. Stigmas 2-4. Seeds parietal in the middle of the valves, their whole surface pilose.

I. TA'MARIX (so called from growing on the banks of the Tamaris, now Tambro, on the borders of the Pyrenees). Desf. ann. sc. nat. 4. p. 348. D. C. prod. 3. p. 95.—Támarix, with 4-5 stamens of other authors.

LIN. SYST. *Tetra-Decándria, Trigýnia.* Calyx 4-5-parted. Petals 4-5. Stamens 4-5, alternating with the petals, almost free. Ovarium tapering to the apex. Stigmas 3, long, divaricate, glandular and oblique at the apex. Seeds erect, inserted nearly at the base of the valves, or almost in the centre of the capsule. Seeds tufted; tuft composed of numerous simple hairs, rising from the apex. Spikes of flowers usually disposed in panicles. Flowers small, red, seldom white.

SECT. I. OLIGADE'NIA (from *ολιγος*, *oligos*, few, and *αδην*, *aden*, a gland; few surrounding the ovarium). Ehrenberg in Schlecht. Linnæa. 2. p. 253. Gland surrounding the germ, 8-toothed. Filaments 4, one between each alternate tooth of the gland.

1 T. TETRA'NDRA (Pall. ind. taur. ex Bieb. fl. taur. 1. p. 247.) glabrous, rather glaucous; leaves lanceolate, stem-clasping, adult ones diaphanous at the apex; racemes of flowers lateral, an inch and a half long; flowers a line long; bracteas longer than the pedicels; ovarium longer than the corolla. ♄. H. Native of the south of Tauria, in valleys about Astracan and Kisliar, ex Bieb.; and probably of the island of Cyprus. T. Gállica, Habl. ined. taur. 6. p. 105. There is a variety having 3-4 valved capsules in the same spike.

Var. β, *octándra* (Pall. nov. act. sc. petr. 10. p. 376.) Stamens 8. Capsules 3-4-valved.

Tetrandrous Tamarisk. Sh. 6 to 8 feet.

2 T. LA'XA (Willd. act. soc. berol. 1812. vol. 13. p. 82. no. 10.) glabrous, rather glaucous; leaves ovate, sessile, acuminated, erect; racemes lateral, about an inch long; flowers remotish, shorter than a line in length; bracteas shorter than the pedicels. ♄. H. Native of Siberia, in the valleys of Astracan and Kisliar, about salt lakes. Capsule reddish yellow, hardly a line in length. Calycine segments orbicularly-ovate, acutish, with membranous edges.

Loose Tamarisk. Shrub 5 to 6 feet.

3 T. ELONGA'TA (Led. fl. ross. alt. ill. t. 254. fl. alt. 1. p. 421.) glabrous, glaucous; flowers crowded, pedicellate, disposed in simple, elongated, lateral racemes; bracteas reflexed, 2 or 3 times longer than the pedicels; calycine segments broad, ovate, acutish, keeled, with membranous margins; petals spreading, exceeding the genitals; styles very short; leaves ovate-lanceolate, acute, when young incurved at the apex; when adult recurved. ♄. H. Native of Siberia, in the desert of Soongaria, in saltish places. Petals reddish.

Elongated Tamarisk. Shrub.

4 T. PARVIFLÒRA (D. C. prod. 3. p. 97.) glabrous, rather glaucous; leaves small, lanceolate, subulate, a little keeled, acute; spikes lateral, crowded, short; bracteas longer than the pedicels; ovarium not exceeding the corolla when in flower. ♄. H. Native country unknown, but cultivated about Constantinople. Spikes or racemes 9-10 lines long. Flowers white, one-half smaller than those of the first species.

Small-flowered Tamarisk. Shrub.

SECT. II. DECADE'NIA (from δεκα, *deca*, ten, and αδην, *aden*, a gland; the gland surrounding the ovarium is 10-toothed). Ehrenberg in Schlecht. Linnæa. 2. p. 253. Gland surrounding the ovarium 10-toothed. Petals 5. Stamens 5, one in each of the alternate teeth of the gland.

5 T. AFRICA'NA (Poir. voy. 2. p. 189. Desf. fl. atl. 1. p. 269.) glabrous, rather glaucous; leaves lanceolate, stem-clasping, imbricate; racemes sessile, scaly, dense, rising from the branches of the same year, usually [illegible] bracteas ovate, chaffy; flowers trigynous; capsule 3-valved. ♄. F. Native in the sand along the Mediterranean sea, in Mauritania; shores of Naples, Egypt; and of the Levant at the torrents about Trapezon. T. Gállica γ, Willd. spec. 1. p. 1498. The bark is browner, and the flowers a little larger than in *T. Gállica*.

African Tamarisk. Shrub 6 to 10 feet.

6 T. TETRA'GYNA (Ehrenberg in Schlecht. Linnæa. 2. p. 258.) like the last; but differs in the bracteas being linear-lanceolate, in the flowers being tetragynous, and in the capsule being 4-valved. ♄. H. Native of the south of Europe. There is a variety of this having the racemes simple at the apex, and proliferous at the base, leafy.

Tetragynous Tamarisk. Shrub 6 to 8 feet.

7 T. GRA'CILIS (Willd. l. c. no. 8.) leaves lanceolate, sessile; racemes short, usually solitary, sessile, rising from the branches of the preceding year; pedicels elongated, about equal in length to the bracteas. ♄. H. Native of Siberia, in salt marshes at the river Irtisch.

Slender Tamarisk. Shrub 4 to 6 feet.

8 T. EFFU'SA (Ehrenberg in Schlecht. Linnæa. 2. p. 258.) leaves lanceolate; racemes loose, elongated, somewhat panicled; pedicels much shorter than the bracteas. ♄. H. Native of the north of Africa.

Effuse-panicled Tamarisk. Shrub.

9 T. ORIENTA'LIS (Forsk. descrip. 206.) glabrous, glaucescent; leaves minute, distant, stem-clasping or sheathing, mucronate; spikes or racemes lateral, slender; capsule 4-valved. ♄. S. Native of Arabia, Persia, and the East Indies. Thùya aphy'lla, Lin. spec. 1422. exclusive of the synonymes. T. articulàta, Vahl. symb. 2. p. 48. t. 32. Flowers minute. Bracteas mucronate. Branches as if they were articulated at the origin of the leaves, with the internodes turbinate. The largest tree of this species appears to be one at Babylon, on the supposed site of the hanging gardens.

Oriental Tamarisk. Tree 10 to 20 feet.

10 T. HÍSPIDA (Willd. l. c. no. 2.) leaves and branches clothed with cinereous hispid pubescence; branches ascending; styles short. ♄. H. Native in the sandy deserts about the Caspian sea. T. pentándra var. Pall. fl. ross. 1. t. 79. B. C. D. T. Gállica β, Willd. spec. T. tomentòsa, Smith in Rees' cycl. 35. no. 2. T. canéscens, Desv. ann. sc. nat. 4. p. 348. Spikes or racemes lateral, somewhat panicled. Leaves lanceolate, subulate, imbricate. Flowers pale red.

Hispid Tamarisk. Shrub 6 to 8 feet.

11 T. CHINE'NSIS (Lour. coch. p. 182.) branches drooping; leaves very minute, imbricate, acute; spikes panicled, slender, and long; petals linear, erect. ♄. G. Native of China, in the province of Canton. According to Loureiro this plant is nearly allied to *T. orientàlis*. T. Gállica var. Ehr. l. c. Flowers red.

China Tamarisk. Tree 12 to 20 feet.

12 T. DIOÍCA (Roth, nov. spec. 185.) glabrous, greenish; leaves scale-formed, acute, stem-clasping at the base; spikes panicled, very slender, elongated; bracteas longer than the flowers; stigmas in the female flowers exserted. ♄. S. Native of the East Indies. Stamens none, or 5 inclosed. A female specimen has only been examined.

Dioecious Tamarisk. Clt. 1823. Shrub 6 feet.

13 T. I'NDICA (Willd. l. c. no. 5.) glabrous, greenish; branches stiffish, twiggy; leaves short, ovate, acute, of an obscure green, with white edges; spikes of flowers elongated, straight, panicled; bracteas shorter than the flowers, subulate, longer than the pedicels; stamens exceeding the corolla. ♄. S. Native of the East Indies. T. epacroìdes, Smith in Rees' cycl. 35. no. 4. T. Gállica var. I'ndica, Ehrenberg, l. c.

Indian Tamarisk. Shrub 6 feet.

14 T. CANARIE'NSIS (Willd. l. c. no. 4. Buch, can.) glabrous, hardly glaucous; branches divaricate; leaves small, stem-clasping, obscure green, margined with white, ending in long cirrhose points, some adpressed, and some spreading; spikes somewhat panicled, very long, slender; stamens length of the corolla. ♄. G. Native of the Grand Canary Island, along the sea side, and at the entrance of the valleys near Las Palmas. In Teneriffe on the east of Santa Cruz, near the sea, where we have seen it growing in great plenty.

Canary Island Tamarisk. Shrub 4 to 6 feet.

15 T. RAMOSI'SSIMA (Led. fl. ross. alt. ill. t. 256. fl. alt. 1. p. 424.) glabrous, glaucous; flowers crowded, disposed in cylindrical racemes, forming a decompound panicle; bracteas exceeding the pedicels; calycine segments ovate-orbicular, acutish; petals erectly connivent; styles much shorter than the ovarium; leaves ovate-lanceolate, acute, stem-clasping, glabrous. ♄. H. Native of Siberia, at Lake Noor-Laisan. Flowers reddish. T. Gállica, Sievers in Pall. nord. beytr. vii.

Much-branched Tamarisk. Shrub 5 to 6 feet.

16 T. GA'LLICA (Lin. spec. 386.) glabrous, glaucous; leaves minute, stem-clasping, adpressed, acute; spikes lateral, somewhat panicled, slender, 5 times longer than broad. ♄. H. Native of France, frequent; and along the Mediterranean. In England, on the coasts of Cornwall, Hampshire, and Sussex. Smith, engl. bot. 1318. Mill. fig. 262. f. 1. Blackw. herb. 331. Tamaríscus Gállicus, All. Tamaríscus pentándrus, Lam. fl. fr. but not of Pall. Flowers flame-coloured or pale-red.

Var. α, *súbtilis* (Ehrenberg in Schlecht. Linnæa. 2. p. 267.) branches subtile, effuse; leaves glabrous, pale green, a little spreading.

Var. β, *Narbonénsis* (Ehrenberg, l. c.) branches stiff, spreading; leaves glabrous, obscure green, densely imbricated, margined with white; spikes of flowers short, rather lateral.

Var. γ, *Nilótica* (Ehrenberg, l. c. p. 269.) branches effuse, rather loose; leaves short, glaucous, spreading; spikes elongated; gland surrounding the ovarium, hypogynous, with 10 equally distant teeth.

Var. δ, *arborea* (Sieb. ex Ehrenberg, l. c.) branches effuse, thickened, stiffish, nearly terete; leaves glabrous, densely adpressed to the stem; teeth of hypogynous gland usually approximate by pairs.

Var. ε, mannífera (Ehrenberg, l. c. p. 270.) branches stiffish; leaves short, glaucous, covered with white powder, spreading; hypogynous gland with teeth at equal distances. The manna of Mount Sinai is the produce of this variety.

a; branches effuse; anthers and gland white. There is another variety of this having the anthers and gland red.

b; branches divaricate; anthers and gland rose-coloured.

Var. ι, heterophýlla (Ehrenberg, l. c. p. 270.) branches very slender; leaves light green, glabrous, short, acute, the upper ones densely imbricated, the middle ones elongated and bluntish, lower rameal ones broad-ovate, flat; spikes much elongated, all very slender.

French Tamarisk. Fl. May, Oct. Britain. Sh. 6 to 12 ft.

17 T. PALLA'SII (Desv. ann. sc. nat. 4. p. 349.) glabrous, hardly glaucous; leaves small, acute, imbricated; spikes panicled, rather thickish; stamens twice the length of the corolla; stigmas very short. ♄. H. Native at Cape Caucasus, and in deserts about the Caspian Sea. T. pentándra, Pall. fl. ross. t. 77. T. Gállica, Bieb. fl. taur. 1. p. 246. T. paniculàta, Steven in litt. A plant gathered by Olivier and Bruguiere between Bagdad and Aleppo is very nearly allied to this species.

Pallas's Tamarisk. Shrub 6 to 12 feet.

18 T. CUPRESSIFÓRMIS (Led. fl. ross. alt. ill. t. 253. fl. alt. 1. p. 423.) glabrous, glaucous; flowers remotish, disposed in lateral simple racemes; bracteas shorter than the pedicels; calycine segments orbicular, with membranous edges; petals spreading; styles much shorter than the ovarium; leaves ovate, stem-clasping, closely imbricated when young. ♄. H. Native of Siberia, in the desert of Soongaria, near salt lakes.

Cypress-formed Tamarisk. Shrub 5 to 8 feet.

19 T. SENEGALE'NSIS (D. C. prod. 3. p. 96.) glabrous, glaucous; leaves lanceolate-subulate, keeled, somewhat stem-clasping, acute, spreading a little; spikes slender, numerous, panicled; stamens hardly longer than the corolla; ovarium acutely trigonal, almost triangular. ♄. S. Native of Senegal, where it flowers in the month of January.

Senegal Tamarisk. Tree.

SECT. III. POLYADE'NIA (from πολυ, *poly*, many, and αδην, *aden*, a gland; in reference to the gland surrounding the ovarium being many toothed). Ehrenberg in Schlecht. Linnæa. 2. p. 271. Gland surrounding the ovarium 20-toothed. Stamens 10, one between each alternate tooth of the gland.

20 T. ERICOÌDES (Rottl. ex Willd. nov. act. nat. scrut. 4. p. 214. t. 4.) leaves oblong, sheathing; spikes terminal; flowers decandrous; bracteas equal in length to the pedicels. ♄. S. Native of the East Indies. Roots creeping deep. T. ericoìdes, Roth, nov. spec. p. 184. and T. mucronàta, Smith in Rees' cycl. do not appear to differ from the present species. Flowers large.

Heath-like Tamarisk. Shrub 4 to 6 feet.

21 T. AMPLEXICAU'LIS (Ehrenberg in Schlecht. Linnæa. 2. p. 275.) stems shrubby; branches divaricate, intricate; young leaves stem-clasping, glaucous, short, acute, older ones half stem-clasping; flowers small, in spikes; capsule 2 lines long. ♄. S. Native of Egypt, in the oases of Jupiter Ammon.

Stem-clasping-leaved Tamarisk. Shrub 4 to 6 feet.

22 T. PYCNOCA'RPA (D. C. prod. 3. p. 97.) leaves stem-clasping, ovate, acute, small, when young adpressed, at length spreading and mucronate; spikes panicled; flowers decandrous; bracteas equal in length to the pedicels; fruit ovate, triquetrous, turgid. ♄. F. Native of the Levant, along the road side between Bagdad and Kermancha.

Slender-fruited Tamarisk. Shrub 2 to 3 feet.

23 T. PASSERINOÌDES (Del. fl. ægypt. p. 58. Desv. in ann. sc. nat. 4. p. 349.) stem erect; branches cinereous, diffuse; leaves half stem-clasping all the summer, short, somewhat triangular, canescent; capsule 3 lines long. ♄. F. Native of Arabia and Egypt, in arid places.

Var. α, divaricàta (Ehrenberg in Schlecht. Linnæa. 2. p. 275.) branchlets divaricate; leaves densely imbricated, obtuse, adpressed; flowers large; capsules about 4 lines long. ♄. F. In the oases of Jupiter Ammon.

Var. β, Hammònis (Ehrenberg, l. c.) branches straight, torose; leaves hoary, densely imbricated, bluntish, adpressed; flowers small; capsule 3 lines long. ♄. F. In the oases of Jupiter Ammon.

Var. γ, macrocárpa (Ehrenberg, l. c.) branches loose, erectish; leaves short, dilated, acuminated, glaucous, rather remote, at length spreading; flowers large; capsule about half an inch long.

Passerina-like Tamarisk. Shrub.

Cult. *Támarix* is a genus of very pretty and delicate shrubs. The hardy species are fit ornaments for decorating shrubberies; they will grow well in any soil or situation, and cuttings planted out in the open ground in autumn or early in spring strike root readily. The stove and greenhouse kinds succeed well in a mixture of loam and peat; and cuttings of them root freely in sand under a hand-glass, those of the former in heat.

II. MYRICA'RIA (*μυρικη*, *myrice*, in Greek, a synonyme of *Tamarix*, deriv[illegible] *μυρω*, *myro*, to run; from growing on the banks of r[illegible] streams). Desv. ann. sc. nat. 4. p. 349. D. C. prod. 3. p. 97. Ehrenberg, in Schlecht, Linnæa. 2. p. 278.—Támarix species of authors.

LIN. SYST. *Monadélphia, Decándria.* Calyx 5 parted. Petals 5. Stamens 10, alternate ones shorter than the rest; filaments monadelphous from the base to about the middle. Stigmas 3, sessile, in a head. Seeds inserted in a line along the middle of the valves, ascending, tufted at one end; hairs of tuft feathery. Flowers in simple, solitary, terminal spikes.

§ 1. *Leaves long, linear, or oblong, sessile, becoming gradually broader towards the base.*

* *Shrubby; fruit pedicellate.*

1 M. GERMA'NICA (Desv. l. c. p. 349.) shrubby; leaves linear-lanceolate, flat; racemes subspicate, elongated, terminal, solitary, but those at the tops of the branchlets are branched; mature flowers distended, ascending; bracteas longer than the pedicels; capsules ascending. ♄. H. Native nearly throughout the whole of Europe, on the banks of rivers; and of Caucasus. Mill. fig. t. 262. f. 2. Támarix Germánica, Lin. spec. p. 386. Schkuhr, handb. t. 35. fl. dan. 434. Blackw. t. 331. Tamaríscus decándrus, Lam. fl. fr. T. decándra, Mœnch. Tamaríscus decándrus, Lob. icon. 2. t. 218. Flowers pink. *Tamarisk*, especially this species, is sometimes used abroad in obstructions of the lower viscera, and especially in diseases of the spleen. By combustion it yields a considerable quantity of fixed salt, which is diuretic and aperient, and approaches to Glauber's salts. The bark of the root is the most efficacious part. A decoction of this is given in doses of 2 or 3 drachms, or even an ounce; of the wood and leaves double that quantity may be taken.

German Myricaria. Fl. June, Sept. Clt. 1582. Sh. 6 to 8 ft.

2 M. DAHU'RICA (D. C. prod. 3. p. 98. Ehrenberg, l. c.) shrubby, glabrous; leaves linear-lanceolate, flat; racemes subspicate, obtuse, lateral, but those on the secondary branches are terminal and simple; bracteas equal in length to the flowers; mature flowers coarctate, ascending. ♄. H. Native of Siberia,

beyond the Baikal, and of Dahuria. Tàmarix Dahùrica, Willd. l. c. no. 16. Flowers pink.

Dahurian Myricaria. Clt. 1818. Shrub 4 to 8 feet.

3 M. squamòsa (Desv. l. c. p. 350.) shrubby; glabrous; leaves oblong, keeled; racemes lateral, short, scaly at the base. ♄. H. Native of Siberia. Flowers pink?

Scaly-racemed Myricaria. Shrub 4 to 6 feet.

* * *Herbaceous; fruit obsoletely pedicellate.*

4 M. herbà'cea (Desv. l. c. p. 350.) glabrous; leaves linear-lanceolate; spikes terminal, simple, solitary; bracteas longer than the flowers; capsules spreading. ♃. F. Native about the Caspian Sea, on the Persian side. Támarix Germánica subherbàcea, Pall. fl. ross. 2. p. 73. t. 80. f. 3. T. Germánica β, Willd. spec. T. herbàcea, Willd. l. c. no. 14. T. Germánica Cáspica, Pers. Flowers red.

Herbaceous Myricaria. Pl. 3 to 4 feet.

§ 2. *Leaves flat, lanceolate-linear, sessile, constricted near the base.*

5 M. longifòlia (D. C. prod. 3. p. 97. Ehrenberg, l. c. p. 279.) leaves spreading; racemes terminal, compound at the base; pedicels elongated, about equal in length to the expanded flower; bracteas with membranous edges; capsules nodding. ♄. H. Native of Siberia, at the Baikal, in saltish places. Támarix Germánica, Pall. fl. ross. 2. p. 73. T. decándra, Pall. l. c. t. 80. f. A. Támarix longifòlia, Willd. l. c. no. 15. M. linearifòlia, Desv. l. c. p. 349. Flowers red.

Var. α, *laxiflòra* (Ehrenberg, in [illegible] Linnæa. 2. p. 279.) flowers distended; capsules drooping [illegible].

Var. β, *coarctàta* (Ehrenberg, l. c.) flowers coarctate; capsules drooping.

Long-leaved Myricaria. Shrub 4 to 6 feet.

Cult. For culture and propagation, see hardy species of *Támarix*, p 727.

III. HOLOLA'CHNA (from ὁλος, *holos*, the whole, and λαχνη, *lachne*, wool; in reference to the whole surface of the seeds being covered with hairs). Ehrenberg, in Schlecht. 2. p. 273. Támarix species of Pall.

Lin. syst. *Monadélphia, Decándria.* Calyx 4-5-parted. Petals 4-5. Stamens 8-10, hypogynous, monadelphous, inserted in the hypogynous gland. Styles short, subulate, 2-4. Capsule 2-4-angled, 2-4-valved, 2-4-celled. Seeds few, large, with the whole surface pilose, attached to the dissepiments in the middle of the valves.—A small shrub, with trigonal, fleshy, obtuse, spreading leaves; spikes lateral; flowers nearly sessile, about equal in length to the bracteas.

1 H. Songa'rica (Ehrenberg, l. c.). ♄. H. Native of Siberia, in the Soongarian desert, in salt places. Támarix Songárica, Pall. act. petr. 10. p. 374. t. 10. f. 4.

Soongarian Hololachna. Shrub 2 to 3 feet.

Cult. See hardy species of *Támarix* for culture and propagation. The plant requires to be refreshed with salted water at the roots now and then.

Order XCVIII. MELASTOMA'CEÆ (plants agreeing with *Melástoma* in important characters). D. Don, in wern. soc. mem. 4. (1823.) p. 281. Schrank et Mart. diss. mss. Ser. diss. mss.—Melástomæ, Juss. gen. p. 328. dict. sc. nat. p. 29. p. 505.

Calyx divided into 4, 5 (f. 808. *b.*), or 6 lobes (f. 109. *b.*), cohering more or less with the angles of the ovarium, but distinct from the surface between the angles, and thus forming a number of cavities, within which the anthers are curved downwards. Petals equal in number to the segments of the calyx (f. 108. *d.* f. 111. *c.* f. 113. *b.*), arising from their base, or from the edge of the disk that lines the calyx, twisted in æstivation (f. 112. *b.*) Stamens usually twice as many (f. 109. *d.* f. 110. *c.*), sometimes equal to them in number; in the former case those which are opposite to the segments of the calyx are alone fertile; filaments curved downwards in æstivation; anthers long (f. 109. *c.* f. 111. *e. f.*), 2-celled, usually bursting by 2 pores at the apex (f. 111. *c.*), which is rostrate, and elongated in various ways (f. 109. *e.*) beyond the insertion of the filaments; sometimes bursting longitudinally (f. 113. *c.*); before flowering contained within the cases between the ovarium and sides of the calyx. Ovarium more or less coherent with the calyx (f. 113. *c. d.*), with several cells, and indefinite ovulas; style 1 (f. 109. *d.* f. 113. *f.*); stigma simple, either capitate or minute; a cup often present upon the apex of the ovarium, surrounding the style. Pericarpium either dry and distinct from the calyx, or succulent and combined with the calyx, with several cells; if dehiscent bursting through the valves, which therefore bear the septa in the middle; placentas attached to a central column. Seeds innumerable, minute, with a brittle testa, and no albumen, usually with appendages of some kind; embryo straight or curved, with equal or unequal cotyledons.—Trees, shrubs, or herbaceous plants. Leaves opposite, undivided, usually entire, without dots, with several ribs. Flowers terminal, usually thyrsoid.—De Candolle's remarks, in his memoir upon *Melastomàceæ*, although composed of exotic plants, and established at a period when but few species were known, is so well characterised, that no one has ever thought of putting any part of it in any other group, or even introducing genera into it that do not rightly belong to it. These distinct characters are the opposite leaves, with several great veins or ribs running from the base to the apex, something as in monocotyledonous plants, and in long beaked anthers, to which, combined, there is nothing to be compared in other families. The greatest affinity is on the one hand with *Lythrarièæ*, on the other to *Myrtàceæ;* from the former it differs in the æstivation of the calyx not being valvate, from the latter in having the petals twisted before expansion, and no dots on the leaves, and from both, and from all others to which they can be compared, in their long anthers bent down parallel to the filaments in the flower, and lying in niches between the calyx and ovarium; with the exception of *Memecýleæ*, in which, however, the union between the calyx and ovarium is complete. The structure of the seeds of *Memecýleæ* is also different.—A slight degree of astringency is the prevailing character of the order, which is, although one of the most extensive known, entirely destitute of any unwholesome species. The succulent fruit of many is eatable, some of which dye the mouth black. "*Blàkea trinérvis* produces a yellow fruit, which is pleasant and eatable, in the woods of Guiana." (Hamilt. prod. p. 42.)

Synopsis of the genera.

Sub-order I. Melastòmea. Anthers opening by 1-2 pores.

Tribe I.

Lavoisie'reæ. *Ovarium free, neither scaly nor bristly at the* *apex. Capsule dry. Seeds ovate or angular, with a lateral linear hilum.*

1 Meria'nia. Calyx campanulate (f. 108. *a.*), 5-6-lobed; lobes subulate at the apex (f. 108. *b.*). Petals 5-6 (f. 108. *d.*). Anthers opening by 2 pores, furnished with a short spur at the base. Capsule 5-6-celled; placentas lunate.

2 Axinæ'a. Calyx cup-shaped, 5-6-toothed. Petals 5-6. Anthers opening by two pores, ending in a simple spur at the base. Capsule 5-6-celled.

3 Chastenæ'a. Calyx campanulate, truncate, entire. Petals 5. Stamens 10. Anthers linear, acute, opening by 1 pore: having the connectives drawn out into an ample roundish appendage at the base. Capsule 5-celled.

4 Lavoisie'ra. Calyx turbinate, 5-10-lobed. Petals 5-10. Stamens 10-20. Anthers opening by 1 pore, furnished with a short, blunt beak; the alternate ones drawn out into a 2-lobed appendage at the base. Capsule 5-10-celled.

5 Da'vya. Calyx campanulate, with the teeth concrete into an entire, membranous limb. Petals 5-6. Anthers beaked, opening by 1 pore: having the connectives drawn out at the base in a simple or bristled spur. Capsule 5-celled.

6 Graffenrie'da. Calyx campanulate, bluntly 5-toothed. Petals 5. Stamens 10. Anthers linear, acute, opening by 1 pore, furnished each with a simple appendage at the base. Capsule 5-valved.

7 Centrònia. Calyx oblong, beset with bristles; with a coarctate, entire limb. Petals 5. Anthers with a long beak, and furnished with a long subulate process at the base. Capsule 5-celled.

8 Trunca'ria. Calyx cylindrical; limb truncate, almost entire. Stamens 10. Anthers elongated, beaked, but without any process at the base, opening by 1 pore.

9 Rhynchanthe'ra. Tube of calyx ovate, globose; lobes 5, linear or setaceous. Petals 5. Stamens 10, 5 of which are sterile. Anthers ending in a long beak, with the connectives long and auricled at the base. Capsule 3, but usually 5-celled.

10 Macai'rea. Tube of calyx ovate; lobes 4. Petals 4. Stamens 8, the 4 longest beset with glandular hairs inside. Anthers linear, opening by 1 pore: in 4 of which the connective is elongated and stipe-formed. Capsule 4-celled.

11 Bucque'tia. Tube of calyx globose; lobes 4, broad. Petals 4. Stamens 8, equal. Anthers opening by 1 pore, without any auricle at the base. Ovary furnished with 4 tubercles at the apex. Capsule 4-celled.

12 Cambessede'sia. Tube of calyx globose; lobes 5, narrow. Petals 5. Stamens 10. Anthers linear, falcate, a little beaked, drawn out at the base into an obtuse, undivided auricle, each of various lengths. Capsule 3-celled.

13 Chætóstoma. Tube of calyx obovate-turbinate, girded by a ring of 4-5 stiff bristles under the lobes, which are 4-5. Petals 4-5. Anthers with short beaks, with the connectives hardly drawn out at the base. Capsule prismatic, 4-5-gonal.

14 Salpi'nga. Calyx oblong-turbinate, 8-10-ribbed, 4-5-toothed. Petals 4-5. Stamens unknown. Capsule trigonal, 3-valved.

15 Bertolònia. Calyx campanulate, 5-lobed; lobes sometimes nearly obsolete. Petals 5. Anthers ovate-obtuse, opening by 1 pore: attenuated at the base, but hardly or not auriculated. Capsule trigonal, 3-valved.

16 Meisne'ria. Calyx globose, 4-lobed. Petals 4. Stamens 8. Anthers ovate, beaked, tubular: in 4 of which the connective is long and auricled at the articulation, in the other 4 it is hardly evident. Capsule 2-celled.

Tribe II.

Rhexie'æ. *Anthers opening by 1 pore at the apex. Ovarium free, neither scaly nor bristly at the apex. Capsule dry. Seeds cochleate, with an orbicular basilar hylum. Species all American, except one.*

17 Appendicula'ria. Tube of calyx somewhat urceolate; limb somewhat campanulate, bluntly 4-toothed. Petals 4. Stamens 8, equal. Connectives drawn out into 2 long bristles at the articulation beneath and above the cells of the anthers. Capsule 3-celled, 3-valved.

18 Comòlia. Tube of calyx campanulately cylindrical; lobes 4-linear. Petals 4. Anthers 8, oblong-linear, falcate; having their connectives short and drawn out into 2 auricles at the articulation. Capsule ovate, 2-celled.

19 Spe'nnera. Calyx globose, with 4-5 short lobes. Petals 4-5. Stamens [illegible]0. Anthers ovate, obtuse, with their connectives long, but not appendiculated. Capsule 2, rarely 3-celled.

20 Microli'cia. Calyx globose, or obovate; lobes 5, subulate. Petals 5. Anthers alternately dissimilar, ovate, short-beaked, with their connectives drawn out into a simple spur at the articulation. Capsule 3-celled, 3-valved.

21 Erne'stia. Calyx globose; lobes 4, narrow. Petals ciliated. Anthers triquetrous, drawn out at the base into 2 long bristles. Capsule 4-celled.

22 Siphanthe'ra. Calyx campanulate, 4-toothed, girded by many bracteas. Petals 4. Stamens 4. Anthers furnished with an obcordate, ascending process at the base, and a tubular beak at the apex. Capsule depressed, 2-celled, obcordate.

23 Rhe'xia. Tube of calyx ventricose (f. 109. *a.*) at the base, but narrowed into a neck at the apex (f. 109. *b.*), limb 4-cleft. Petals 4. Anthers 8 (f. 108. *c.*), with their connectives hardly evident and not auriculated. Capsule at the bottom of the calyx, 4-celled; placentas lunate, pedicellate.

24 Heteronòma. Calyx tubular, 4-toothed. Petals 4. Anthers 8, alternate ones longer; the connectives of the shorter ones drawn out into 2 bristles, of the longer ones into a linear appendage, each of which is bifid at the apex. Capsule 4-celled.

25 Pachylòma. Calyx obconically cylindrical, drawn out beyond the ovarium, hardly 4-toothed. Petals 4. Stamens 8, equal. Anthers linear, elongated: with the connectives long in 4 of them, and drawn out into a simple bristle-like appendage at the base, but in the other 4 drawn out into 2 bristle-like appendages each.

26 Oxy'spora. Calyx oblong, 4-lobed. Petals 4. Stamens 8, equal. Anthers elongated, drawn out into 2 blunt spurs at the base, with their connectives hardly perspicuous. Capsule 4-celled, 4-valved.

27 Trice'ntrum. Calyx ovate; lobes 4, narrow, often with

3 bristles at the apex. Anthers 8, linear: having their connectives furnished with 3 spurs at the base. Capsule 4-celled.

28 Marce'tia. Calyx oblong or cylindrical, 4-lobed. Petals 4. Stamens 8, equal. Anthers oblong, with 2 tubercles at the base. Capsule 4-valved, 4-celled.

29 Tremble'ya. Calyx ovate, constricted at the apex, 5-lobed. Petals 5. Stamens 10, with 5 of the anthers ovate, shortly and bluntly beaked, having their connectives drawn out into an obcordate or spatulate simple ligula: the 5 alternate ones having the ligula almost abortive. Capsule 5-celled.

30 Ade'lobotrys. Calyx somewhat campanulate, bluntly 5-toothed. Petals 5. Stamens 10. Anthers bifurcate at the base. Capsule 5-valved.

Tribe III.

Orbe'ckiæ. *Anthers opening by one pore at the apex. Ovary sometimes free, sometimes adnate to the calyx, crowned by bristles or scales at the apex. Seeds cochleate; with an orbicular, basilar hylum.—Species American, African, Asiatic, and a few Australian.*

31 Lasia'ndra. Calyx ovate; lobes 5, narrow. Petals 5. Stamens 10, pilose. Anthers elongated, with a short beak: having their connectives tumid and biauriculate at the base. Ovarium bristly at the apex, rather [illegible] the calyx. Capsule 5-celled.

32 Chætoga'stra. Calyx turbinate (f. 109. *a.*), pilose or scaly, 5-lobed. Petals 5 (f. 109. *d.*). Filaments 10, glabrous. Anthers oblong: having their connectives drawn out into a simple or bifid spur, and sometimes only into 2 blunt tubercles. Ovarium bristly at the apex. Capsule 5-celled.

33 Arthroste'mma. Calyx turbinate or campanulate, usually beset with bristles or scales on the outside, 4-lobed. Petals 4. Stamens 8, glabrous. Anthers oblong: having their connectives rather long, and bluntly biauriculate at the base. Ovarium bristly at the apex. Capsule 4-celled.

34 Orbe'ckia. Calyx ovate, usually clothed with stellate bristles or down on the outside, 4-5-lobed, furnished with appendages between the lobes on the outside, of various forms and sizes. Petals 4-5. Stamens 8-10, glabrous. Anthers nearly equal, ending in short beaks, but their connectives are furnished with 2 short auricles at the base. Ovarium bristly at the apex. Capsule 4-5-celled.

35 Tibou'china. Calyx turbinate, clothed with imbricate scales on the outside: and girded by a double involucrum at the base, both composed of 2 connate bracteas; lobes 5. Petals 5. Stamens 10, glabrous. Anthers with their connectives bluntly biauriculated at the base. Ovarium free, bristly at the apex.

36 Triste'mma. Calyx tubular, girded by many bracteas at the base, 4-5-cleft, and furnished with bearded appendages near the limb. Petals 4-5. Stamens 8-10. Anthers arched, biauriculate at the base. Ovarium hardly adnate to the calyx at the base, bristly at the apex. Berry 4-5-celled.

37 Sarcopy'ramus. Calyx obversely pyramidal, adnate to the ovarium at the base, with a truncate 4-toothed limb; teeth ciliated. Petals 4. Stamens 8. Anthers simple, straight, naked, opening by 2 pores at the apex. Capsule square, 4-winged at the apex, 4-celled, 4-valved. Seeds triangular.

38 Mela'stoma. Calyx ovate, densely covered with scales or bristles; limb 5, (f. 111. *a.*) rarely 6-cleft, the segments alternating with deciduous appendages. Petals 5-6. Stamens 10-12. Anthers a little arched: the connectives stipe-formed (f. 111. *e.*) in the longer anthers, in the shorter ones biauriculate (f. 111. *f.*) or emarginate. Ovarium bristly at the apex. Capsule baccate, 5-6-celled.

39 Otanthe'ra. Calyx with an ovate tube, half adhering to the ovarium, beset with palmately ciliated scales; limb 5-cleft, deciduous. Petals 5. Stamens 10, equal. Anthers oblong-linear, a little arched, tapering upwards, and opening by a pore, but biauriculate in front at the base. Ovarium bristly at the apex. Berry 5-celled, pulpy.

40 Lachnopòdium. Tube of calyx ovate-oblong; limb 5-cleft; segments subulated. Petals 5. Stamens 10, equal; filaments girded by a ring of hairs at the base; anthers oblong, beaked, naked. Capsule 5-celled; crowned by the segments of the calyx.

41 Pleròma. Calyx ovate, when young often inclosed in 2 bracteas; lobes 5, deciduous. Petals 5. Stamens 10, glabrous. Anthers nearly equal, elongated, arched at the base: having their connectives stipe-formed, and furnished with 2 short auricles at the base. Ovarium adnate to the calyx, bristly at the apex. Capsule baccate, 5-celled.

42 Diploste'gium. Calyx 5-cleft, inclosed in the double, cucullate, hispid calyptra. Petals 5. Anthers nearly equal. biauriculate at the base. Capsule baccate, 5-celled.

43 Aciòtis. Calyx globose, fleshy; limb coarctate, 4-toothed. Petals 4, awned. Stamens 8, furnished with long connectives, and as if it were jointed in the middle. Anthers erect, naked at the base. Capsule baccate, 4-celled.

44 Centrade'nia. Calyx somewhat campanulate, tetragonal; limb 4-toothed. Petals 4. Stamens 8, unequal; the connectives of the larger anthers are drawn out into an elongated cuneate spur, but those of the smaller anthers are gland-formed. Capsule 4-valved, 4-celled.

Tribe IV.

Miconie'æ. ***Anthers opening by 1 or 2 pores at the apex. Ovarium adnate to the calyx. Fruit baccate. Seeds not cochleate. Species for the most part American.***

45 Rousseau'xia. Calyx hemispherical, glabrous, 4-lobed. Petals 4. Stamens 8. Anthers oblong-linear, sometimes all fertile, with their connectives somewhat gibbous at the base: sometimes the alternate ones are sterile, with short connectives, the rest fertile with long connectives, which are furnished with 2 bristles at the base. Ovary furnished with 4 scale-like bristles at the apex.

46 Lea'ndra. Calyx urceolate, drawn out beyond the ovarium; lobes double, 4-6 exterior ones subulate, 6 interior oval. Petals 4-6. Stamens 8-12. Anthers linear, hardly biauriculate at the base. Berry dry? 3-4-celled.

47 Tschu'dya. Calyx globose; lobes 5, bristle-formed. Stamens 10. Anthers oblong, without auricles. Ovary free, bristly at the apex. Capsule globose, 4-5-celled.

48 **CLIDE'MIA.** Calyx ovate, 5-lobed; lobes narrow. Petals 5, rarely 6. Stamens 10. Anthers somewhat constricted at the base, and somewhat biauriculated. Ovarium bristly at the apex. Berry 5-celled.

49 **MYRIA'SPORA.** Calyx ovate-globose, very hispid, irregularly ruptured into 5 lobes. Petals 5? Stamens 10. Anthers thick, bluntish, gibbous at the base. Free part of ovarium bristly. Berry 5-celled.

50 **TOCÒCA.** Calyx oblong, glabrous; with an urceolate, 5-toothed limb. Petals 5. Stamens 10. Anthers equal, with short connectives, or with 2 hardly visible auricles behind. Ovarium crowned by a circle of bristles. Berry 5-celled.

51 **MAIE'TA.** Calyx oblong-ovate, more or less hispid, and often bracteate; lobes 5, subulate. Petals 5. Stamens 10. Anthers equal: having short connectives, which are biauriculate behind. Ovarium glabrous. Berry 5-celled.

52 **CALOPHY'SA.** Calyx oblong, bottle-shaped when in fruit; lobes 4, ciliated. Petals 4. Stamens 8. Anthers oblong, without auricles. Berry 4-celled.

53 **SONERI'LA.** Calyx with an oblong or somewhat trigonal tube, usually muricated, adhering to the ovarium; limb trifid, deciduous. Petals 3. Stamens 3; anthers linear-oblong, emarginate at the base, opening by 2 pores at the apex. Ovarium glabrous at the apex. Capsule turbinate, 3-celled.

54 **MEDINI'LLA.** Calyx with an obovate tube, and a cylindrical, truncate limb. Petals 4. Stamens 8, equal. Anthers elongated, bluntly biauriculate at the base. Berry bottle-formed, 4-celled.

55 **PACHYCE'NTRIA.** Tube of calyx cup-shaped, constricted beneath the middle; limb obsoletely 4-toothed. Petals 4. Stamens 8, equal. Anthers oblong-linear, beaked at the apex, and furnished with a thick, fleshy connective each at the base. Free part of ovarium angular. Berry globose, 4-celled.

56 **POGONANTHE'RA.** Tube of calyx cup-shaped, rather quadrangular, adhering to the ovarium at the base; limb 4-cleft. Petals 4. Stamens 8; anthers oblong, acute, bearded at the base. Ovary hairy at the apex. Berry globose, 4-celled, pulpy.

57 **ALLOMÓRPHIA.** Tube of calyx oblong, adhering to the ovarium at the base; limb 4-toothed. Petals 4. Stamens 8. Anthers linear, acute, emarginate at the base. Fruit dry, ovate-oblong, 4-celled.

58 **HUBE'RIA.** Calyx oblong, constricted at the apex, 4-5-toothed. Petals 4-5. Stamens 8-10. Anthers oblong-linear, drawn out on the back at the base into 2 spur-formed bristles. Free part of ovarium conical. Berry 4-5-celled.

59 **OCTHÓCHARIS.** Tube of calyx obovate, adhering to the ovarium; limb obsoletely 5-toothed, permanent. Petals 5. Stamens 10, equal; anthers oblong, straight, ending each in a bristle at the base. Ovarium truncate and glabrous at the apex. Capsule globose, umbilicate, dry, 3-celled, opening irregularly.

60 **CALYCOGÒNIUM.** Tube of calyx nearly globose, 4-5-sided; limb 4-5-lobed, longer than the tube. Petals 4-5. Stamens 8-10, equal. Anthers oblong, without any auricles at the base. Berry roundish, 4-5-angled, 4-5-celled.

61 **OSSÆ'A.** Tube of calyx ovate, [illegible] 5-nerved, glabrous ovarium; lobes 4, short. Petals 4. Stamens 8. Anthers hardly auricled at the base. Ovarium smoothish at the apex. Berry 4-celled.

62 **SAGRÆ'A.** Calyx not drawn out beyond the ovarium; lobes 4, short. Stamens 8. Anthers hardly auricled at the base. Ovarium smoothish at the apex. Berry 4-celled.

63 **TETRAZY'GIA.** Tube of calyx globose or urceolate; limb drawn out beyond the ovarium, 4-toothed. Petals 4. Stamens 4-8, equal. Anthers linear, obtuse at the base. Ovarium glabrous. Berry 4-celled.

64 **DISSOCHÆ'TA.** Calyx with an oblong, obscurely tetragonal tube, adhering to the ovarium: but with the limb drawn out beyond the ovarium, permanent, and 4-toothed at the apex. Petals 4. Stamens 4, sometimes 8, but the alternate ones are usually sterile. Anthers oblong, linear, furnished on the back near the base with a lamellate, 2-awned, rarely undivided connective each. Berry globose, nearly dry, somewhat 4-celled, indehiscent.

65 **APLE'CTRUM.** Calyx with an ovate, globose tube: having the limb drawn out beyond the ovarium, which is truncate or obsoletely 4-toothed. Petals 4. Stamens 8, alternate ones sterile. Anthers oval, thick, blunt at both ends. Ovarium crowned by 4 cres[illegible] Berry subglobose, 4-celled?

66 **HETERO'TRI**[illegible] Calyx with an ovate-globose tube, and a 5-6-cleft limb. Petals 5-8. Stamens 10-16, equal, glabrous. Anthers oblong, hardly gibbous at the base. Ovary umbilicate at the apex. Berry 5-8-celled.

67 **CONOSTE'GIA.** Limb of calyx conical (f. 111. *a. b.*), calyptriform (f. 111. *a.*), undivided, at length circumcised or irregularly ruptured at the base, and falling off in one piece (f. 111. *a.*). Petals 5-6. Stamens 10-16. Anthers usually biauriculate at the base. Berry 3-8-celled.

68 **DIPLOGE'NEA.** Calyx with a calyptriform, conical, deciduous limb. Petals 4, inserted in the fleshy disk. Stamens 8. Anthers ovate, bicalcarate at the base. Ovarium adhering to the calyx, crowned by the large fleshy disk.

69 **DIPLO'CHITA.** Calyx adhering only at the base to the ovarium, cylindrical, inclosed in 2 bracteas when young: having the throat usually ciliated after flowering; limb 5-6-toothed, drawn out beyond the ovarium. Petals 5-6. Anthers biauriculate at the base. Capsule dry, 5-celled.

70 **PHY'LLOPUS.** Tube of calyx turbinately campanulate; limb 5-toothed; teeth ciliated. Petals 5. Stamens 10, equal. Anthers beaked. Fruit probably baccate, 5-celled.

71 **HENRIE'TTEA.** Calyx campanulate, 5-lobed. Petals 5, velvety. Stamens 10. Anthers thick, bifid at the base, and terminating in a long beak at the apex. Berry juicy, 5-celled.

72 **MARU'MIA.** Tube of calyx adhering to the ovarium at the base, oblong-ovate, bristly; limb quadrifid, drawn out beyond the ovarium, with the segments permanent. Petals 4. Stamens 8; anthers linear, arched, beaked at the apex, and opening by 1 pore, furnished with a fascicle of bristles at the base. Ovarium villous at the apex. Berry ovate, 4-celled.

3 bristles at the [illegible] Tube of calyx globose, adhering to the ovarium; limb short, obsoletely 4-toothed, permanent. Petals 4. Stamens 8, equal. Anthers long, thick, arched, beaked, apiculated at the base by a short connective each. Ovarium glabrous. Berry dry, globose, 4-celled.

74 Phyllaga'this. Tube of calyx oblong, glabrous, adhering to the ovarium at the base; limb 4-cleft, drawn out beyond the ovarium. Petals 4. Stamens 8, equal. Anthers arched, beaked at the apex, but unappendiculate at the base.

75 Lore'ya. Calyx campanulate, truncate at the apex, only adhering to the ovarium at the very base. Petals 5. Stamens 10. Anthers thick, ovate, obtuse, somewhat gibbous at the base. Berry 5-celled.

76 Micònia. Limb of calyx short, 5-toothed. Petals 5. Stamens 10. Anthers oblong-linear, shortly and bluntly auriculated at the base. Berry 5-celled.

77 Oxy'meris. Calyx obovate-turbinate; teeth 5, callous, very short. Petals 5. Stamens 10, equal. Anthers oval-oblong, obtuse, tapering to the base: having their connectives filiform, short, and rather gibbous at the base. Berry 3-5-celled.

78 Crema'nium. Tube of calyx campanulate or obovate; limb 4-5-toothed. Petals 4-5. Stamens 10, equal. Anthers short, rather cuneated at the base, opening by 2 pores at the apex. Berry 3-5-celled.

79 Bla'kea. Calyx campanu[illegible]d at the base by 4-6 broad scales, which are disposed cruciately or in a triple order; limb membranous, 6-lobed, or 6-toothed. Petals 6. Anthers large, twisted into a ring, obtuse at the apex, and opening by 2 pores, and furnished with a short spur-like process at the base. Berry crowned by the calyx, 6-celled.

Sub-order II. Charia'ntheæ. *Anthers 2-celled, bursting longitudinally by 2 chinks* (f. 113. c.). *Fruit fleshy. Seeds cuneated, angular.*

80 Kibe'ssia. Limb of calyx falling off in the form of a calyptra. Petals 4. Stamens 8. Ovarium muricated by branched bristles. Fruit indehiscent, 4-celled.

81 Ewy'ckia. Tube of calyx hemispherical, adhering to the ovarium; limb truncate, obsoletely 4-toothed. Petals 4. Stamens 8, equal. Anthers oblong, obtuse at both ends, furnished each at the base with a short fleshy connective. Berry globose, 4-celled.

82 Charia'nthus. Tube of calyx ovate, rather urceolate; (f. 113. a.) limb 4-lobed. Petals 4. (f. 113. b.) Stamens 8. Ovarium adnate to the calyx (f. 113 c.). Berry globose, umbilicate, 4-celled.

83 Chænopleu'ra. Calyx adnate to the ovarium; limb bluntly 5-toothed. Petals 5. Stamens 10. Anthers bluntly biauriculate at the base. Berry 3-4-celled.

84 Astrònia. Calyx adnate to the ovarium; limb 5-6-toothed. Petals 5-6. Stamens 10-12; filaments compressed. Berry dry, umbilicate, 2-4-celled.

Sub-order I. Melastòmeæ (plants agreeing with *Melástoma*, in the anthers opening by pores at the apex). *Ser. in D. C. prod.* 3. *p.* 100. *Anthers bursting by* 1 *or* 2 *pores at the apex.*

Tribe I.

LAVOISIE'REÆ (plants agreeing with the genus *Lavoisièra* in the characters mentioned below). D. C. prod. 3. p. 100. Anthers bursting by 1 or 2 pores at the apex. Ovarium free from the calyx, neither scaly nor bristly at the apex. Capsule dry. Seeds ovate or angular, never cochleate, with a lateral linear hilum.—American plants.

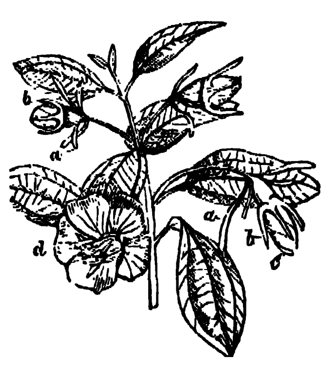
I. MERIA'NIA (in honour of Maria, Sybylla Merian, or Græffin, authoress of De Metamorphosibus Insectorum Surinamensium). Swartz, fl. ind. occ. 2. p. 824. t. 15. D. Don, Wern. mem. soc. 4. p. 322.—Wrìghtia, Sol. mss. but not of Brown.—Rhéxia species, Swartz, prod. Ser. mss.

Lin. syst. *Decándria, Monogýnia.* Calyx with a campanulate tube, and a 5-6-lobed limb (f. 108. *b.*); lobes broad, dilated, and membranous at the base and subulate at the apex. Petals 5-6. (f. 108. *d.*) Stamens 10-12. Anthers obtuse at the apex, and bursting by 2 pores, furnished with 2 short processes at the base. Ovarium globose, rather depressed, glabrous at the apex. Style filiformly-clavate. Capsule free, 5-6-celled; placentas lunate. Seeds small, cuneately angular.—Trees or shrubs, native of Jamaica or South America. Leaves petiolate, denticulated, glabrous, or hardly downy on the nerves. Flowers large, pedicellate, solitary, axillary, white, or purple.

1 M. leuca'ntha (Swartz, fl. ind. occ. p. 826.) branches tetragonally compressed, glabrous; leaves petiolate, ovate-oblong, acuminated, 3-nerved, denticulated, glabrous; peduncles axillary, solitary; bracteas 2, under each flower, ovate-lanceolate, 3-nerved, quite entire; tube of calyx campanulate, 5-lobed; lobes broad at the base and subulate at the apex. ♄. S. Native of the higher mountains of Jamaica. Rhéxia leucántha, Swartz, prod. 61. Rhéxia speciòsa, Bert. in herb. Balb. Petals white, reddish at the base. Anthers large, appendiculated by a short horn.

White-flowered Jamaica Rose. Clt. 1825. Tree 15-30 feet.

FIG. 108.



2 M. ro'sea (Tuss. fl. ant. p. 78. t. 1.) branches terete, glabrous; leaves petiolate, oval, 3-nerved, rather serrulated, glabrous; pedicels axillary, 1-flowered, longer than the petioles; bracteas 2, linear, rather dilated at the apex. ♄. S. Native of Jamaica. Flowers rose-coloured, drying black. This species differs from *M. purpùrea* in there being only 2 bracteas under each flower, not 4; from *M. leucántha* in the colour of the flowers, and from both in the form of the bracteas.

Rose - coloured - flowered Jamaica Rose. Shrub 6 feet.

3 M. purpu'rea (Swartz, fl. ind. occ. p. 826.) branches terete, glabrous; leaves petiolate, ovate-lanceolate, denticulated, glabrous; peduncles axillary, opposite, longer than the petioles; bracteas 4, under each flower, lanceolate, denticulated; tube of calyx campanulate, 5-lobed; lobes broad at the base and subulate at the apex. ♄. S. Native of Jamaica, on the tops of the mountains. Rhéxia purpùrea, Swartz, prod. p. 61. Flowers purple or blood-coloured. Leaves brownish-green.

Purple Jamaica Rose. Clt. 1825. Shrub 6-10 feet.

4 M. obtusifòlia (D. C. prod. 3. p. 101.) quite glabrous; branches nearly terete; leaves on short petioles, elliptic, obtuse, somewhat emarginate, coriaceous, 3-nerved, besides 2 small, marginal nervules, denticulated; pedicels axillary, 1-flowered; bracteas obovate, 3-nerved, denticulated, 4 under each flower. ♄. S. Native of St. Domingo. Melástoma involucràta, Desv. in Lam.

dict. 4. p. 35. but not of D. Don. Petals obovate, yellow, and red. Style exserted. Fruit 5-lobed. Connectives of stamens drawn out into a spur at the base. Anthers bursting by 2 pores at the apex.

Obtuse-leaved Meriania. Shrub 6-10 feet.

5 M. PRUNIFÒLIA (D. Don, in wern. soc. mem. 4. p. 223.) branches terete; petioles, peduncles, and nerves of leaves beneath clothed with flocky, powdery, rufous down; leaves petiolate, ovate, acute, crenulately-serrated, 3-nerved; flowers sessile, solitary in the axils of the upper leaves and at the tops of the branches; calyx 10-striped. ♄. S. Native of Peru. Rhéxia axillàris, Pavon. in herb. Moric. Tube of calyx ovate, nearly 10-ribbed, when young tomentose, but at length glabrous, 5-lobed; lobes dilated at the base. Capsule 5-celled, 5-valved, truncate at the apex. Seeds small, angular. Flowers purple.

Plum-leaved Meriania. Shrub 6 feet.

6 M. PARVIFLÒRA (D. Don, l. c.) leaves elliptic, acute, denticulated; peduncles trifid, 3-flowered. ♄. S. Native of Brazil. Shrub erect, branched. Leaves more than an inch long. Flowers small, rose-coloured.

Small-flowered Meriania. Shrub.

Cult. This is an elegant genus. The species grow best in a mixture of peat and sand, and half-ripened cuttings root freely if planted in the same kind of soil, with a hand-glass over them, in heat.

II. AXINÆ'A (ἀξίνη, *axine*, a hatchet; form of petals). Ruiz et Pav. fl. per. syst. p. 122. D. Don, in wern. mem. soc. 4. p. 320. D. C. prod. 3. p. 101.

LIN. SYST. *Deca-Dodecándria, Monogýnia.* Calyx cup-shaped, naked at the base; limb permanent, 5-6-toothed. Petals 5-6. Stamens 10-12. Anthers obtuse at the apex and opening by 2 pores, and ending in a simple spur at the base. Capsule free, 5-6-celled.—Frondose trees or shrubs, natives of Peru. Leaves ovate-lanceolate, or broadly cordate, coriaceous, dentate, or crenated, 5-nerved, reticulately veined, petiolate, wrinkled or flat above, clothed with short brown tomentum beneath. Flowers terminal, corymbose, or sub-racemose, large, purple, or white.

1 A. PURPU'REA (Ruiz et Pav. syst. 1. p. 122.) leaves cordate, 7-nerved, crenated, reticulately veined, wrinkled above and scabrous, but lacunose and clothed with brown tomentum beneath; peduncles 1-flowered, corymbose. ♄. S. Native of Peru, in groves. Ruiz et Pav. fl. per. 5. t. 510. Flowers purple.

Purple-flowered Axinæa. Shrub 6 to 10 feet.

2 A. MURICA'TA (D. Don, in wern. soc. mem. 4. p. 321.) leaves large, elliptic, crenated, 3-nerved, shortly acuminated, rather cordate at the base, naked above, but granular beneath as well as the branchlets; calyxes muricated. ♄. S. Native of Peru. Leaves a foot long and 5 inches broad. Panicle terminal, many-flowered.

Muricated-calyxed Axinæa. Shrub 5 to 8 feet.

3 A. LANCEOLA'TA (Ruiz et Pav. l. c. p. 122.) leaves elliptic, acuminated, toothed, 5-nerved, flat above, clothed with fuscous tomentum beneath; racemes panicled and terminal. ♄. S. Native of Peru, in woods at Muna and Pinao. Ruiz et Pav. fl. per. 5. t. 509.

Lanceolate-leaved Axinæa. Shrub 6 to 10 feet.

4 A. GLANDULÒSA (Ruiz et Pav. fl. per. 5. t. 512.) leaves ovate, 5-nerved, denticulated, clothed with yellowish tomentum beneath, but flat and glabrous above and biglandular at the base; panicle terminal, many-flowered. ♄. S. Native of Peru. Tree frondose. Flowers white.

Glandular Axinæa. Shrub 6 to 10 feet.

5 A. DEPE'NDENS (Ruiz et Pav. fl. per. 5. t. 511.) leaves lanceolate, acuminated, denticulately serrated, 5-nerved, glabrous above; raceme terminal, panicled, pendulous. ♄. S. Native of Peru.

Hanging-racemed Axinæa. Shrub 6 to 10 feet.

Cult. This genus is composed of elegant flowering shrubs like the last; and its species are cultivated and propagated in the same manner.

III. CHASTENÆ'A (in honour of Victorina de Chastenay, who drew and painted the plants collected by Madame Merian in an elegant style See *Meriània* and *Calêndrier de flore*, &c.). D. C. prod. 3. p. 102.

LIN. SYST. *Decándria, Monogýnia.* Calyx naked at the base, campanulate, truncate, entire. Petals 5, obovate. Stamens 10; filaments flat; anthers linear, acute, bursting by 1 pore, having the connectives dilated into a large, rounded, and perhaps hollow appendage. Style filiform; stigma a pruinose dot. Ovarium free, glabrous. Capsule 5-celled, opening at the apex. Seeds unknown.—A smooth shrub, with the habit of *Meriània.* Leaves petiolate, oval, 3-nerved, entire, coriaceous. Flowers pedicellate, ample, bractless, disposed somewhat in umbels at the tops of the branches and branchlets.

1 C. MERIA'NIÆ (D. C. l. c.). ♄. S. Native of South America, but in what place is unknown. Flowers purple, according to the dried specimen.

Merian's Chastenæa. Shrub 4 to 6 feet.

Cult. See *Meriània* for culture and propagation. An elegant shrub, worthy of cultivation.

IV. LAVOISIERA (this genus is dedicated by De Candolle to the celebrated but unfortunate Lavoisier, whose name deserves this mark of respect). D. C. prod. 3. p. 102.

LIN. SYST. *Deca-Icosándria, Monogýnia.* Tube of calyx turbinately oblong; lobes 5-10. Petals 5-10, oval, or obovate. Stamens 10-20. Anthers ovate, terminating in a short blunt beak at the apex, and bursting by a single pore, dissimilar from the connectives being alternately long and drawn out into a long, somewhat 2-lobed appendage at the articulation, and the others being short and hardly produced. Ovarium not beset with bristles at the apex. Capsule 5-10-celled. Seeds angular.—Brazilian shrubs, nearly all glabrous. Leaves sessile, flat, or keeled, quite entire, or ciliated by a few stiff hairs, 1-nerved or many-nerved at the base: the narrower ones nerveless. Flowers terminal, solitary, sessile. This is a very shewy genus of plants.

§ 1. *Diosmoideæ* (from *Diosma*, an idea, similar; plants with the habit of *Diosma*). *D. C. prod.* 3. *p.* 102. ***Leaves ciliated with stiff bristles.***

1 L. CATAPHRA'CTA (D. C. l. c.) shrubby, dichotomous, or trichotomous; branches somewhat tetragonal, loricated; leaves sessile, half stem-clasping, keeled, having the middle nerve and nerve-formed margins serrated from stiff bristles, the rest quite glabrous and stiff; flowers terminal, sessile, solitary; tube of calyx ovate, shorter than the lobes, which are 6 lanceolate, and ciliately serrated; anthers dissimilar. ♄. S. Native of Brazil, on Serro Frio, in marshes, at the height of 4000 feet. Rhéxia cataphrácta, Schrank, et Mart. mss. Allied to *L. imbricàta*, but the leaves spread more, and the branches are less squarrose; more nearly allied to *L. insígnis*, but the leaves are shorter and more crowded, and the ciliæ of the calyx are not glandular. Perhaps referrible to *Axinæ'a.*

Cuirass Lavoisiera. Shrub 1 to 2 feet.

2 L. IMBRICA'TA (D. C. l. c. p. 103.) shrubby, quite glabrous; branches somewhat tetragonal; leaves imbricated, in 4 rows,

sessile, ovate, 1-nerved, having the nerve-formed margins ciliated with stiff bristles; flowers terminal, solitary, sessile; tube of calyx turbinate, bristly, 6-lobed; lobes drawn out into an obovate, scaripus appendage each; anthers dissimilar. ♄. S. Native of Brazil, among rocks. Rhéxia blepharocéntra ciliàta or floribúnda, Mart. herb. Rhéxia imbricàta, Thunb. diss. pl. bras. 1. p. 10. t. 2. f. 2. Bilb. icon. 1817. ex flora, 1821. p. 331. Leaves shining, when dried yellowish. Petals obovate. Stamens 12, shorter than the petals. Anthers ovate-oblong, terminating in a short beak, with the connectives drawn out into a blunt appendage at the base.

Imbricated-leaved Lavoisiera. Shrub 1 to 2 feet.

3 L. CÓMPTA (D. C. l. c.) shrubby, nearly quite glabrous; branches terete; leaves sessile, imbricated in 4 rows, stiff, keeled, acute, hairy, the middle nerve roughish, and the nerve-formed margins serrately ciliated; flowers terminal, solitary, sessile; tube of calyx villous, turbinate, with the lobes ovate-oblong, acute, and entire; anthers dissimilar. ♄. S. Native of Brazil, in the province of Minas Geraes, on the tops of a chain of mountains called Morro de Villa Ricca, and elsewhere. Rhéxia cómpta, Mart. et Schrank, mss. Very like *L. imbricàta.*

Neat Lavoisiera. Shrub 1 to 2 feet.

4 L. INSÍGNIS (D. C. l. c.) shrubby, quite glabrous; branches slender, rather tetragonal; leaves sessile, lanceolate, keeled, usually 1-nerved, imbricated in 4 rows, having the nerve-formed margins ciliated with stiff bristles; flowers terminal, solitary, sessile; tube of calyx turbinate, 6-lobed; lobes oblong, acute, ciliately serrated; anthers dissimilar. ♄. S. Native of Brazil. Very like *L. imbricàta*, but differ[illegible]aves being longer, less adpressed, and more acute, in [illegible]ls being ciliated at the apex, and in the different calyx. Stamens as in *L. imbricàta.* Capsule 5-celled, permanent, dehiscing from the base as in *L. mucorifera.* D. C. coll. 1. t. 2.

Shewy Lavoisiera. Shrub 1 to 2 feet.

5 L. VIMINA'LIS (D. C. l. c.) shrubby, glabrous; branches twiggy, tetragonal; leaves sessile, adpressed, lanceolate, many-nerved, striated, ciliated with bristles; floral leaves setose beneath; flowers terminal, few, aggregate, almost sessile; calyx hispid, turbinate, 5-toothed; teeth long, acuminated; anthers dissimilar. ♄. S. Native of Brazil, in alpine fields on Serra de Sincora, at the height of 4500 feet. Rhéxia viminàlis, Mart. et Schrank, mss. Leaves stiff, imbricate. Petals large, purple. Anthers 10, oblong, yellow, beaked, 5 of which are furnished with an obtuse appendage at the base. Allied to *L. imbricàta.*

Twiggy Lavoisiera. Shrub 1 to 2 feet.

§ 2. *Mucoròsæ* (from *mucor*, mouldiness; appearance of bristles). *D. C. prod.* 3. *p.* 103. *Leaves flat, ciliated, with villi or soft hairs.*

6 L. MUCORI'FERA (D. C. l. c.) shrubby; branches tetragonal, puberulous; leaves sessile, lanceolate, ovate at the base, acuminated, quite entire, setosely ciliated, 7-nerved, the middle nerve bristly beneath, the lateral ones hardly perspicuous; flowers terminal, solitary, sessile among the leaves; tube of calyx subglobose, 5-7-lobed; lobes linear, acuminated, ciliated, deciduous; anthers dissimilar. ♄. S. Native of Brazil, in the province of Minas Geraes, in alpine fields at 2000 or 3000 feet above the level of the sea. Rhéxia mucorífera, Mart. et Schrank, mss. Setæ for the most part pellucid, and terminated by a globule each, and therefore mucoriferous. Petals obovate-oblong. Anthers 10-14, oval-oblong, terminating in an oblique porose beak, having the connective drawn out in some into a long appendage at the articulation, in others into a short appendage. Capsule 5-7-celled, opening from the base. Seeds angular.

Mucoriferous Lavoisiera. Shrub 1 to 2 feet?

§ 3. *Carinàtæ* (from *carina*, a keel; leaves keeled). *D. C. prod.* 3. *p.* 103. *Leaves glabrous, not ciliated, keeled, not flat.*

7 L. TETRAGO'NA (D. C. l. c.) shrubby, glabrous, usually dichotomously branched; branches terete; leaves sessile, keeled, densely imbricated, in 4 rows, bluntish, destitute of hairs and ciliæ, quite entire, stiff, 1-nerved. ♄. S. Native of Brazil, on the top of Mount Itambe. Rhéxia tetragòna, Mart. et Schrank, mss. Flowers and fruit unknown. Like the rest the flowers are seen to be sessile, terminal, and solitary. In habit it agrees with *L. imbricàta.*

Tetragonal Lavoisiera. Shrub 1 to 2 feet.

§ 4. *Gentianoìdeæ* (*gentiana*, gentian, and *idea*, like; plants resembling the *Gentian* in habit). *D. C. prod.* 3. *p.* 103. *Leaves flat, glabrous.*

8 L. A'LBA (D. C. l. c.) shrubby, quite glabrous; branches and stem tetragonal; leaves sessile, half stem-clasping, broadly ovate, 9-nerved, quite entire; flowers axillary, solitary, on short pedicels, when young involved in 2 bracteas; tube of calyx somewhat cylindrical, longer than the lobes, which are 5-6, oblong, and acute; anthers rather dissimilar. ♄. S. Native of Brazil, on the mountains between Villa Ricca and Tejuco, in stony, exposed places. Rhéxia álba, Mart. et Schrank, mss. Flowers large, white. Petals 5-6, oval-oblong. Anthers 10-12, ovate, terminating in a short and blunt beak, having the connective in 5-6 of them drawn out into a long, somewhat 2-lobed appendage each at the articulation, and in the other 5-6 hardly produced at all.

White-flowered Lavoisiera. Shrub 1 to 2 feet.

9 L. GENTIANOÌDES (D. C. l. c. p. 104.) shrubby; stem and branches tetragonal, glabrous; leaves sessile, half stem-clasping, lanceolate, acuminated, quite entire, many-nerved: the upper and young ones are setose and ciliated; flowers terminal, crowded, on short pedicels; calyx bristly, with the tube cylindrical: and the lobes 5, apiculated by pili, about equal in length to the tube; anthers dissimilar. ♄. S. Native of Brazil, in the province of Minas Geraes, in high rocky places. Rhéxia gentianoìdes, Mart. et Schrank, mss. Habit almost of *Gentiàna saponària.* Flowers white. Petals somewhat joined at the base. Anthers 10, ovate, terminating in a short blunt beak, in 5 of them the connective is long and tumid at the articulation, in the other 5 short and hardly auricled.

Gentian-like Lavoisiera. Shrub 1 to 2 feet.

10 L. CRASSIFÒLIA (D. C. prod. 3. p. 104.) shrubby, dichotomously branched, quite glabrous; branches terete; leaves sessile, half stem-clasping, ovate, approximate, stiff, quite entire, 1-nerved; lateral veins obsolete; flowers terminal, solitary, sessile; tube of calyx broad, turbinate, much longer than the lobes, which are broad, mucronate, and very short; anthers dissimilar. ♄. S. Native of Brazil, on Serro Frio. Rhéxia crassifòlia, Mart. et Schrank, mss. Petals 6, obovate, purple, thickish. Anthers terminating in a very short beak, in some the connective is very long and arched, in others short.

Thick-leaved Lavoisiera. Shrub 2 to 4 feet.

11 L. PUNCTA'TA (D. C. l. c.) shrubby, dichotomous, quite glabrous; branches tetragonal; leaves sessile, half-stem-clasping, lanceolate, quite entire, many-nerved, beset with brown dots beneath, 3 of the nerves are much elevated; flowers terminal, solitary, sessile; tube of calyx 16-ribbed, cylindrical, twice the length of the lobes, which are 5, and lanceolate; anthers 10-16, dissimilar. ♄. S. Native of Brazil, in high cold fields. Rhéxia punctàta, Mart. et Schrank, mss. Petals ample, obovate-oblong, purple. Stamens much shorter than the petals, the

alternate ones having longer connectives than the others. Anthers bluntly beaked. Cells of capsule equal in number to the petals.

Dotted-leaved Lavoisiera. Shrub 1 to 2 feet.

12 L. Itamba'na (D. C. l. c.) shrubby, dichotomous, quite glabrous; branches rather angular; leaves sessile, imbricated in 4 rows, ovate, hardly stem-clasping, attenuated at both ends, rather serrated, 1-nerved, lateral veins almost obsolete; flowers terminal, solitary, sessile; calyx dotted with white, having a broad turbinate tube, and 6-7 oval lobes, which are about equal in length to the tube; anthers dissimilar. ♄. S. Native of Brazil, on the high mountains of Itambe and Serro Frio, in the province of Minas Geraes. Rhéxia Itambàna, Mart. et Schrank, mss. Petals obovate-oblong, much longer than either the calyx or stamens. Anthers like those of *L. punctàta.*

Itambe Lavoisiera. Shrub 1 to 2 feet.

13 L. fírmula (D. C. l. c.) shrubby, branched, almost quite glabrous; branches bluntly tetragonal; leaves sessile, half stem-clasping, oval, acutish, quite entire, 1-nerved, lateral veins obsolete; flowers terminal, solitary, sessile; tube of calyx cylindrical, rather ribbed; limb campanulate, 6-cleft; anthers dissimilar. ♄. S. Native of Brazil, on the high mountains of Itambe and Serro Frio. Rhéxia fírmula, Mart. et Schrank, mss. Leaves few, beset with scattered glandular bristles in the disk and on the edges, the rest quite glabrous.

Firm Lavoisiera. Shrub 2 to 4 feet.

14 L. pulche'rrima (D. C. l. c. p. 104.) shrubby, dichotomous, quite glabrous; branches nearly terete, rather glaucous; leaves sessile, half stem-clasping, ovate-lanceolate, acute, quite entire, many veined, with 3 of the veins more elevated than the rest; flowers terminal, solitary; tube of calyx ovate, twice the length of the lobes, which are 6-10 ovate, acute; anthers dissimilar. ♄. S. Native of Brazil, in the province of Minas Geraes, in elevated fields. Rhéxia pulchérrima, Mart. et Schrank, mss. Leaves deflexed. Flowers purple. Anthers ovate, with short blunt beaks, the alternate ones with long connectives, which are tumid at the base.

Very-fair Lavoisiera. Shrub 2 to 4 feet.

15 L. linifòlia (D. C. l. c.) shrubby, much branched, glabrous; leaves on short petioles, linear, quite entire, nerveless; flowers solitary, almost sessile, axillary or terminal; tube of calyx turbinate, beset with glandular dots, shorter than the lobes, which are subulate; petals obovate, when young apiculated; anthers dissimilar. ♄. S. Native of Brazil in moist meadows, in the province of Minas Geraes, at Serro Frio. Rhéxia linifòlia, Mart. et Schrank, mss. Anthers 10, oblong, terminated by a blunt beak, in 5 of them the connective is rather long, and hardly tumid at the articulation, in the other 5 it is drawn out into a blunt appendage.

Flax-leaved Lavoisiera. Shrub 1 to 2 feet.

Cult. See *Meriània*, p. 733. for culture and propagation. All the species are delicate elegant plants, well deserving cultivation.

V. DA'VYA (named by De Candolle in honour of the celebrated chemist, Sir Humphry Davy). D. C. prod. 3. p. 105.

Lin. syst. *Deca-Dodecándria, Monogýnia.* Calyx with a campanulate or ovate-oblong tube; teeth 10-12, connected into a membranous entire limb. Petals 5-6. Anthers beaked, opening by one pore, having the connectives drawn out into an elongated simple spur, which is sometimes furnished with 2-3 bristles at the apex. Ovarium free, globose or oblong, depressed and glabrous at the apex. Style filiform. Capsule 5-celled. Seeds unknown.—Shrubs or trees, natives of South America, with the habit of *Banistèria.* Leaves petiolate, oval, 5-nerved, almost glabrous. Flowers corymbose or panicled, yellow. The calyx agrees with *Meriània*, but the habit and colour of the flowers are different.

1 D. panicula'ta (D. C. l. c.) branches terete, tomentose at the apex, as well as the petioles and middle nerve of the leaves, from thick fascicles of pili; leaves petiolate, ovate, acuminated, quite entire, 5-nerved, glabrous, except on the middle nerve; corymbs terminal, trifid at the base; pedicels subumbellate; tube of calyx ribbed, campanulate; anthers 10, 5 of which are furnished with a somewhat spatulate obtuse spur each, and the other 5 with a shorter, somewhat cylindrical spur each. ♄. S. Native of Brazil, in woods near Rio Janeiro. Rhéxia paniculàta, Mart. herb. but not Buch. Petals 5-6, yellow, obovate. Alternate anthers longer, with the appendages copper-coloured.

Panicled-flowered Davya. Shrub 2 to 4 feet.

2 D. gla'bra (D. C. prod. 3. p. 105.) quite glabrous in every part; branches bluntly tetragonal, hardly terete; leaves petiolate, elliptic, attenuated at the base, acuminated at the apex, 3-nerved, quite entire; raceme terminal, somewhat panicled, few-flowered; calyx campanulate, bluntly 5-lobed; anthers with a long copper-coloured spur each. ♄. S. Native of Brazil. Flowers yellow.

Glabrous Davya. Shrub 2 to 3 feet.

3 D. Guiane'nsis (D. C. l. c.) branchlets teretely tetragonal, clothed with deciduous brown bristly down, as well as the petioles, panicles, and leaves when in a young state; leaves petiolate, ovate, acuminated, somewhat crenulated, 5-nerved; nerves beset with rufous bristles, the rest glabrous; panicle terminal, with its branchlets many-flowered and umbelliferous at the apex; tube of calyx oval [illegible] somewhat urceolate; spurs of anthers bearing many bris[illegible] the apex. ♄. S. Native of French Guiana. D. C. coll. 1. t. 3. Topòbea paniculàta, Rich. herb. Flowers pale yellow. Stem 10 inches in diameter, and 20 feet in height.

Guiana Davya. Tree 20 feet.

4 D. Peruvia'na (D. C. prod. 3. p. 105.) branchlets somewhat compressedly terete, hardly terete; petioles, panicles, and young leaves clothed with powdery flocky down; leaves on long petioles, ovate, quite entire, abruptly acuminated, 5-nerved; panicle terminal, having its branches opposite and many-flowered, and its branchlets 3-flowered; calyx bluntly 5-toothed. ♄. S. Native of Peru, near Cochera. Petals yellowish red. Petioles nearly 2 inches long.

Peruvian Davya. Shrub 5 to 6 feet.

Cult. See *Meriània* for culture and propagation, p. 733. Plants worth cultivating for their beauty.

VI. GRAFFENRIE'DA (this name has been given by De Candolle to recall the labours of Fr. L. de Graffenried, editor of J. Bauhin's Historia Plantarum). D. C. prod. 3. p. 105.

Lin. syst. *Decándria, Monogýnia.* Tube of calyx oblong; its limb campanulate and bluntly 5-toothed. Petals 5, obovate. Stamens 10; anthers linear, acute, opening by one pore, furnished with a simple appendage at the base. Style filiform. Ovarium free, not bristly at the apex, but furnished with something like 5 tubercles. Capsule ovate, 5-valved, opening at the apex. Seeds angular, straight.—Shrubs, with the habit almost of *Diplóchita*, but differs in the bracteas being absent, in the fruit dehiscing at the apex, and in the different formed appendages of the anthers.

§ 1. *Anthers furnished with a setaceous appendage each. Teeth of calyx very short and blunt. Fruit not umbilicate at the apex.*

1 G. rotundifòlia (D. C. l. c.) branchlets terete, glabrous; leaves on short petioles, orbicular, somewhat cordate, quite entire, glabrous and shining above, but powdery beneath, 3-nerved, the lateral nerves approximating the margin; thyrse panicled,

terminal; petals 5, obovate. ♄ . S. Native of New Andalusia, near Caripe. Rhéxia rotundifòlia, Bonpl. rhex. t. 25. Flowers rose-coloured.

Round-leaved Graffenrieda. Shrub 3 to 6 feet.

§ 2. *Anthers with an obtuse appendage each. Lobes of calyx triangular. Fruit umbilicate at the apex. Perhaps a proper genus.*

2 G. EXCE'LSA (D. C. l. c.) branchlets tetragonal; peduncles, petioles, and under side of leaves clothed with velvety rufescent down; leaves on long petioles, oval, 7-nerved, crenulated, blistered above, glabrous; thyrse panicled, terminal; bracteas 2 under each flower. ♃ . S. Native of South America, in shady places near Loxa. Rhéxia excélsa, Bonpl. rhex. t. 34. Osbéckia excélsa, Spreng. syst. 2. p. 312. Stems numerous from the same root, herbaceous, 6-10 feet high. The flower-bud or alabastrum almost like that of *Conostègia*, but differs in being cleft longitudinally. Flowers red?

Tall Graffenreida. Pl. 6 to 10 feet.

Cult. See *Meriània* for culture and propagation, p. 733. Elegant plants, which deserve to be cultivated in every collection of stove plants.

VII. CENTRO'NIA (from κεντρον, *kentron*, a spur; anthers furnished with a long spur each). D. Don, wern. mem. soc. 4. p. 314. D. C. prod. 3. p. 106.

LIN. SYST. *Decándria, Monogýnia* Calyx oblong, clothed with retrograde bristles; limb coarctate, entire. Petals 5. Anthers terminating in a long bea[illegible] [illegible]nished with a long subulate acute process at the base. [illegible] of style elongated, tubular, inclosing the ovarium. Stigma blunt. Capsule 5-celled.—A tree, having its branchlets densely clothed with rusty tomentum. Leaves ample, elliptic, acuminated, quite entire, petiolate, coriaceous, feather-nerved and reticulately veined, glabrous and shining above, but when young clothed with brownish deciduous tomentum beneath. Panicle terminal, large, brachiate. Flowers large, purple.

1 C. LAURIFÒLIA (D. Don, in wern. soc. mem. 4. p. 315.) ♄ . S. Native of Peru, in groves. Osbéckia Peruviàna, Ruiz et Pav. in herb. Lamb.

Laurel-leaved Centronia. Tree.

Cult. See *Meriàna*, p. 733. for culture and propagation. An elegant shrub when in flower.

VIII. TRUNCA'RIA (from *trunco*, to lop off; limb of calyx truncate). D. C. prod. 3. p. 106.

LIN. SYST. *Decándria, Monogýnia.* Tube of calyx cylindrical, hardly turbinate; limb truncate, nearly entire. Petals 5, ovate. Stamens 10; anthers elongated, beaked, opening by 1 pore, without any auricles. Ovarium altogether free in the bottom of the calyx, 10-sided, and somewhat cup-shaped at the apex. Style filiform. Stigma hemispherical. Fruit unknown.—A climbing Brazilian shrub. It differs from *Medinílla* in the quinary number of its parts, and in the free ovarium; from *Micònia* in the cylindrical calyx; and from *Meriània* in the absence of bracteas to the flowers.

1 T. CARYOPHYLLÆ'A (D. C. l. c.) branchlets bluntly tetragonal; petioles and peduncles nearly glabrous; leaves oval, somewhat cuneated at the base, and mucronately acuminated at the apex, 5-nerved, quite entire, ciliated, rather pilose on both surfaces; thyrse terminal, elongated, having its branchlets 3-flowered, with some bristles under the flowers holding the place of bracteas. ♄ . ◡ . S. Native of Brazil, in the province of Para. Melástoma or Meriània truncàta, Schrank et Mart. mss. Flower-bud or alabastrum almost like that of the clove. Calyx quite glabrous.

Clove-budded Truncaria. Shrub cl.

Cult. For culture and propagation see *Meriània*, p. 733. A plant worthy of cultivation.

IX. RHYNCHANTHE'RA (from ρυγχος, *rhynchos*, a beak, and ανθηρα, *anthera*, an anther; anthers terminated by a long beak each). D. C. prod. 3. p. 106.—Rhéxia species, Bonpl. Schrank et Mart. mss. Ser. mss.—Proboscídia, Rich. herb.

LIN. SYST. *Decándria, Monogýnia.* Tube of calyx ovate-globose; lobes 5, linear or setaceous. Petals 5, obovate. Stamens 10, 5 of which bear ovate, long beaked anthers, having their connectives long and auricled at the base; the other 5 are castrated and smaller. Ovarium ovate-globose, glabrous. Capsule 3, but usually 5-celled. Seeds angular or oblong.—Sub-shrubs or herbs, natives of South America. Branches terete or bluntly tetragonal, hairy or pilose. Leaves cordate or oblong, 5-9-nerved. Peduncles axillary, cymose, usually disposed in a terminal thyrse. Flowers purple, not involved by bracteas when young.

* *Leaves cordate.*

1 R. GRANDIFLÒRA (D. C. prod. 3. p. 107.) branches terete, and are, as well as the petioles, clothed with glandulár pili; leaves on long petioles, cordate, somewhat denticulated, hairy, 9-nerved; flowers tern at the tops of the branchlets; tube of calyx subglobose, shorter than the teeth, which are setaceous. ♄ . S. Native of Cayenne, and near the Orinoco, in wet meadows. Melástoma grandiflòra, Aubl. guian. 1. p. 414. t. 160. Rhéxia grandiflòra, Bonpl. rhex. p. 26. t. 11. Osbéckia Aubletiàna, Spreng. syst. 2. p. 311. Tube of calyx purple. Genitals hardly longer than the petals. Five of the stamens are fertile, but the 5 sterile ones reduced to threads. Calyx hispid. Perhaps the plant of Bonpland is the same as that of Aublet.

Great-flowered Rhynchanthera. Shrub 3 to 5 feet.

2 R. NOVEMNE'RVIA (D. C. l. c.) shrub oppositely branched; branches nearly terete, beset with glandular bristles; leaves petiolate, cordate, ovate, somewhat acuminated, crenated, 9-nerved, hardly pilose above, but villous beneath; flowers solitary, in the axils of the bracteas, almost sessile, disposed in something like racemes; tube of calyx hairy, globose, equal in length to the lobes, which are linear-setaceous. ♄ . S. Native of Brazil, in marshes in woods. Flowers purple. The 5 longest anthers have a flat long connective each, and the 5 shortest ones have a terete short connective each. Capsule nearly globose, 3-celled, 3-valved. Seeds ovate, reticulately dotted.

Nine-nerved-leaved Rhynchanthera. Shrub 2 to 4 feet.

3 R. DICHÓTOMA (D. C. l. c.) shrubby; branches somewhat tetragonal; petioles and calyxes rather hispid; leaves petiolate, cordate, ovate, acute, serrated, 7-9-nerved, puberulous on both surfaces; peduncles axillary and terminal, panicled, dichotomous, leafy; tube of calyx ovate; lobes subulate-lanceolate; 5 of the anthers are acuminated by a beak, longer than the connective, which is auricled at the base. ♄ . S. Native of Brazil, in marshes about Rio Janeiro; and of St. Christopher. Melast. dichótoma, Desv. in Lam. Dict. 4, p. 41. Rhéxia Christophoreàna, Schrank et Mart. mss. Petioles 9-10 lines long. The pili on the upper side of the leaves are scattered and largish, under side villous along the nerves and veins. The hairs of the calyx often glandular. Seeds oblong.

Dichotomous Rhynchanthera. Shrub 3 to 5 feet.

4 R. CORDA'TA (D. C. l. c.) suffruticose, simple; stem nearly terete, hispid from long spreading hairs; petioles short, slender, hispid; leaves cordate, ciliately-serrated, acute, 7-nerved, setose on both surfaces; thyrse panicled, elongated, terminal; rachis, calyxes, and peduncles beset with glandular hairs. ♄ . S. Na-

tive of the province of Minas Geraes, in moist meadows. Melastoma cordàtum, Schrank et Mart. mss. Flowers purple. Capsule 3-celled.

Cordate-leaved Rhynchanthera. Shrub 1 to 2 feet.

5 R. Hænkea'na (D. C. l. c.) shrubby; branches terete, hairy, densely clothed with glandular down at the apex; leaves on short petioles, cordate, somewhat peltate, acuminated, serrated, 7-nerved, rather pilose above, and hairy beneath, having the serratures ciliately serrated; flowers cymosely corymbose, terminal; tube of calyx ovate, pilose, shorter than the lobes, which are 5, and setaceous, 5 of the anthers furnished with long beaks. ♄. S. Native of Peru. Melástoma grandiflòra, Schrank, mss. Melástoma Hænkeàna, Mart. mss. Leaves 3 inches long. Petioles 2 lines long. Flowers large, purple, like those of *R. grandiflòra*. Five of the anthers are hardly longer than their elongated beak, but a little longer than their connective, which is tumid at the articulation; the others abortive, and changed into ligulæ. Ovarium free.

Hænke's Rhynchanthera. Shrub 1 to 2 feet.

6 R. Schrankia'na (D. C. l. c.) shrubby; branches terete, hispid from unequal glandular stiff hairs; leaves petiolate, cordate, acuminated, serrated, 5-nerved, hairy on both surfaces; pedicels axillary, 1-flowered; tube of calyx ovate, hairy, shorter than the lobes, which are 5 and linear; anthers 10, 5 of which are short and castrated, the other 5 bearing long beaks. ♄. S. Native of Brazil, in the province of Minas Geraes, in marshes on the mountains. Rhéxia Schrankiàna, Mart. herb. Very like *R. grandiflòra* and *R. Hænkeàna*; from the first it differs in the pentantherous flowers, and from the last in the petioles being twice the length, and from both in the flowers being axillary and solitary.

Schrank's Rhynchanthera. Shrub.

7 R. monody'nama (D. C. l. c.) branches terete, hispid from long spreading bristles, as well as the petioles, peduncles, and calyxes; leaves petiolate, cordate, ovate, acuminated, toothed, pilose on both surfaces, 7-nerved; pedicels axillary, 1-3-flowered; lobes of calyx setaceous, longer than the tube; five of the stamens are antheriferous, one of them twice the size of the others. ♄. S. Native of Brazil, in the province of Para, in woods, and along the river Amazon. Melástoma fothergilloìdes, Schrank et Mart. mss. Capsule 5-celled. A very distinct species. The specific name is derived from μονος, one, and δυναμις, power; in reference to the long stamen.

Monodynamous Rhynchanthera. Shrub.

8 R. pentanthe'ra (D. C. l. c.) shrubby; branches rather tetragonal, beset with glandular pili; leaves petiolate, ovate, acuminated, rather cordate at the base, ciliately serrated, 7-nerved, rather pilose above, but hairy on the nerves beneath; panicle loose, terminal; calyx rather pilose, at length glabrous, with an ovate tube: and 5 subulate lobes, which are broadest at the base, and longer than the tube; the 5 barren stamens filiform, the 5 fertile ones having the anthers bearing long beaks. ♄. S. Native of Brazil, in the province of Minas Geraes, in marshes and woods. Rhéxia pentanthèra, Ser. mss. Flowers purple. Anthers oval, hardly longer than the beaks. Capsule 5-celled. Allied to *Hænkeàna*.

Five-anthered Rhynchanthera. Shrub 1 to 2 feet.

9 R. Mexica'na (D. C. l. c.) shrubby; branches tetragonal, hairy; leaves petiolate, ovate, acuminated, somewhat cordate at the base, ciliately serrated, 7-9-nerved; pedicels axillary, opposite, longer than the petioles, hairy, 1-flowered, each bearing 2 lanceolate-linear leaves; anthers 5, equal. ♄. S. Native of Mexico. Thenárdia ròsea, Moc. et Sesse, fl. mex. icon. ined. Flowers elegant, rose-coloured. Petals mucronate. Capsule 4-valved.

Mexican Rhynchanthera. Shrub 4 to 6 feet.

* * *Leaves shorter than those of the preceding division, not cordate at the base, petiolate or sessile.*

10 R. limòsa (D. C. l. c.) shrubby, erect, branched; branches nearly terete, clothed with glandular hairs; leaves lanceolate, on short petioles, acuminated, bluntly subcordate at the base, serrulated, 5-7-nerved, puberulous on both surfaces, paler beneath; thyrse terminal; calyx puberulous, with a globose tube: and 5 setaceous lobes, which are a little shorter than the tube; anthers 5, with long beaks; capsule 3-celled. ♄. S. Native of Brazil, in the province of Bahia, in muddy places near Caitete. Meriània violàcea, Schrank, mss. Rhéxia limòsa, Mart. herb. Leaves like those of *Cistus Monspeliacus*. Flowers purple, like those of *R. grandiflòra*. Capsule globose. Seeds numerous, angular.

Muddy Rhynchanthera. Shrub.

11 R. rostra'ta (D. C. l. c.) shrubby; branches nearly terete, clothed with glandular bristles; leaves petiolate, oblong, bluntish at the base, acuminated at the apex, ciliately serrulated, 5-nerved, pilose above, and rather hairy on the nerves beneath; cymes axillary and terminal; calyx hairy, with an oblong tube: and 5 setaceous lobes, which are a little shorter than the tube; stamens 10, 5 of which are barren, and 5 bearing long, beaked anthers. ♄. S. Native of Brazil, on the sides of the mountains called Serra St. Antonio. Rhéxia rostràta, Schrank et Mart. mss. Flowers violaceous. Filaments glabrous.

Beaked Rhynchanthera. Shrub 1 to 2 feet.

12 R. Fothero[illegible]æ (D. C. l. c.) shrubby; branches somewhat tetragonal; p[illegible] pedicels densely clothed with bristles; leaves petiolate, oblong, cuneated at the base, acuminated at the apex, 5-nerved, quite entire, beset with adpressed bristles above, but with villi beneath; racemes short, terminal; flowers pedicellate, when young involved in 2 bracteas; calyx strigose, with a campanulate tube, and 5 triangular acute lobes; anthers dissimilar. ♄. S. Native of Brazil, in the provinces of St. Paul and Minas Geraes, in low woods. Rhéxia Fothergíllæ, Schrank et Mart. mss. Allied to *R. grandiflòra*. Petals large, nearly orbicular, purple. Anthers arched, wrinkled transversely, 5 with a drawn out connective, and the other 5 with a short hardly tumid connective each. Filaments rather pilose.

Fothergill's Rhynchanthera. Shrub 1 to 2 feet.

13 R. stachydimórpha (D. C. l. c.) suffruticose; branches tetragonal, rather hairy; leaves on short petioles, ovate-lanceolate, acute, quite entire, 5-nerved, clothed with adpressed pili on both surfaces; peduncles axillary, few-flowered, disposed into an elongated leafy thyrse; flowers decandrous; calyx with an ovate tube, and setaceous ciliated lobes. ♄. S. Native of Brazil, in high grassy fields about Minas Novas. R. stachyoìdes, Schrank et Mart. mss. but not of Humb. et Bonpl. Petals red. The 5 stamens, with the long filaments, bear elongated anthers, which have their connectives not drawn out, but with their beaks dilated at the apex. Seeds irregular, usually oblong-conical, truncate at the base, and reticulated from lacunæ.

Spike-formed Rhynchanthera. Shrub 1 to 2 feet.

14 R. serrula'ta (D. C. l. c) plant herbaceous, erect, clammy; branches bluntly tetragonal, rather hairy; leaves almost sessile, attenuated at both ends, linear-lanceolate, serrulated, 5-nerved; flowers axillary and terminal, solitary, on short pedicels; tube of calyx rather hairy, with rather longer linear lobes; 5 of the stamens sterile; capsule 3-celled. ⊙. H. Native of Guiana, in meadows. Rhéxia serrulàta, Rich. in Bonpl. rhex. t. 28. but not of Nutt. Flowers deep purple.

Serrulated-leaved Rhynchanthera. Pl. ¾ foot.

15 R. salicifòlia (Mart. herb. Schrank, mss. ex D. C. prod. 3. p. 109.) plant herbaceous; stem nearly simple, puberulous,

tetragonal at the apex; leaves on short petioles, serrulated, 3-nerved; middle ones linear; upper ones lanceolate or obovate; flowers axillary, on short pedicels, solitary; tube of calyx ovate, pilose, shorter than the lobes, which are 5, acute and linear. ⊙. S. Native of Brazil, in the province of Bahia in low moist fields. Root fibrous. Leaves sparingly pilose. Anthers linear, falcate, beaked: having their connectives tumid at the articulation, and shortly auricled, not half the length of the anthers; filaments flat.

Willow-leaved Rhynchanthera. Pl. 1 foot.

Cult. The species of *Rhynchanthèra* being natives of marshes and bogs require to be kept moist, especially through the summer; for this purpose the pots in which the species are grown should be kept in pans filled with water; in other respects their culture and propagation is the same as that of *Meriània*, see p. 732.

X. MACAI'REA (dedicated by De Candolle to M. Isr. Macaire, who has written on vegetable chemistry, and who has published in the Memoirs of the Natural History Society of Geneva, some curious remarks upon the influence of narcotic poisons upon living vegetables, &c.) D. C. prod. 3. p. 109.

Lin. syst. *Octándria, Monogýnia.* Tube of calyx ovate; lobes 4, permanent. Petals 4, obovate. Stamens 8, unequal; the 4 longer ones bearing one series of glands on the inner side at the apex; the 4 shorter ones smoothish. Anthers linear, elongated, opening by one pore, in the longer ones the connectives are elongated and stipe-formed, but in all unequally dilated at the base. Ovarium free, ovate, beset [illegible]lar bristles. Style filiform. Capsule 4-celled, clothed by the calyx. Seeds ovate, somewhat truncate at the hylum.—South American shrubs, with terete branches. Petioles and young leaves clothed with rufous villi. Leaves petiolate, ovate, mucronate, coriaceous, quite entire, glabrous above, but rather velvety beneath even in the adult state, at first sight feather-nerved, but there is sometimes a marginal nerve on each side; in this case the leaves are somewhat 3-nerved. Thyrse of flowers panicled and very villous. Flowers white, according to the dried specimens. This genus is analogous to *Lasiándra*, but differs from it in the flowers being octandrous, and in the seeds being ovate.

1 M. thyrsiflòra (D. C. l. c.) branchlets terete, clothed with short adpressed rufous down; leaves petiolate, oval, rosulate, glabrous above, but clothed with short rufous pubescence beneath, 3-nerved; lateral nerves slender, and approximating the margin of the leaf; thyrse panicled; calyx clothed with adpressed short rufous down. ♄. S. Native of Brazil.

Thyrse-flowered Macairea. Shrub 5 to 6 feet.

2 M. rufe'scens (D. C. l. c.) branches bluntly tetragonal; petioles, panicles, calyxes, and young leaves clothed with long rufous villi; leaves petiolate, oval, coriaceous, glabrous above, but clothed with deciduous villi beneath, 3-nerved: lateral nerves slender, and near the margins of the leaf; thyrse panicled; calyx villous, with narrow acute lobes. ♄. S. Native of Brazil, in the province of Rio Negro, on mount Araracoara. Rhéxia anómala, Schrank et Mart. mss.

Rufescent Macairea. Shrub 3 to 6 feet.

3 M. ra'dula (D. C. l. c.) shrubby; branches tetragonal; calyxes and under side of leaves clothed with rusty hairs; leaves elliptic, quite entire, coriaceous, 5-nerved, strigose above; flowers in corymbose fascicles. ♄. S. Native of Brazil. Rhéxia rádula, Bonpl. rhex. p. 107. t. 41. Lobes of calyx linear, acute, longer than the tube. Petals oval, dark purple. Style filiform, curved, hardly thicker at the apex. Calyx clothed with rufous villi, 4-cleft. Filaments clothed with glandular pili.

Rasp-leaved Macairea. Shrub 2 to 4 feet.

4 M. adenoste'mon (D. C. l. c.) shrubby; branches nearly terete; petioles, peduncles, and calyxes clothed with stiff villi; leaves petiolate, obovate, 3-nerved, echinated by strong strigæ above, hairy beneath; panicle terminal; lobes of calyx 5, linear, subulate; filaments bearing stipitate glands. ♄. S. Native of Brazil, in fields near Salgada. D. C. coll. 1. t. 4 Lateral nerves near the edge of the leaf. Leaves obtuse, when young apiculated. Flowers small, purple. Anthers 8, having their connectives short and biauriculate at the base.

Var. β, *ursìna* (Schrank et Mart. herb. ex D. C. l. c.) leaves oblong. ♄. S. Native of the province of Minas Geraes, in calcareous places.

Glandular-stamened Macairea. Shrub 4 to 6 feet.

Cult. For the culture and propagation of the species of this genus see *Meriània*, p. 733.

XI. BUCQUE'TIA (dedicated by De Candolle to M. Bucquet, author of introduction à l'etude des corps naturels tirés du regne vegetal, 2 vol. 8vo. Paris. 1773). D. C. prod. 3. p. 110.

Lin. syst. *Octándria, Monogýnia.* Tube of calyx globose; lobes 4, nearly triangular, hardly acute, permanent. Petals 4, obovate. Stamens 8, equal; filaments glabrous; anthers oblong, opening by one pore at the apex, without auricles at the base; the connectives hardly perspicuous. Style filiform. Ovarium free, somewhat thickened at the tops of the valves, truncate, and furnished with 4 tubercles. Capsule 4-celled. Seeds cuneated, angular.—A shrub, native of New Granada. Branches clammy. Leaves on short petioles, elliptic, 3-nerved, smooth, almost quite entire. Pedicels tern at the tops of the branches. Habit of *Osbéckia* or *Arthrostémma*, but differs in the seeds being angular, not cochleate. Flowers violaceous.

1 B. glutinòsa (D. C. l. c.) ♄. S. Native at the bottom of the Andes about Quindiu. Rhéxia glutinòsa, Bonpl. rhex. t. 17. Osbéckia glutinòsa, Spreng. syst. 2. p. 313.

Clammy Bucquetia. Shrub 4 to 6 feet.

Cult. For culture and propagation see *Meriània*, p. 733.

XII. CAMBESSEDE'SIA (in honour of James Cambessedes, coadjutor of Auguste St. Hilaire, in his Flora Brasiliæ meridionalis, and author of several botanical memoirs. D. C. prod. 3. p. 116.

Lin. syst. *Decándria, Monogýnia.* Tube of calyx globose or obovate, hardly constricted under the limb; lobes 5, narrow, acute, permanent. Petals 5, obovate. Stamens 10; anthers equal in size and shape, linear, falcate, somewhat beaked, gibbously auricled at the base; having the connectives hardly perspicuous, and drawn out into an undivided obtuse auricle at the base, of various lengths. Style filiform. Capsule ovate, globose, 3-celled. Seeds angular or ovate, with the hylum linear.—Brazilian subshrubs, for the most part glabrous. Leaves sessile. Flowers sometimes purple, sometimes copper-coloured, as in *Tropæ'olum.*

1 C. late'-veno'sa (D. C. l. c.) suffruticose; leaves sessile, nearly orbicular, cordate, ciliately fringed, serrated, blistered on the upper surface, reticulated by broad flat veins beneath, clothed with short velvety down on both surfaces; branches of cyme many flowered, opposite, divaricate; flowers decandrous; tube of calyx ovate, coarctate at the apex, longer than the lobes, which are subulate. ♄. S. Native of Brazil, in the province of Minas Geraes, on mountains at the height of 3500 feet. Rhéxia Bucàrdia, Schrank, mss. R. latè-venòsa, Mart. herb. Flowers red, pedicellate. Calyx when young sparingly pilose. Stamens equal among themselves. Anthers falcate, gradually beaked. Seeds oblong, minutely tuberculated; the hylum linear.

Broad-veined-leaved Cambessedesia. Shrub 1 foot.

2 C. purpura'ta (D. C. prod. l. c.) shrubby, quite glabrous; leaves sessile, orbicularly reniform, quite entire, somewhat 5-

nerved, smoothish; cymes terminal, dichotomous; flowers decandrous; tube of calyx ovate, 3 times longer than the lobes, which are lanceolate. ♄. S. Native of Brazil, in the province of Bahia, at the elevation of 5000 feet. Rhéxia purpuràta, Schrank et Mart. mss. Cymes subumbellate, and as if they were involucrated by the 2 upper leaves; the rest of the bracteas small, and lanceolate. Petals scarlet. Anthers bluntly sagittate at the base.

Purplish Cambessedesia. Shrub 1 to 2 feet.

3 C. corymbòsa (D. C. l. c.) shrubby; leaves petiolate, oblong, acute, quite entire, 5-nerved, glabrous above, clothed with velvety tomentum beneath, and dotted from lacunæ; flowers terminal, in cymose corymbs, decandrous; petals acuminated. ♄. S. Native of Brazil, at Itambe, in the province of Minas Geraes, in bogs. Rhéxia corymbòsa, Mart. et Schrank, mss. Branchlets tetragonal. Leaves 10-12 lines long, and 3-4 broad: the lateral nerves hardly distinct. Bracteas glabrous. Calyx glabrous; lobes 5, lanceolate-subulate. Petals red, acute. Anthers yellow, exserted, elongated, with the connectives not drawn out; filaments jointed in the middle.

Corymbose-flowered Cambessedesia. Shrub 1 foot.

4 C. balsamífera (D. C. l. c.) shrubby, quite glabrous; branches dichotomous, terete; leaves oblong, acutish at both ends, dotted, quite entire, 3-nerved; lateral nerves very small; flowers terminal, solitary, decandrous. ♄. S. Native of Brazil, in the province of Bahia, on the tops of mountains, at the elevation of 4000 or 5000 feet. Rhéxia balsamifera, Mart. et Schrank, mss. Leaves almost like those of *Phillyrèa angustifòlia*. Calyx bearing balsam; tube obovate; lobes acute. Petals purple. Anthers yellow, apiculated by a beak: having the connectives short, and drawn out into an obtuse flat auricle each.

Balsam-bearing Cambessedesia. Shrub 1 to 2 feet.

5 C. Sincoré'nsis (D. C. prod. 3. p. 111.) shrubby, much branched, quite glabrous; branches somewhat tetragonal at the apex; leaves on very short petioles, oblong, acutish, quite entire, one-nerved, hardly 3-nerved at the base, beset with minute dots on both surfaces; flowers nearly terminal, axillary, almost sessile; tube of calyx cylindrically obovate, with 5 short teeth. ♄. S. Native of Brazil, on the alps of Serra de Sincora, at the elevation of 4000 feet. Rhéxia resinòsa, Schrank, mss. Rhéxia Sincorénsis, Mart. herb. Leaves 4 lines long, and 1½ broad. Petals purple, obovate, not ciliated. Anthers yellow, apiculated by long beaks, twice the length of the connectives, which are expanded into an obtuse appendage each at the base. Genitals not longer than the petals.

Sincora Cambessedesia. Shrub 1 to 2 feet.

6 C. crenula'ta (D. C. l. c.) shrubby, glabrous, clammy at the tops; branches tetragonally terete; leaves sessile, ovate, hardly 3 veined at the base, flat, length of the internodes, with glandular, hardly crenated, margins; flowers few, at the tops of the branches, disposed in cymose corymbs; calyx with an ovate tube, and 5-6 linear acute lobes. ♄. S. Native of Brazil, in alpine meadows, particularly on Serro Frio. Rhéxia crenulàta, Mart. et Schrank, mss. Flowers purple. Anthers ovate, beaked: with the connectives drawn out at the base into a crenate-spatulate ligula each. Capsule ovate, glabrous. Seeds unknown.

Crenulate-leaved Cambessedesia. Shrub 1 to 2 feet.

7 C. Espòra (D. C. l. c.) plant suffruticose, erect, glabrous, branched from the base; branches somewhat tetragonal; leaves sessile, ovate-cordate, acute, sparingly serrated, 3-nerved; flowers on the short axillary branchlets, solitary, and therefore disposed in a leafy elongated thyrse; calyx turbinate, with 5 acute lobes; petals lanceolate, acute; anthers nearly alike. ♄. S. Native of Brazil, in grassy bogs, in the provinces of St. Paul, and Minas Geraes. Rhéxia Espòra, St. Hil. in Bonpl. rhex. t. 58. Rhéxia chamædrifòlia, Schrank et Mart. herb. Very like *R. adamántium* in habit and colour of flowers, but differs in being glabrous in every part, in the petals being much smaller and of a different form, in the anthers being obtuse, and in their connectives not being drawn out.

Var. β, ilicifòlia (D. C. prod. 3. p. 111.) stem simple, straight, terete, velvety; leaves ovate, in fascicles; thyrse spicate, cylindrical. ♄. S. Native of Brazil, in the province of Minas Geraes. Rhéxia ilicifòlia, Schrank et Mart. mss. Leaves 2 or 3 lines long: those of branches very short and nerveless, in fascicles. Flowers yellow; petals oval-oblong; anthers fuscescent, elongated.

Espora Cambessedesia. Shrub 1 to 2 feet.

8 C. adama'ntium (D. C. l. c.) suffruticose, branched, procumbent, beset with scattered glandular pili; branches tetragonal, pilose, woolly at the knots; leaves on short petioles, ovate-lanceolate, somewhat 3-nerved, rather ciliately serrated, and beset with glandular hairs; thyrse terminal, crowded; calyx turbinate, with very short cordate lobes; petals ovate, acute; anthers nearly similar. ♄. S. Native of Brazil, near Tejuco, in sandy places on the Diamond Mountains. Rhéxia adamántium, St. Hil. in Bonpl. rhex. t. 60. Colour of petals almost like that of a *Tropæ'olum*. Anthers 10, oblong, obtuse, 5 of which are rather gibbous at the base. Capsule ovate-oblong, 3-valved, pilose at the apex. Seeds half ovate.

Adamant Cambessedesia. Shrub procumbent.

9 C. Hilaria'na (D. C. l. c.) suffruticose, glabrous, ascending; branches tetragonal; leaves on short petioles, oblong-linear, bluntish, quite entire, or furnished with 1 or 2 teeth, 3-nerved, bearing s[illegible] in their axils; peduncles 1-3-flowered, axillary, [illegible]nal; calyx bearing glandular hairs, obovate, with 5 broad short mucronate lobes; stamens rather dissimilar. ♄. S. Native of Brazil, in the province of Minas Geraes, in moist sandy places on the tops of the mountains. Rhéxia galioìdes, Schrank et Mart. mss. Rhéxia Hilariàna, Kunth in Bonpl. rhex. t. 56. Rhéxia suberòsa, Spreng. syst. 2. p. 308. Allied to *R. adamántium* in habit and colour of flowers, but differs from that species in the longer and narrower leaves, and in the much more loose panicle.

St. Hilare's Cambessedesia. Shrub 1 to 2 feet.

10 C. bidenta'ta (D. C. l. c.) suffruticose; branches tetragonal, divaricate; leaves lanceolate, in fascicles, glabrous, bidentate; corymbs panicled; pedicels pilose; petals ovate, acuminated; calyx muricated, 10-ribbed; ovarium 3-celled. ♄. S. Native of Brazil, at Barra da Vareda, in open fields. Rhéxia bidentàta, Nees et Mart. nov. act. bonn. 12. p. 53. Said to be allied to *C. Hilariàna*, and probably only a variety of that species according to Kunth.

Bidentate Cambessedesia. Shrub 1 foot.

Cult. See *Meriània* for culture and propagation, p. 733. All the species are small elegant shrubs, deserving cultivation.

XIII. CHÆTO'STOMA

(from χαιτη, *chaite*, a head of hair, and στομα, *stoma*, a mouth; in allusion to the calyx, which is girded by a ring of stiff hairs round the mouth under the lobes on the outside). D. C. prod. 3. p. 112.

Lin. syst. *Octo-Decándria, Monogýnia.* Calyx with a somewhat obovate turbinate tube, girded by a ring of stiff bristles on the outside under the lobes; limb 4-5-lobed; lobes erect, pungent. Petals 4-5. Anthers with very short 1-pored beaks: having their connectives not drawn out at the articulation, and hardly gibbous. Capsule prismatic, longish, 4-5-angled. Seeds unknown.—Brazilian heath-like quite glabrous sub-shrubs. Stems slender. Leaves crowded, dry, 1-nerved, acute, quite entire, small. Flowers terminal, solitary. The habit of this genus is very distinct, but its normal characters are not well known.

* *Flowers 5-cleft, decandrous. Capsule prismatic.*

1 C. **PU'NGENS** (D. C. l. c.) shrubby, quite glabrous; leaves sessile, triangular, stiff, pungent, imbricate, quite entire, 3-nerved; lateral nerves hardly perspicuous; flowers terminal, solitary, decandrous; lobes of calyx spinulose. ♄. S. Native of Brazil, in the province of Minas Geraes, on Serro Frio. Rhéxia púngens, Mart. et Schrank, mss. Branches slender, terete. Leaves 2-3 lines long, having the middle nerve thick. Lobes of calyx lanceolate, pungent; spinules rising from the top of the tube. Petals purple. Stamens yellow, 5 shorter than the others; filaments jointed in the middle; connectives not drawn out. Perhaps the same as Rhéxia armàta, Spreng. syst. 2. p. 308.

Pungent-calyxed Chætostoma. Shrub 1 to 2 feet.

* * *Flowers 4-cleft, octandrous. Fruit unknown.*

2 C. **TETRA'STICHUM** (D. C. l. c.) shrubby, glabrous, erect; leaves sessile, triquetrous, stiff, acute, keeled, imbricated in 4 rows; flowers terminal, solitary, octandrous; calyx glabrous, but with a ring of stiff hairs under the teeth. ♄. S. Native of Brazil, on the mountains. Plant 6-8 inches long. Stems terete, slender. Leaves 2 lines long. Calyx campanulate, with an oblong tube, and 4 lanceolate teeth. Anthers with short beaks, dilated at the base.

Var. α, crássipes (D. C. l. c.) caudex or root thick and tuberous, with numerous simple stems rising from it. Rhéxia tetrásticha, Mart. et Schrank, mss.

Var. β, fibrillòsum (D. C. l. c.) [illegible] ; stem branched. Perhaps a proper species. R. scop[illegible] herb.

Four-rowed-leaved Chætostoma. Shrub ½ to 1 foot.

† *A doubtful species.*

3 C. **ERICOÌDES** (D. C. l. c.) shrubby; leaves sessile, opposite, somewhat decurrent, linear, complicated, ciliated; flowers terminal, solitary, octandrous; calyx bearded with bristles at the apex. ♄. S. Native of Brazil. Rhéxia ericoìdes, Spreng. syst. 2. p. 310. Perhaps the same as Rhéxia ericoìdes, Spreng. neue. entd. 1. p. 302. of which the author says that the leaves are almost sessile, in fascicles, quite glabrous; the peduncles corymbose; and the flowers sessile.

Heath-like Chætostoma. Shrub 1 foot.

Cult. This genus is composed of pretty shrubs. For their culture and propagation see *Meriània*, p. 733.

XIV. SALPI'NGA

(from σαλπιγξ, *salpinx*, a tube; in reference to the elongated tube of the calyx). Mart. herb. Schrank, mss. D. C. prod. 3. p. 112.—Aulacídium, Rich. herb.

Lin. syst. *Octo-Decándria, Monogýnia.* Calyx turbinately oblong, much elongated, 8-10-ribbed; ribs separated by deep furrows; teeth 4-5, broad, short, permanent. Petals 4-5, lanceolate, acute, connivent. Stamens 8-10. Style short. Stigma orbicular. Capsule cylindrically trigonal, free within the calyx, 3-valved; valves bearing with nerves in the middle, retuse at the apex; central column free. Seeds small, numerous, semi-ovate, disposed in rows along the axis; hylum linear.—Smooth Brazilian subshrubs or herbs. Branches from compressed to terete. Leaves on long petioles, ovate, acuminated, ciliated, rather crenated, 3-5-nerved, membranous, smoothish. Spikes axillary or terminal, disposed in panicles. Flowers sessile along the rachis, all on one side.

* *Calyx 5-toothed, 10-furrowed.*

1 S. **SECU'NDA** (Schrank et Mart. mss. ex D. C. l. c.) stem suffruticose, from compressed to terete, branched, glabrous; leaves ovate, bluntish at the base, acuminated, 5-nerved, ciliately serrated; cymes terminal and axillary, with its branchlets elongated, and bearing a row of secund flowers each; calyx elongated, tube-formed, 10-furrowed. ♄. S. Native of Brazil, in shady humid woods at Porto dos Miranhas. Calyx 6-7 lines long when in fruit.

Secund-flowered Salpinga. Shrub 1 foot.

2 S. **FASCICULA'TA** (Rich. herb. under *Aulacidium*, ex D. C. l. c.) stems herbaceous, branched, somewhat tetragonal, glabrous; leaves oval, attenuated at the base, acutish, ciliately serrated, 3-nerved, membranous, bearing a few scattered bristles on the upper surface, pale beneath and hardly muricated; cymes few-flowered, fascicled; calyx turbinate, 10-furrowed. ⊙. S. Native of French Guiana, in the humid shady woods of Gabriella. Calyx 5 lines long when in fruit. Flowers in fascicles of 4 or 5.

Fascicled-flowered Salpinga. Pl. 1 foot.

* * *Calyx 4-toothed, 8-furrowed.*

3 S. **CRISTA'TA** (Rich. herb. under *Auldcidium*, ex D. C. l. c) stem herbaceous, branched, tetragonal, glabrous; leaves ovate-oblong, coarsely and ciliately toothed, 3-nerved, glabrous on both surfaces; cymes axillary and terminal; flowers numerous, secund along the branches of the cyme; calyx turbinate, attenuated at the base, 8-furrowed. ⊙. S. Native of French Guiana, where it is called *Itoupou.* Calyx 4 lines long.

Crested Salpinga. Pl. 1 foot.

4 S. **PARVIFLÒRA** (D. C. l. c.) stem herbaceous, tetragonal, branched, glabrous; leaves oval-oblong, attenuated at the base, serrulately-subciliated, 3-nerved, membranous, smoothish; cymes terminal, 5-8-flowered; flowers on short pedicels, disposed in secund fascicles; calyx 4-toothed, 8-furrowed, oval, hardly turbinate. ♄. S. Native of French Guiana. Calyx 1-3 lines long. Capsule trigonal: having the valves thickened and somewhat lid-formed at the apex, and bearing a dissepiment in the middle of each; column free.

Small-flowered Salpinga. Shrub 1 to 2 feet.

Cult. The seeds of the annual species of this genus should be sown in pots, filled with a mixture of loam and sand, which should be placed in a hot-bed, and kept rather moist; and when the plants have attained 2 or 3 inches in height, they should be potted off into separate pots, and again placed into the hot-bed, where they may remain until they have ripened their seed, or be removed to the stove when in flower. The shrubby kind thrive well in the same kind of soil, and young cuttings of them root readily if planted in a pot of sand, with a hand-glass placed over them, in heat.

XV. BERTOLO'NIA

(in honour of Ant. Bertoloni, an Italian botanist, author of Rariorum Italiæ Plantarum decades, in 3 vols. 8vo. &c.). Raddi, mem. bras. add. (1820.) p. 5. but not of other authors. D. C. prod. 3. p. 113. Triblémma, R. Br. ex Schrank, et Mart. mss.

Lin. syst. *Decándria, Monogýnia.* Calyx with a campanulate tube: and 5 obtuse lobes, which are usually very short and broad, and sometimes concrete into an entire limb. Petals 5, obovate. Stamens rather unequal; anthers ovate-obtuse, opening by 1 pore, attenuated at the base, and hardly or not auriculated. Ovarium not bristly. Capsule trigonal, 3-valved; valves as if they were retusely uncinated at the apex, and cut transversely under the apex, and therefore exhibiting the appearance of a lid. Seeds cuneate, triquetrous, scabrous.—Brazilian, rooting herbs. Leaves stalked, ovate-cordate, 5-11-nerved, crenulated. Cymes corymbose, terminal. Flowers white or purple.

1 B. **NYMPHÆIFÒLIA** (Raddi, l. c.) stem simple, short, creeping, glabrous; leaves petiolate, cordate, rather orbicular, undulately crenulated, 9-11-nerved, smoothish, white beneath;

corymbs pedunculate; limb of calyx hardly erose. ♃. S. Native of the neighbourhood of Rio Janeiro, especially on the mountains called Serra d'Estrella, in humid places, in woods. Rhéxia nymphæifòlia, Kunth, in Bonpl. rhex. t. 58. Flowers white. Leaves 4 inches in diametet.

Water-lily-leaved Bertolonia. Pl. creeping.

2 B. OVA'TA (D. C. prod. 3. p. 113.) stems very short, hairy, simple, creeping; leaves petiolate, cordate, ovate, 5-nerved, somewhat undulately crenated, smoothish; flowers disposed in rather secund spikes; limb of calyx broadly and bluntly 5-lobed. ♃. S. Native of Brazil. Triblémma nymphæifòlium, Mart. herb. This is very distinct from the first species, the leaves being hardly an inch long. Flowers small and purple.

Ovate-leaved Bertolonia. Pl. creeping.

3 B. LEUZEA'NA (D. C. l. c.) stems suffruticose, short, simple, tetragonal, ascending, rather creeping; leaves petiolate, oval-oblong, acute, sharply denticulated, 5-nerved, smoothish; corymbs terminal; limb of 5 obtuse lobes, equal in length to the tube; petals obliquely acuminated. ♃. S. Native about the town of Rio Janeiro. Flowers lilac. Rhéxia Leuzeàna, Bonpl. rhex. p. 144. t. 54. and t. 55.

De Leuze's Bertolonia. Pl. 6 feet.

4 B. MACULA'TA (D. C. l. c.) stem rooting at the base; branches, petioles, peduncles, and calyxes hispid from long bristles; leaves on long petioles, cordate, ovate, quite entire, pilose on both surfaces and on the margins, 5-nerved; peduncles axillary, bearing at the apex a short raceme of 6-7 flowers. ♃. S. Native of Brazil, in the province of Bahia on the mountains, in shady humid places of woods. Triblémma maculàta, Mart. herb. Racemes twisted at the apex. Lobes of calyx 5, ovate, and very blunt. Petals violaceous. Anthers truncate, opening by 1 pore, attenuated at the base but not auricled, 5 of which are smaller than the others. Calyx permanent, at length white from small bristles on the outside at the base. Capsule 3-valved. Seeds small, trigonal, cuneated, scabrous.

Spotted Bertolonia. Pl. creeping.

Cult. *Bertolònia* is a genus of elegant little creeping plants; its species grow best in a mixture of peat and sand. The pots in which they are grown should be kept in pans of water, especially in the summer, when the plants are in full vigour. They are easily increased by dividing the plants, or by seeds.

XVI. MEISNE'RIA (dedicated by De Candolle to C. F. Meisner, author of a monograph on the difficult genus *Polýgonum*, &c). D. C. prod. 3. p. 114.

LIN. SYST. *Octándria, Monogýnia.* Tube of calyx globose; lobes 4, lanceolate, acuminated. Anthers 8, ovate, ending in a tubular beak each; 4 of which have a very long connective each, which is auricled at the articulation, in the other 4 the connective is hardly evident. Capsule 2-celled. Seeds small, ovate, triquetrous.—Herbs hardly shrubby, probably annual. Stems erect, terete, rather hairy. Leaves ovate, acute, sessile, 3-nerved, somewhat ciliately serrated. Flowers pedicellate, solitary, alternate in the axils of the branches and of the leaves, and truly cymose at the apex, small, purple. This genus differs from *Spénnera* in the seeds not being cochleate.

1 M. ARENA'RIA (D. C. prod. 3. p. 114.) almost herbaceous; stem and branches almost terete, hispid; leaves hairy. ⊙.? F. Native of Brazil, in the province of Minas Geraes, at Serro Frio in sandy sub-irrigated places. Rhéxia arenària, Schrank et Mart. mss. Hairs on the stems, panicles, and calyxes glandular at the apex, usually pale purple in a young state. Petals apiculated. Capsule subglobose.

Sand Meisneria. Pl. 1 foot.

2 M. PALUDÒSA (D. C. l. c.) almost herbaceous; stem and branches tetragonal, rather pilose; leaves smoothish on both surfaces. ⊙.? S. Native of Brazil, in the province of Minas Geraes, in marshes on the mountains. Rhéxia biloculàris, Schrank et Mart. mss. Very like the preceding species, but the hairs are much fewer, shorter, and never red; the stem is evidently tetragonal, and the hairs are sometimes scattered and sometimes disposed in rows along the branches. Petals purple.

Marsh Meisneria. Pl. ½ to 1 foot.

Cult. See the annual species of *Salpinga*, p. 740. for culture and propagation. The plants should be kept moist by placing the pots in which they are grown in pans filled with water.

Tribe II.

RHEXIE'Æ (plants agreeing with the genus *Rhéxia* in the seeds being cochleate). D. C. prod. 3. p. 114. Anthers opening by 1 pore at the apex. Ovarium free, neither scaly nor bristly at the apex. Capsule dry. Seeds cochleate, with a basilar orbicular hylum.—Species all natives of America, except one.

XVII. APPENDICULA'RIA (from *appendix*, an appendage; appendages to anthers). D. C. prod. 3. p. 114. Rhéxia sect. Appendiculària, Ser. mss.

LIN. SYST. *Octándria, Monogýnia.* Tube of calyx ovate and rather urceolate; limb campanulate, broadly and bluntly 4-toothed. Petals 4, obovate. Stamens 8, equal: having the connectives filiform, and drawn out both beneath and above the cells of the anthers into 2 bristles at the articulation. Capsule oblong, 3-celled, 3-valved; central column at length free, and bearing the seeds. Seeds cochleate. An annual, erect, glandular herb, native of Guiana Root fibrous. Leaves petiolate, ovate, 3-5-nerve[illegible]errulated. Cymes terminal, few-flowered. Flowe[illegible], white. This genus comes very near *Salpinga*, but differs in the anthers.

1 A. THYMIFÒLIA (D. C. l. c.). ⊙. S. Native of Cayenne. Rhéxia thymifòlia, Bonpl. rhex. p. 133. t. 50. Nerves of calyx 8, elevated.

Thyme-leaved Appendicularia. Pl. 1 to 1½ foot.

Cult. See annual species of *Salpinga* for culture and propagation, p. 740.

XVIII. COMO'LIA (dedicated to M. Jos. Comoli, author of a Flora of the environs of Come). D. C. prod. 3. p. 114.

LIN. SYST. *Octándria, Monogýnia.* Tube of calyx campanulately cylindrical; lobes 4, linear. Petals 4, obovate. Anthers oblong-linear, falcate, opening by 1 pore: having the connectives short and biauriculated at the articulation. Ovarium glabrous. Capsule ovate, 2-celled. Seeds cochleate, compressed, furrowed on the back, and scabrous from tubercles.—A Brazilian shrub, with tetragonal branches. Leaves obovate, somewhat cuneated, ciliately serrated, 3-nerved, beset with adpressed pili. Flowers white, axillary, solitary, nearly sessile.

1 C. BERBERIFÒLIA (D. C. l. c.). ♄. S. Native of Brazil. Rhéxia berberifòlia, H. B. et Bonpl. rhex. p. 110. t. 42. Petals rather acuminated, longer than the genitals. Style filiform. Ovarium glabrous. Glands few along the lobes of the calyx and at their origin. Calyx 8-nerved. Connectives of anthers drawn out at both sides at base.

Barberry-leaved Comolia. Shrub 2 to 3 feet.

Cult. For culture and propagation see *Meriània*, p. 733.

XIX. SPE'NNERA (dedicated by Martius to M. Spenner, author of a Flora of the environs of Friburg). Mart. herb. D. C. prod. 3. p. 115.

LIN. SYST. *Octo-Decándria, Monogýnia.* Tube of calyx globose; lobes 4-5, short. Flower-bud conical. Petals lanceolate, acute. Stamens 8-10; anthers ovate, obtuse, opening by 1 pore: having their connectives long, but not appendiculated. Capsule free, 2, rarely 3-celled. Seeds cochleate, rough.—American erect herbs. Roots fibrous. Leaves petiolate, 5-

nerved, membranous, ciliately serrated. Panicle terminal, loose, with the branches divaricate. Bracteas small, linear, inserted under the branches. Flowers small, white, or rose-coloured.

* *Flowers octandrous. Leaves not cordate at the base.*

1 S. PALUDÒSA (Mart. herb. ex D. C. l. c.) stems rooting at the base, angular, clothed with rufous hairs, the hairs disposed in a bifarious manner; leaves on short petioles, ovate, acute, ciliately serrated, 3-5-nerved, sparingly pilose; cymes somewhat panicled, short. ⊙. S. Native of Brazil, about Rio Janeiro, in humid sandy places. Rhéxia hexándria, Schrank. mss. Calyx 4-cleft. Stamens 8. Fruit small, globose, puberulous.

Marsh Spennera. Pl. ½ to 1 foot.

2 S. A'NNUA (Mart. herb. ex D. C. l. c.) stem tetragonal; angles rather winged; petioles and leaves sparingly pilose; leaves on short petioles, broadly ovate, acute, 5-nerved, ciliately serrated; panicle oblong; fruit glabrous. ⊙. S. Native of Brazil, in the province of Bahia, in watery places. Melástoma ánnua, Schrank. mss. Very like the preceding species, but smaller in every part, and the petioles are shorter. Leaves 15 lines long and 9-10 broad.

Annual Spennera. Pl. ½ to 1 foot.

3 S. BRACHYBÓTRYA (D. C. l. c.) stem creeping at the base, ascending, erect, angular, rather pilose; angles a little winged; leaves on short petioles, oval, acute, 5-nerved, rather pilose, hardly serrulated; panicle short; fruit glabrous. ⊙. S. Native of Brazil, in marshes. Very like *S. ánnua*, but the leaves are on shorter petioles, and the panicle is shorter and more crowded.

Short-bunched Spennera. Pl. ½ [illegible]

4 S. LATIFÒLIA (D. C. l. c.) stem hardly rooting at the base, erect, angular, pilose; petioles pilose, elongated; leaves ovate, bluntish at both ends, 5-nerved, ciliately serrated, rather pilose beneath; panicle corymbose; fruit glabrous. ⊙. S. Native of Brazil, in marshes. Petioles 8 lines long. Leaves 3 inches long and 1½ broad.

Broad-leaved Spennera. Pl. ½ to 1 foot.

5 S. FRA'GILIS (D. C. prod. 3. p. 115.) suffruticose, quite glabrous; stem tetragonal; angles winged; leaves soft, oval-oblong, acuminated, 3-nerved, ciliately serrated; petiole a little winged; thyrse panicled, loose. ♄. S. Native of Guiana, in shady woods, by the sides of ponds and pools of water. Melástoma frágilis, Rchb. herb. Capsule 2-celled. Flowers white. Leaves almost pellucid.

Brittle Spennera. Pl. ½ to 1 foot.

6 S. PELLU'CIDA (D. C. l. c.) suffruticose; stem tetragonal, branched, smoothish; angles winged; leaves petiolate, ovate, acuminated, obtuse at the base, 5-nerved, ciliately serrated, rather scabrous, pellucid, purplish beneath; thyrse panicled, terminal. ♄. S. Native of Guiana, in humid shady parts of woods. Melàstoma pellùcens, Rich. herb. Lower part of stem rather decumbent. Capsules 2-celled, globosely compressed.

Pellucid-leaved Spennera. Pl. ½ to 1 foot.

7 S. LONGIFÒLIA (Mart. herb. ex D. C. l. c.) stems terete; branches, petioles, and nerves of leaves sparingly pilose; leaves on long petioles, oblong, acuminated, 5-nerved, ciliately serrated. ⊙. S. Native of Para, in Brazil. Very like *S. rubicaúlis* and *S. acuminifòlia*.

Long-leaved Spennera. Pl. ½ to 1 foot.

8 S. RUBRICAU'LIS (Mart. herb. ex D. C. l. c.) stems terete, and are as well as the petioles and leaves beset with spreading hairs; leaves petiolate, oval-ovate, long-acuminated, 5-nerved, ciliately serrated; panicle elongated. ⊙. S. Native of Brazil, in the province of Bahia, in woods at the river Hahype. Melástoma rubricaúle, Schrank, mss. Petioles hispid. Stems purplish. Petals white. Anthers red.

Red-stemmed Spennera. Pl. ½ to 1 foot.

9 S. ACUMINIFÒLIA (Mart. herb. ex D. C. l. c.) smoothish; stem terete, and is as well as the leaves sparingly pilose; leaves oval-oblong, acuminated, 5-nerved, ciliately serrated; panicles loose, in the forks of the branches. ⊙. S. Native of Brazil. Very like *S. rubricaúlis* and *S. ánnua*, but differs from both in the smoothness and narrowness of the leaves.

Acuminate-leaved Spennera. Pl. ½ to 1 foot.

10 S. CIRCÆOÌDES (Mart. et Schrank. mss. ex D. C. l. c.) branches quadrangular; hairs scattered, capitulate at the apex; leaves petiolate, ovate, acuminated, ciliately serrulated, 3-nerved, membranous, glabrous on both surfaces, shining above; thyrse oblong, with its branches opposite; tube of calyx rather urceolate, with short, subulate lobes. ♄. ? S. Native of Brazil, about Ega, at the river Amàzon. Flowers small, white. Petals oblong. Four of the anthers are oblong-obovate, and the other 4 shorter, all very blunt: with the connectives hardly drawn out. Leaves like those of *Circæ'a*. Fruit unknown.

Circæa-like Spennera. Sh. ½ to ¾ foot.

11 S. LA'XA (D. C. l. c.) shrubby, weak, hispid in every part from glandular hairs; branches tetragonal; leaves petiolate, ovate, acuminated, obtuse at the base, 5-nerved, ciliated; thyrse panicled, loose, terminal, many-flowered; calyx with an ovate tube, and short acute lobes. ♄. S. Native of French Guiana in shady marshy places of woods. Melástoma láxa, Rich. herb. Capsule 2-celled. Flower-bud acute. Petals apiculated by a short hair each.

Loose Spennera. Pl. ½ to 1 foot.

* * *Flowers octandrous. Leaves cordate at the base.*

12 S. CIRCÆIFÒLIA (D. C. l. c.) stem branched; branches quadrangular, pilose; leaves cordate, ovate-oblong, acuminated, 5-nerved, ciliately serrated, glabrous above and shining, rather pilose beneath; branches of panicle short; capsule 2-celled. ⊙. S. Native of Brazil, in woods. Rhéxia circæifòlia, Humb. et Bonpl. rhex. p. 101. t. 39. Flowers white.

Circæa-leaved Spennera. Pl. 1 foot.

13 S. AQUA'TICA (Mart. herb. ex D. C. l. c.) stem branched; branches quadrangular, pilose; leaves cordate, ovate-oblong, somewhat acuminated, serrated, 5-nerved, glabrous above, but covered with adpressed pili on the nerves beneath; branches of panicle elongated, filiform, loose; capsule 3-celled. ♄. S. Native of Brazil, West Indies, and Guiana, in marshes and bogs. Rhéxia aquática, Swartz, fl. ind. occ. 2. p. 650. Bonpl. rhex. p. 104. t. 40. E. Meyer, in act. bonn. 12. p. 650. Melástoma aquática, Aubl. guian. 1. p. 430. t. 169. Petals oblong, acute, white, shorter than the genitals. Anthers reddish. Capsule nearly globose.

Aquatic Spennera. Shrub ½ to 1 foot.

14 S. POLYSTA'CHYA (D. C. l. c.) stem much branched; branches beset with glandular pili; leaves cordate, ovate, acute, sharply serrated, ciliated, 5-7-nerved, rather pilose; flowers remote along the branches of the panicle; capsule 2-celled. ⊙. S. Native of Brazil, in humid parts of woods. Rhéxia polystàchya, Bonpl. rhex. p. 98. t. 38. Tube of calyx elliptically campanulate. Petals oblong. Capsule spherical, compressed. Flowers white.

Many-spiked Spennera. Pl. 1 foot.

15 S. INDECÒRA (D. C. l. c.) stem branched; branches quadrangular, hairy; leaves cordate, acuminated, serrulated, ciliated, pilose on both surfaces; branches of panicle dichotomous, hairy; flowers pedicellate; calyx clothed with glandular pili, with 4 short teeth. ♃. ? S. Native of Brazil. Rhéxia indecòra, Bonpl. rhex. p. 131. t. 49. Flowers small, white. Leaves like those of *Circæ'a lutetiàna*. Petals ovate, obliquely mucronate. Capsule unknown.

Indecorous Spennera. Pl. 1 to 2 feet.

16 S. SILENIFLÒRA (D. C. l. c.) stem branched; branches quadrangular, glabrous; leaves obsoletely cordate, oblong, acu-

minated, serrulated, ciliated, 5-nerved; flowers sessile, along the branches of the dichotomous panicle; calyx with an inflated, glabrous tube, and 4 hardly manifest lobes. ♃. ? S. Native of Brazil. Rhéxia sileniflòra, Bonpl. rhex. p. 130. t. 48. Flowers small, white. Petals ovate, obliquely mucronate. Capsule unknown. This and the preceding species have been placed in this genus from their habit, the capsules being unknown.

Catchfly-flowered Spennera. Pl. 1 to 2 feet.

* * * *Flowers decandrous.*

17 S. PENDULIFÒLIA (D. C. l. c.) leaves cordate, oval-lanceolate, 5-nerved, denticulated, pendulous, quite glabrous; panicle terminal, much branched; flowers decandrous, minute; capsule 3-celled. ♃. S. Native of Guiana. Rhéxia pendulifòlia, Bonpl. nav. p. 68. t. 26. Calyx with an ovate-roundish tube and 5 linear lobes. Petals oval. Connectives of anthers not auricled. Capsule globose. Habit of *S. aquática*.

Pendulous-leaved Spennera. Pl. ½ to 1 foot.

18 S. GLANDULÒSA (D. C. l. c.) leaves oval, crenulated, quite glabrous on both surfaces, 3-5-nerved: flowers usually solitary, terminal, and axillary, small; capsule 3-celled. ♄. S. Native of Guiana. Rhéxia glandulòsa, Bonpl. nav. p. 70. t. 27. Calyx with a subglobose tube: and linear-oblong lobes, which are much longer than the tube. Petals ovate, white, with 2 spots at the base of each. Filaments red. Connectives of anthers biglandular.

Glandular-stamened Spennera. Shrub ½ to 1 foot.

19 S.? CHÆ'TODON (D. C. l. c.) shrubby; branches terete, smoothish; petioles ciliated with long hairs in front; leaves oblong, acuminated, membranous, somewhat serrulated, glabrous, triple-nerved; panicles axillary, divaricate, capillary; calyx pilose, urceolate, narrowed at the neck: having its lobes setaceous; capsule 3-4-celled. ♄. S. Native of Brazil, in dense woods, in the province of Rio Negro. Melástoma chætodon, Schrank et Mart. mss. Flowers small. Leaves 4-6 inches long.

Hair-toothed-calyxed Spennera. Shrub ½ to 1 foot.

Cult. Pretty little plants, native of marshes and bogs. The species grow best in a mixture of peat and sand, and the pots in which they are grown should be kept in pans of water. The greater part are annuals, and even those called shrubby will not survive more than a season in our stoves; therefore they are all to be increased by seeds. The seeds should be sown in pots filled with the same kind of mould recommended for the plants, placing them in a hot-bed, where they should be kept rather moist; and when the plants are coming into flower they should be removed from the hot-bed to shelves in the stove.

XX. MICROLI'CIA (from μικρος, *micros*, small, and ηλικια, *elikia*, stature; all the plants contained in this genus are humble in stature). D. Don, in wern. soc. mem. 4. p. 301. D. C. prod. 3. p. 117.

LIN. SYST. *Decándria, Monogýnia.* Calyx with a globose or obovate tube, and 5 subulate permanent lobes. Petals 5, obovate. Anthers alternately dissimilar, ovate, ending in short beaks, opening by 1 pore; having their connectives drawn out into a simple blunt spur at the articulation, those in the longer anthers long, and those in the shorter anthers short. Capsule dry, 3-celled, 3-valved, but in a few 2-celled and 2-valved. Seeds cochleate.—Herbs or subshrubs, natives of Brazil and Guiana, in marshes and bogs, and all humid places. Stems branched. Leaves sessile, quite entire, linear or oval, hardly 3-nerved. Flowers purple, terminal or axillary, pedicellate, usually solitary.

* *Annual plants.*

1 M. BREVIFÒLIA (D. C. l. c.) glabrous; stem straight, tetragonal; leaves oblong, quite entire, 3-nerved, lower ones obtuse, upper ones acute; flowers terminal, on short pedicels, solitary; lobes of calyx subulate, longer than the tube; capsule 3-valved. ⊙. B. S. Native of Guiana, in marshes. Melástoma triválvis, Aubl. guian. 1. p. 406. t. 155. f. b. Rhéxia triválvis, Vahl. eclog. 1. p. 38. Rhéxia brevifòlia, Rich. herb. Upper branches rather panicled. Petals ovate, length of the lobes of the calyx, white. Capsule ovate. Seeds cochleate.

Short-leaved Microlicia. Pl. 1 to 2 feet.

2 M. BIVA'LVIS (D. C. l. c.) glabrous; stem straight, tetragonal, hardly branched at the apex; leaves oval, obtuse, 3-nerved, quite entire; flowers terminal, solitary, on short pedicels; lobes of calyx subulate, longer than the tube; capsule 2-valved. ⊙. B. S. Native of Guiana, in marshes. Melástoma biválvis, Aubl. guian. 1. p. 406. t. 155. f. a. Rhéxia biválvis, Vahl. eclog. 1. p. 38. Corolla white.

Two-valved Microlicia. Pl. ½ foot.

3 M. INUNDA'TA (D. C. l. c.) erect; stems tetragonal, glabrous at the base, but beset with glandular hairs above, as well as the pedicels and calyxes; leaves ovate, obtuse, 3-nerved, entire, glabrous, upper ones clothed with glandular down; flowers solitary, pedicellate; tube of calyx ovate, rather shorter than the lobes, which are linear-lanceolate. ⊙. B. S. Native of Brazil, in watery places. Rhéxia inundàta, Schrank et Mart. mss. Capsule 2-valved. Seeds cochleate. Perhaps sufficiently distinct from *M. biválvis*.

Inundated Microlicia. Pl. ½ foot.

* * *Herba[illegible]ous, perennial, or suffruticose plants.*

4 M. LIMNÒBIO[illegible].) herbaceous, rooting at the base, hairy from glandu[illegible]stles; leaves roundish, sessile, rather cordate at the base, quite entire, smoothish; flowers pedicellate; calyx with an obovate tube, and 5 linear lobes; capsule 2 or 3-celled. ♃. B. S. Native of Brazil, in water. Rhéxia limnòbios, Schrank et Mart. mss. Flowers red.

Lake-living Microlicia. Pl. ½ foot.

5 M. ALSINEFÒLIA (D. C. l. c.) herbaceous, ascending, a little branched; stems tetragonal, hispid; leaves on short petioles, rather orbicular, somewhat cordate at the base, acutish at the apex, 5-nerved, almost quite entire, ciliated, rather pilose on both surfaces, appearing pitted from dots on the upper surface when examined by a lens; flowers solitary, terminating the branchlets; calyx rather hairy, with an ovate tube, and 5 linear lobes, which are longer than the tube; anthers retuse, dissimilar. ♃. B. S. Native of Brazil, in elevated places in the province of Minas Geraes. Rhéxia alsinefòlia, Mart. et Schrank, mss. Petals obovate, purplish. Anthers 10, the 5 longest having long connectives, and the 5 shortest having short connectives, all 2-lobed at the articulation.

Chickweed-leaved Microlicia. Pl. ½ foot.

6 M. PUNCTATÍSSIMA (D. C. prod. 3. p. 118.) plant somewhat herbaceous, much branched, hispid from glandular pili in every part; branches tetragonal; leaves petiolate, ovate, acute, ciliately subserrated, 3-nerved, appearing pitted from dots on the upper surface when examined by a lens; flowers solitary, axillary, and terminal, on short pedicels; calyx with a globose tube, equal in length to the linear lobes; anthers dissimilar. ♃. B. S. Native of Brazil, in moist meadows in the province of Minas Geraes. Rhéxia punctatíssima, Mart. et Schrank, mss. Allied to *M. alsinefòlia*. Capsule ovate, 3-celled, 3-valved. Seeds obovate, truncate at one end.

Var. β, angustifòlia (D. C. l. c.) leaves oblong, almost quite entire.

Much-dotted-leaved Microlicia. Pl. ½ foot.

7 M. RECU'RVA (D. C. l. c.) plant herbaceous, branched, beset with glandular pili in every part; stem and branches tetragonal; leaves petiolate, ovate, somewhat crenated, deflexed, acutish, 3-

nerved; flowers solitary, hardly pedicellate in the axils, and on the tops of the branches. ♃. B. S. Native of Cayenne. Rhéxia recúrva, Rich. act. soc. hist. nat. par. 1792. p. 108. Poir. suppl. 6. p. 6. Rhéxia uniflòra, Vahl. symb. 2. p. 48. but not of Raddi. Melástoma diffùsa, Desr. in Lam. dict. 4. p. 38. Rhéxia uniflòra, recúrva, and diffùsa, Spreng. syst. no. 21. 35. and 84. Stems erect or somewhat decumbent. Calyx globose; lobes 5, subulate. Petals small. Capsule 3-celled, glabrous. Seeds cochleate, muricated.

Recurved Microlicia. Pl. 1 foot.

8 M. VARIA'BILIS (Mart. mss. ex D. C. l. c.) suffruticose, erect; branches tetragonal, beset with glandular pili; leaves almost sessile, broadly ovate, acute, ciliately serrated, pilose on both surfaces, 3-nerved; flowers pedicellate, axillary and terminal, solitary; calyx rather hairy, with a globose tube, and linear subulate lobes, which are about equal in length to the tube; anthers dissimilar. ♄. B. S. Native of Brazil, in alpine meadows in the provinces of St. Paul and Minas Geraes. Anthers as in *M. alsinefòlia.* Flowers rose-coloured.

Var. β, radìcans (Schrank et Mart. mss. ex D. C. l. c.) plant herbaceous, erect, rooting at the base, and less pilose than the species. ♃. B. S. Native of marshes, especially at Serro Frio.

Var. γ, herbàcea (Schrank et Mart. mss. ex D. C. l. c.) plant herbaceous, ascending, rooting at the base, smoothish in every part; flowers axillary, almost sessile. ♃. B. S. Native of the province of St. Paul, in bogs. Rhéxia cordàta, Spreng. neue entd. 1. p. 301. Rhéxia variábilis, Mart. et Schrank, mss. Very like variety β, and truly decap[illegible]ous. Perhaps a proper species. Flowers bluish r[illegible]

Variable Microlicia. Pl. 1 foot.

9 M. LANCEÆFLÒRA (D. C. prod. 3. p. 118.) suffruticose, much branched, erect, hispid from glandular pili in every part; leaves on short petioles, ovate, ciliately serrated, 3-nerved; pedicels axillary, 3-flowered, disposed in an elongated thyrse; tube of calyx cylindrical, a little longer than the lobes, which are 5 and linear; petals oblong; anthers elongated, with their connectives hardly drawn out. ♄. B. S. Native of Brazil, in inundated parts of meadows, particularly in the province of St. Paul. Rhéxia lanceæflòra, Mart. et Schrank, mss. Plant almost like that of *M. variábilis*, but the flowers are much more numerous, and the calyxes tubular; the petals 3 times the length of their breadth. Flower-bud lanceolate. Longer anthers rather unequal among themselves, with their connectives long, but hardly drawn out at the articulation.

Lance-flowered Microlicia. Shrub ½ to 1 foot.

10 M. VIOLA'CEA (D. C. prod. 3. p. 118.) suffruticose, hispid from glandular hairs; leaves sessile, broadly ovate, quite entire, 5-nerved, full of pitted dots on the upper surface when examined by a lens; flowers axillary, solitary, almost sessile; tube of calyx globose, about equal in length to the oblong-linear lobes; petals oblong; anthers elongated, dissimilar. ♄. S. Native of Brazil, on the high mountains in the province of Minas Geraes. Rhéxia violàcea, and perhaps also Rhéxia viscídula, Schrank et Mart. mss. The leaves resemble those of *M. alsinefòlia* and *M. punctatíssima;* anthers and petals those of *M. lanceæflòra.* The five longer anthers have long connectives, which are drawn out into a small blunt 2-lobed appendage each; the five shorter ones have short connectives, which are hardly tumid at the base.

Violaceous-flowered Microlicia. Shrub ½ to 1 foot.

11 M. SERPYLLIFÒLIA (D. Don, in mem. wern. soc. 4. p. 301.) shrubby; leaves elliptic, acute, spreading, downy on both surfaces, as well as the branchlets; flowers solitary, pedicellate; calyxes pubescent. ♄. S. Native of Brazil. Stem erect, much branched. Branches tetragonal. Leaves obsoletely 3-nerved, about the size of those of wild-thyme. Flowers purple.

Wild-thyme-leaved Microlicia. Sh. ½ foot.

12 M. GRAVE'OLENS (D. C. prod. 3. p. 119.) suffruticose, diffusely branched; branches somewhat tetragonal, beset with glandular hairs; leaves sessile, ovate, acute, 3-nerved, obsoletely serrated, full of setose dots on both surfaces; flowers axillary, sessile, solitary, crowded at the tops of the branches; tube of calyx 10-furrowed, beset with glandular bristles, longer than the lobes, which are 5, lanceolate and acute; anthers dissimilar. ♄. B. S. Native of Brazil, in the province of Minas Geraes, on the mountains and in irrigated parts of meadows. Rhéxia gravèolens, Mart. et Schrank, mss. Leaves 2 lines long. Petals violaceous. Anthers 10, ovate, with short blunt beaks: having the connectives of 5 drawn out into a dilated somewhat 2-lobed appendage each, those of the other 5 short. Capsule ovate-conical, 3-celled, 3-valved. Seeds somewhat cochleate. Plant with a heavy scent.

Strong-scented Microlicia. Sh. ½ to 1 foot.

13 M. MARIFÒLIA (D. Don, mem. wern. soc. 4. p. 301.) shrubby; leaves decussate, ovate, bluntish, 3-nerved, on short petioles, downy on both surfaces, as well as the branches; flowers axillary, solitary, pedicellate. ♄. S. Native of Brazil: An erect, much branched, leafy shrub, with tetragonal branches and obsoletely crenulated leaves. Calyx downy.

Cat-thyme-leaved Microlicia. Sh. ½ foot.

14 M. JUNGERMANNIOÌDES (D. C. l. c.) shrubby; branches hispid; leaves sessile, ovate, ciliately serrated, 5-nerved, smoothish above, but bristly beneath; flowers usually solitary, axillary, and terminal; calyx setigerous, with the tube globose, and the lobes linear-subulate, about equal in length to the tube; anthers dissimilar. ♄. S. Native of Brazil, in the province of Minas Geraes, on the Diamond Mountains. Rhéxia jungermannioìdes, Mart. et Schrank, mss. The bristles on the upper part of the plant are glandular. Leaves like those of *Bétula nàna.* Petals violaceous. Anthers 10, ovate-oblong, ending each in a short cucullate beak: 5 of which have their connectives longer than the anthers; those of the other 5 short. Capsule ovate-globose, 3-valved.

Jungermannia-like Microlicia. Sh. ½ to 1 foot.

15 M. SUBSETÒSA (D. C. l. c.) stem shrubby; branches terete, bristly; leaves sessile, oblong-ovate, acutish, quite entire, finely 3-nerved, full of glandular dots on both surfaces, and with a few bristles on the margins and nerves; flowers terminal, solitary, sessile, decandrous; calyx full of glandular dots, having 5 oblong rather bristly lobes. ♄. S. Native of Brazil, on the mountains. Rhéxia setòsa, Schrank et Mart. mss. but not of Spreng. Leaves 2-3 lines long. Petals purple. Anthers yellow, beaked: having their connectives drawn out at the articulation into a blunt appendage each, 3-times the length of the anthers. From habit this species is allied to *M. variolòsa.*

Subsetose Microlicia. Sh. ½ to 1 foot.

16 M. SERINGEA'NA (D. C. l. c.) shrubby, hispid from yellowish hairs; branches tetragonal; leaves sessile, ovate, serrated, approximate, somewhat 3-nerved, full of glandular and pellucid dots, hairy; flowers solitary, sessile, terminal; calyx hairy, with a turbinate 10-ribbed tube, and 5 triangular lobes; anthers dissimilar. ♄. S. Native of Brazil. Rhéxia Seringeàna, Mart. herb. Petals purple, ciliated when young. Anthers 10, oval, bluntly beaked, 5 with long connectives, which are appendiculated at the base. Capsule 3-celled, permanent. Allied to *M. variolòsa*, but distinct.

Seringe's Microlicia. Sh. ½ to 1 foot.

17 M. VESTÌTA (D. C. l. c.) shrubby, branched; branchlets filiform, rather hairy from small pili; leaves sessile, somewhat imbricated in four rows, ovate, acute, quite entire, somewhat 3-nerved, smoothish above, beset with long adpressed bristles or

villi beneath, and on the margins; flowers solitary, on short pedicels in the axils of the upper leaves; calyx bristly, with an urceolate tube and a 5-toothed limb; anthers dissimilar. ♄. S. Native of Brazil, in the province of Bahia, on the mountains. Rhéxia vestìta, Schrank et Mart. mss. Petals purplish. Leaves 2 lines long. Anthers ovate, terminating in short beaks; with the connectives appendiculate, the appendages in 4 filiform, and in the other 4 they are dilated and blunt.

Clothed Microlicia. Sh. ½ to 1 foot.

18 M. VARIOLÒSA (D. C. prod. 3. p. 119.) shrubby, branched, erect; branches tetragonal; leaves sessile, ovate, oval or oblong, quite entire, somewhat 3-nerved, full of glandular dots on both surfaces; flowers solitary, axillary or subterminal, on short pedicels; calyx turbinate, with 5 triangularly oblong lobes, which are hardly shorter than the tube; anthers dissimilar. ♄. S. Native of Brazil and Peru. Leaves 2-4 lines long, and 1½ to 3 broad. Capsule ovate, 3-celled, 3-valved. Seeds oblong, kidney-shaped, dotted when examined with a lens.

Var. α, hirsùta (D. C. l. c.) branches and leaves villous on both surfaces, or velvety. The Rhéxia fasciculàta, virgulàta, thymifòlia, baccharoìdes, euphorbioìdes, aviculàris, hirsùta, venaista, and enérvia of Schrank and Mart. mss. are probably only variations of the same.

Var. β, glàbra (D. C. l. c.) branches rather hispid; leaves glabrous. The Rhéxia elachistophýlla, Cochobámbæ, altérnans, and variolòsa of Schrank et Mart. mss. are probably variations of this plant.

Variolose Microlicia. Sh. ½ to 1 foot.

19 M. GLA'BRA (D. C. prod. 2. p. 120.) shrubby, much branched, glabrous on both surfaces; branches fastigiate, tetragonal; leaves sessile, oval-oblong, acute, quite entire, hardly 3-nerved at the base, full of depressed dots on both surfaces; flowers on short pedicels, axillary and terminal, solitary; calyx with an obovate tube: and 5 lobes, which are triangular at the base, and subulate at the apex, hardly shorter than the tube; anthers dissimilar. ♄. S. Native of Brazil. This is an intermediate species between *M. variolòsa* and *M. scopària*. Perhaps the same as *M. linophýlla*.

Glabrous Microlicia. Sh. ½ to 1 foot.

20 M. LINOPHY'LLA (D. Don, l. c.) shrubby, much branched, glabrous; leaves lanceolate, awned, flat, quite entire, 3-nerved, glabrous; flowers solitary, nearly sessile, terminal or axillary. ♄. S. Native of Brazil. Shrub erect, twiggy, with tetragonal branches. Leaves spreading. Calyx glabrous.

Flax-leaved Microlicia. Sh. ½ to 1 foot.

21 M. SCOPA'RIA (D. C. l. c.) suffruticose, much branched, quite glabrous; branches fastigiate, tetragonal, erect; leaves sessile, linear-subulate, quite entire, rather fleshy, nerveless, channelled above; flowers solitary, terminal, on short pedicels; calyx with a cylindrically turbinate tube: and 5 linear-subulate lobes, which are about equal in length to the tube; anthers dissimilar. ♄. S. Native of Brazil, in the province of Minas Geraes in sandy fields on the tops of the highest mountains. Rhéxia scopària, Aug. St. Hil. in Bonpl. rhex. p. 152. t. 59. Leaves 2-3 lines long. Petals purple. Anthers 10, oblong, the 5 smaller ones ending in a short cylindrical appendage each, and having their connectives drawn out into an arched thread. Ovarium 3-celled, many-seeded.

Broom Microlicia. Sh. 1 to 2 feet.

22 M. ISOPHY'LLA (D. C. l. c.) fruticulose, much branched, glabrous; branches fastigiate, filiform, tetragonal; leaves sessile, oblong-subulate, quite entire, 1-nerved, full of pitted dots; flowers solitary, terminal; tube of calyx turbinate; lobes subulate, longer than the tube. ♄. S. Native of Brazil, in the province of Minas Geraes, in the high sandy pastures on the mountains. Rhéxia isophýlla, and R. uncàta, Schrank and Mart. mss. Very like *M. scopària*. Capsule 3-4-celled. Anthers dissimilar, ovate, beaked: in the longer ones the connective is drawn out into a long, cuneiform, rather emarginate appendage, but in the others it is short and blunt at the articulation.

Equal-leaved Microlicia. Sh. 1 foot.

23 M. ARISTA'TA (D. C. prod. 3. addend. p. 484.) fruticulose, much branched, glabrous; branches tetragonal; leaves linear, quite entire, slightly 3-nerved, full of dots on both surfaces, ending in an awn, like the calycine lobes; flowers axillary, solitary, and terminal tern, almost sessile; calyx oblong, 10-ribbed. ♄. S. Native of Brazil, in the province of Minas Geraes on the mountains, particularly on Serro Frio. The habit of the plant is almost that of *Lythrum* or *Saturéja*. Anthers ovate-oblong, terminated by a tubular beak each; the connectives of the 5 longer ones long, and calcarate at the base. Capsule 3-celled. Seeds cochleate, permanent around the axis.

Arned-calyxed Microlicia. Pl. ½ to 1 foot.

24 M. ERICOÌDES (D. Don, l. c. p. 302.) shrubby; leaves linear, mucronate, flat, loose; flowers twin; calyx glabrous. ♄. S. Native of Brazil. Stems numerous, ascending, tetragonal, almost simple, tufted, rising from a thick root. Rhéxia ericoìdes, Spreng. is distinct from this plant, and is probably referrible to the genus *Chætóstoma*.

Heath-like Microlicia. Sh. ½ to 1 foot.

25 M. CUPRE'SSINA (D. Don. l. c.) shrubby; leaves lanceolate, pungent, numerous, imbricate, marginate; flowers solitary; calyx hispid. ♄. S. Native of Brazil. Stem erect, much branched; branches terete, slender, proliferous, full of leaves at the apex, but naked below.

Cypress-like Microlicia. Sh. ½ 1 to foot.

26 M. TRICHOC[illegible]. C. l. c.) shrubby, much branched, smoothish; branches tetragonal; leaves sessile, oblong-linear, acute, almost quite entire, usually 3-nerved, glabrous, full of glandular dots beneath; floral and calyx leaves bearing long distant stiff hairs; calyx subglobose, with 5 subulate lobes; anthers dissimilar. ♄. S. Native of Brazil, in the province of Minas Geraes, on Mount Grao-mayor, at the height of 4000 feet. Rhéxia trichocalycìna, Mart. et Schrank, mss. Leaves longer and more spreading than those of *M. scopària*, to which the present plant is nearly allied. Petals purple. Anthers 10, ovate, with short beaks: 5 of which have their connectives appendiculate. Capsule 3-celled. Seeds oblong, rather incurved, dotted when examined by a lens.

Hairy-calyxed Microlicia. Sh. 1 foot.

27 M. ARENARIÆFÒLIA (D. C. l. c.) suffruticose, much branched, quite glabrous; branches slender, terete; leaves sessile, linear, acuminated, quite entire, almost veinless; flowers on short pedicels, axillary, solitary; lobes of calyx 5, linear-subulate, longer than the tube; capsule 3-valved. ♄. S. Native of Peru, at Cochobambo. Rhéxia arenariæfòlia, Mart. et Schrank, mss. Flower-bud oblong, acute. Stamens unknown. Flowers unknown.

Sand-wort-leaved Microlicia. Sh. ¼ to ½ foot.

28 M. SETÒSA (D. C. l. c.) fruticulose; branches glabrous, fuscous, knotted; leaves almost sessile, full of dots, quite glabrous, linear-oblong, obsoletely 3-nerved, bristly; peduncles very short, axillary, and terminal; calyx campanulate, with 5 linear spreading teeth, each terminating in a bristle. ♄. S. Native of Brazil. Rhéxia setòsa, Spreng. neue. entd. 1. p. 304.

Bristly Microlicia. Sh. ½ to 1 foot.

Cult. All the species are dwarf plants, growing in inundated places of meadows. Some of them, therefore, require to be grown as subaquatic plants, that is, in pans filled with a mixture of peat and sand in the bottom, and filled up with water, but the water should not rise higher than an inch or an inch and a half above the soil; others require to be grown in pots, placed in pans of water. The species are increased by seeds or dividing.

XXI. ERNE'STIA (in honour of Ernest Meyer, author of primitiæ Floræ Essequeboensis Gottingen. 4to. 1818.) D. C. prod. 3. p. 121.

Lin. syst. *Octándria, Monogýnia.* Calyx with a globose tube, and 4 narrow acuminated lobes. Petals 4, obovate, ciliated. Anthers triquetrous, drawn out at the base into 2 long bristles each. Capsule 4-celled. Seeds unknown.—Herb, with the habit of *Spennèra*, but differs in the form of the anthers, which are anomalous in this genus, and in the capsule being 4-celled.

1 E. TENE'LLA (D. C. l. c.) ⊙. S. Native of New Granada, on Mount Quindiu in shady places. Leaves cordate, oval, acuminated, setosely denticulated, 5-nerved. Flowers panicled, octandrous. Calyx clothed with glandular pili; tube ovate; lobes ovate, ending in long points. Petals obovate, white. Genitals longer than the corolla. Style subclavate.

Slender Ernestia. Pl. ½ to 1 foot.

Cult. For culture and propagation see *Spénnera*, p. 743.

XXII. SIPHANTHE'RA (from σιφων, *siphon*, a tube, and ανϑηρα, *antheia*, an anther; in reference to the anthers, which terminate in a long tubular beak). Pohl. pl. bras. 1. p. 102. D. C. prod. 3. p. 121.

Lin. syst. *Tetrándria, Monogýnia.* Calyx campanulate, 4-toothed, girded by many bracteas; bracteas permanent. Petals 4, orbicular. Stamens 4, exserted; anthers oblong, furnished with an obcordate ascending process at the base, and a tubular beak at the apex. Ovarium adnate to the calyx at the base. Style filiform. Capsule depressed, 2-celled, 2-valved, obcordate at the apex. Seeds numerou[illegible] ate or ovate, rather convex on one side, reticulated.—Small elegant annual herbs, clothed with glandular hairs. Leaves opposite, sessile, toothed, feather-nerved. Flowers crowded into axillary and terminal heads; with rose coloured or white petals, and blue anthers.

1 S. CORDA'TA (Pohl. pl. bras. 1. p. 183. t. 84.) leaves broad, cordate, upper ones narrower, serrated, villous; fascicles many-flowered, on short peduncles; bracteas ovate, toothed, inner ones narrow; beak of anthers long and attenuated. ⊙. S. Native of Brazil, in the province of Goyaz, in boggy meadows on the tops of the mountains. Rhéxia veronicæfòlia, Mart. herb. Stem reddish. Branches somewhat tetragonal. Petals rose-coloured.

Cordate-leaved Siphanthera. Pl. ½ to 1 foot.

2 S. TE'NERA (Pohl. pl. bras. 1. p. 104. t. 85. a.) leaves roundish-ovate, unequally toothed; fascicles of flowers on long peduncles; bracteas ovate, acute, terminated by a long hair each; beaks of anthers very short. ⊙. S. Native of Brazil, on the tops of mountains in the province of Goyaz. Branches tetragonal. Petals white, spotted with red at the base.

Tender Siphanthera. Pl. ½ foot.

3 S. SU'BTILIS (Pohl. l. c. p. 105. t. 85. f. b.) leaves oblong-ovate, acutish, unequally denticulated; fascicles of flowers on long peduncles; bracteas oblong, denticulated, terminated by a long hair each; beaks of anthers rather elongated. ⊙. S. Native of Brazil, in the province of Goyaz, on sandy parts of mountains, particularly between Corimba and Rio St. Marcos. Branches tetragonal. Corolla white.

Subtile Siphanthera. Pl. ½ foot.

Cult. All the species are elegant little annual plants. Their culture and propagation are the same as that for *Spénnera*, p. 743.

XXIII. RHE'XIA (from ῥηξις, *rhexis*, a rupture; supposed to cure by its astringent qualities). R. Br. ex D. Don, mem. soc. wern. 4. p. 297. Nutt. gen. amer. 1. p. 244.—Rhéxia species, Lin. Bonpl. and Seringe.

Lin. syst. *Octándria, Monogýnia.* Tube of calyx ovate and ventricose at the base (f. 109. *a.*), but constricted at the neck at the apex (f. 109. *b.*); limb 4-cleft (f. 109. *b.*), permanent. Petals 4, obovate. Stamens 8 (f. 109. *c.*). Anthers not drawn out at the base. Capsule free in the bottom of the calyx, 4-celled, with lunate pedicellate placentas. Seeds cochleate.—Smooth North American herbs. Stems erect, quadrangular. Leaves sessile, quite entire, linear-lanceolate, or ovate, 3-nerved. Flowers by threes, disposed in cymose corymbs, purple or yellow.

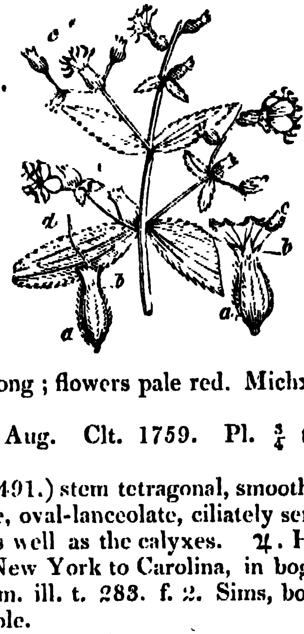


FIG. 109.

1 R. MARIA'NA (Lin. spec. 491.) stem terete, hairy; leaves on short petioles, lanceolate, acute at both ends 3-nerved; calyx smoothish. ♃. H. Native of North America, in sandy woods from New Jersey to Carolina; also in Maryland, and probably in Louisiana, if R. Ludoviciàna, Rafin. fl. lud. p. 92. be the same. Lodd. bot. cab. t. 366.—Pluk. alm. t. 428. f. 1. Lam. ill. t. 283. f. 1.

Var. α, purpùrea; leaves narrow-lanceolate or oblong; flowers deep purple. Michx. fl. bor. amer. 1. p. 221.

Var. β, rubélla; leaves oval-oblong; flowers pale red. Michx. l. c. Sweet, fl. gard. t. 41.

Maryland Rhexia. Fl. June, Aug. Clt. 1759. Pl. ¾ to 1 foot.

2 R. VIRGI'NICA (Lin. spec. p. 491.) stem tetragonal, smoothish; angles winged; leaves sessile, oval-lanceolate, ciliately serrated, 3-nerved, rather hispid, as well as the calyxes. ♃. H. Native of North America, from New York to Carolina, in bogs and woods in humid places. Lam. ill. t. 283. f. 2. Sims, bot. mag. t. 968. Flowers small, purple.

Var. β, septemnérvia (Walt. fl. car. p. 130.) leaves 5-7-nerved. ♃. H. R. Virgínica gigántea, Poir. dict. 6. p. 1.

Virginian Rhexia. Fl. June, Aug. Clt. 1759. Pl. ¾ foot.

3 R. CILIÒSA (Michx. fl. bor. amer. 1. p. 221.) stem somewhat quadrangular, smooth; leaves on short petioles, oval, glabrous beneath, but with a few hairs above and ciliated on the margins; flowers growing by threes, sessile, involucrated. ♃. H. Native of Lower Carolina, in marshes. Pursh, fl. amer. sept. 1. t. 10. Sweet, fl. gard. 298.—Pluk. amalth. t. 425. f. 4. ex Nutt. gen. amer. 1. p. 243. R. petiolàta, Walt. car. 130.? Leaves small. Flowers large, reddish purple. Anthers short. Calyx when in fruit rather globose at the base.

Ciliated Rhexia. Fl. June, Aug. Clt. 1812. Pl. ½ to 1½ foot.

4 R. SERRULA'TA (Nutt. gen. amer. 1. p. 243.) stem quadrangular, smooth; leaves on short petioles, roundish-ovate, smooth on both surfaces, rather ciliated at the base, and with the margins serrated; flowers pedunculate, ciliated; calyx beset with glandular hairs; the lobes acute. ♃. H. Native of Georgia and Florida, in open marshes. Very like *R. ciliòsa.* Flowers purple, subcorymbose.

Serrulated-leaved Rhexia. Pl. ¾ foot.

5 R. GLABE'LLA (Michx. fl. bor. amer. 1. p. 222.) stems terete, smooth; leaves sessile, erect, lanceolate, smooth, finely denticulated or entire (ex Nutt.); flowers subcorymbose; calyx beset with glandular hairs. ♃. H. Native of Carolina and Georgia, in sandy humid woods. Bonpl. rhex. t. 44. Flowers large, pale purple. Root tuberous.

Var. β; leaves obovate. R. Alifànus, Walt. car. p. 131. ex Pursh, fl. bor. amer. 1. p. 258.

Smooth Rhexia. Pl. 4 feet.

6 R. STRI'CTA (Pursh, fl. amer. sept. 1. p. 258.) stem straight, tetragonal, glabrous, but bearded at the joints; angles winged;

leaves sessile, erect, narrow-lanceolate, tapering into an acumen at the apex, 3-nerved, glabrous on both surfaces; corymbs dichotomous; calyxes smoothish. ♃. H. Native of Georgia and Lower Carolina, in humid places. Flowers purple. Very like the variety of *R. glabélla* according to Nutt. gen. amer.

Straight Rhexia. Pl. ¾ to 1 foot.

7 R. lu'tea (Michx. fl. bor. amer. 1. p. 222.) stem quadrangular, hispid; leaves furnished with a few long hairs, lower ones cuneate-oblong, obtuse; upper ones lanceolate; calyx marginated, with the lobes acute; anthers short. ♃. F. Native of Georgia and Florida. Flowers yellow. Petals oval, obtuse.

Yellow-flowered Rhexia. Pl. ½ to ¾ foot.

8 R. angustifòlia (Nutt. gen. amer. 1. p. 244.) stem nearly terete, hairy; leaves linear-lanceolate, sometimes oblong, hairy, bearing smaller leaves in the axils; flowers cymose; cymes bifid; calyx cylindrical, short, smooth; stamens declinate. ♃. H. Native of Georgia and Carolina. R. lanceolàta, Walt. fl. car. 129. Poir. dict. ency. 6. p. 2. R. Mariàna γ exálbida, Lam. ill. t. 288. f. 3. Michx. fl. bor. amer. 1. p. 221. Flowers middle-sized, white.

Narrow-leaved Rhexia. Fl. June, Aug. Clt. 1812. Pl. ½ ft.

N. B. Rhéxia linearifòlia of Poir is *Isnárdia alternifòlia*.

Cult. All the species of this genus are very elegant when in flower, and if planted in a bed of peat soil (which is the only soil in which they grow) they will thrive and increase abundantly; and if grown in pots, which is sometimes the case, they must be planted in peat soil. They are all increased by dividing at the root.

XXIV. HETERONO'MA (from *ἑτερος*, *heteros*, and *νωμα*, *ατος*, *noma*, *atos*; original form; inequality of leaves). D.C. prod. 3. p. 122.

Lin. syst. *Octándria, Monogýnia.* Calyx tubular, with 4 triangular, acute, permanent teeth. Petals 4, oval, somewhat mucronate. Stamens 8. Anthers alternately longer; in the longer anthers the connective is drawn out into a linear appendage, which is bifid at the apex; in the smaller or shorter ones it is drawn out into 2 bristles. Capsule 4-celled, equal in length to the calyx. Seeds cochleate, compressed, wrinkled transversely, scabrous, the stripes on the back parallel.—A glabrous herb. Branches tetragonal. Leaves petiolate, ovate, acute, 5-nerved, ciliately serrated, opposite, very unequal in size, the one large and the other small. Cymes corymbose, few-flowered, loose, terminal. Flowers elegant, rose-coloured.

1 H. diversifòlium (D. C. prod. 3. p. 122.) ♃. S. Native of Peru ex herb., Dombey, and of Mexico. Rhéxia diversifòlia, Bonpl. rhex. t. 45. Rhéxia inæqualifòlia, Moc. et Sesse, fl. mex. ined. t. 334.

Diverse-leaved Heteronoma. Pl. 2 feet.

Cult. Peat is the best soil for this plant; and cuttings will root in the same kind of earth under a hand-glass, in heat.

XXV. PACHYLO'MA (from *παχυς*, *pachys*, and *λωμα*, *loma*, a fringe; in reference to the thick marginal nerve of the leaf). D. C. prod. 3. p. 122.

Lin. syst. *Octándria, Monogýnia.* Tube of calyx obconically cylindrical, drawn out beyond the ovarium; limb somewhat truncate, hardly 4-toothed. Petals 4, oval. Stamens 8, equal. Anthers linear, elongated, acuminated, opening by one pore; having the connectives in 4 of them long and drawn out into a simple bristle-like appendage; in the other 4 it is drawn out into 2 bristle-like appendages. Ovarium free, 4-ribbed, glabrous. Style filiform, exserted. Stigma dot-formed. Fruit unknown.—Smooth Brazilian shrubs. Branches terete, nodose at the insertion of the leaves. Leaves on short petioles, oval, 5-nerved, besides being margined by a thick nerve, coriaceous, quite entire. Thyrse panicled, loose, terminal, bractless. Flowers purple. The character of this genus is very doubtful, from the fruit being unknown, but the habit is very singular.

1 P. coria'ceum (D. C. l. c.) ♄. S. Native of Brazil, in the province of Rio Negro, and at the river Amazon. Rhéxia pachylòma, Mart. herb.

Var. a, glabérrima (D. C. l. c.) calyxes glabrous; leaves oblong. Rhéxia bicúspis, Schrank, mss.

Var. β, subsetòsa (D. C. l. c.) calyx covered with glandular bristles; leaves ovate. Rhéxia Amazònium, Schrank, mss.

In both varieties the leaves vary in the same specimen, and are cleft in a singular manner at the apex, the points cross over each other in the manner of the bill of a cross-beak, Lóxia of Lin.

Coriaceous-leaved Pachyloma. Tree 30 to 40 feet.

Cult. See *Meriània*, p. 733. for culture and propagation.

XXVI. OXY'SPORA (from *οξυς*, *oxys*, sharp, and *σπορα*, *spora*, a seed; in allusion to the seeds being awned at both ends). D. C. prod. 3. p. 123.—Arthrostémma species, D. Don, in wern. soc. mem. l. c.

Lin. syst. *Octándria, Monogýnia.* Tube of calyx oblong; lobes 4, ovate, mucronulate. Petals 4, lanceolate, obliquely acute. Stamens 8, equal; filaments flattish. Anthers elongated, drawn out at the base into 2 blunt spurs, having their connectives hardly evident. Capsule 4-celled, 4-valved. Seeds small, hardly curved, awned at both ends: with the hylum concave and terminal.—Shrubs, native of Nipaul. Leaves petiolate, elliptic, oblong, acuminated, denticulated, 5-7-nerved, glabrous on the upper surface. Thyrse panicled, terminal. Flowers red, droop[illegible]

1 O. va'gans (Wall. pl. rar. asiat. 1. p. 78.) rather climbing; branches nodding; leaves somewhat cordate-ovate, acuminated, crenulated, ciliated, clothed with tomentose villi on the under surface, as well as on the branchlets and petioles; panicle elongated, nodding; connectives of anthers all spurred upwards; calyx ribbed. ♄. G. Native of Chittagong. Melástoma vàgans, Roxb. mss. Flowers red.

Var. β, cérnua (Wall. l. c.) leaves ovate-lanceolate, 5-nerved, glabrous; panicle terminal, slender, elongated, nodding; peduncles 4-winged. ♄. S. Native of Chittagong. Melástoma cérnua, Roxb. mss.

Common Oxyspora. Shrub 2 to 4 feet.

2 O. panicula'ta (D. C. prod. 3. p. 123. Wall. pl. rar. asiat. 1. p. 78. t. 88.) leaves somewhat cordate-ovate, acuminated, crenulated, clothed with villous tomentum beneath as well as on the petioles and peduncles; panicle ovate, erect; connectives of the longer anthers obsoletely spurred; capsule nerveless. ♄. G. Native of Nipaul. Flowers red. D. C. coll. p. 33. t. 4. Arthrostémma paniculàta, D. Don, prod. fl. nep. p. 222.

Panicled-flowered Oxyspora. Shrub 2 to 4 feet.

Cult. For culture and propagation see *Lasiándra*, p. 752. Both are very elegant shrubs when in blossom.

XXVII. TRICE'NTRUM (from *τρεις*, *treis*, three, and *κεντρον*, *kentron*, a spur; in reference to the connectives of the anthers being furnished with three spurs at the base). D. C. prod. 3. p. 123.

Lin. syst. *Octándria, Monogýnia.* Tube of calyx ovate; lobes 4, narrow, acute, usually ending in three bristles each at the apex. Petals 4, oblong or oval. Stamens 8; filaments glabrous; anthers similar, linear, opening by one pore, beaked: having their connectives furnished with 3 spurs each, 2 of the spurs are above and 1 behind. Ovarium free, not bristly at the apex. Style filiform. Capsule ovate, 4-celled. Seeds cochleate.—Small South American shrubs. Flowers rose-coloured, solitary, nearly like those of *Rhéxia*.

1 T. ovalifòlium (D. C. l. c.) beset with glandular pili in

every part; branches somewhat tetragonal; leaves ovate, mucronate, villous, 5-nerved; flowers bibracteolate, on short pedicels in the axils of the upper leaves. ♄. S. Native of Brazil. Calyx cylindrical, villous; lobes 4, linear. Petals oblong. Stamens exactly as in the following species.

Oval-leaved Tricentrum. Sh. 1 foot.

2 T.? leptophy'llum (D. C. prod. 3. p. 123.) glabrous; stems procumbent, tetragonal; leaves linear, 1-nerved, serrulated at the apex; flowers terminal, solitary. ♄. S. Native on the banks of the Orinoco, near Maypures. Rhéxia leptophýlla, Bonpl. rhex. t. 24. Habit very different from the first species, but the flowers and fruit, as far as known, are similar. Seeds unknown. Ovarium free. Style filiform.

Slender-leaved Tricentrum. Sh. procumbent.

Cult. For culture and propagation see *Lasiándra*, p. 752.

XXVIII. MARCETIA (dedicated by De Candolle to his friend Fr. Marcet, who has advanced vegetable physiology by a singular memoire on the effects of poison on living vegetables). D. C. prod. 3. p. 124.

Lin. syst. *Octándria, Monogýnia.* Tube of calyx oblong or cylindrical; lobes 4, lanceolate. Petals 4, oval, acute. Stamens 8, equal; anthers oblong, furnished with 2 tubercles at the base, opening by one pore. Ovarium free, glabrous. Style filiform. Stigma dot-formed. Capsule 4-valved, 4-celled, about equal in length to the tube of the calyx. Seeds cochleate.—Brazilian shrubs. Branches terete. Leaves rather fleshy, oblong, usually with revolute edges, cordate at the base, on very short petioles or almost sessile, quite entire, usually nerveless. Flowers axillary, solitary, almost sessile, bibra[illegible]e or reddish.

1 M. decussa'ta (D. C. l. c.) suffruticose, branched; leaves sessile, ovate, rather cordate, bluntish, quite entire, 3-nerved at the base, downy, as well as the branchlets and calyxes; flowers axillary, pedicellate: lobes of calyx lanceolate-subulate, hardly shorter than the tube; petals oval, acute. ♄. S. Native of Brazil, in the province of Bahia, on woody mountains, at the height of 2000 feet. Rhéxia decussàta, Mart. et Schrank, mss. Leaves hardly 2-3 lines long. Genitals exserted. Stamens alternately unequal, but similar to the rest. Anthers furnished with 2 tubercles at the base. Seeds wrinkled, truncate at the base.

Decussate-leaved Marcetia. Sh. 1 foot.

2 M. cordígera (D. C. l. c.) shrubby, much branched; branches hispid from bristles; leaves sessile, cordate, when young revolute at the margins, but at length becoming flat, and truly heart-shaped, rather scabrous from minute glandular down; flowers axillary, pedicellate, solitary, disposed in a leafy raceme; petals obliquely mucronate. ♄. S. Native of Brazil, in the province of Rio Janeiro, on the Alps. Rhéxia cordígera, Mart. et Schrank, mss. Flowers white. Allied to *M. taxifòlia.*

Heart-bearing Marcetia. Sh. 1 foot.

3 M. excoria'ta (D. C. l. c.) suffruticose, much branched; leaves almost sessile, oblong, rather cordate at the base, obtuse at the apex and mucronulate, densely clothed with down, somewhat 3-nerved; flowers axillary, pedicellate, disposed in short leafy racemes; anthers furnished with 2 tubercles at the base. ♄. S. Native of Brazil, on the mountains between Villa Ricca and Tejuco. Rhéxia excoriàta, Mart. et Schrank, mss. Bark at length separating from the stem. Leaves with a bluntish mucrone, covered with resiniferous down. Teeth of calyx linear. Petals oblong-obovate, rose-coloured. Genitals exserted. Seeds hardly wrinkled, truncate at the base.

Excoriated Marcetia. Sh. 2 to 3 feet.

4 M. taxifòlia (D. C. l. c.) shrubby, much branched, clothed with glandular down in every part; leaves nearly sessile, oval-oblong, nearly linear, cordate at the base, with the margins revolute; flowers axillary, solitary; calyx covered with glandular hairs, with 4 oblong-linear lobes; petals obliquely mucronate. ♄. S. Native of Brazil, in the province of Minas Geraes, in sandy places. Rhéxia taxifòlia, St. Hil. in Bonpl. rhex. t. 57. Flowers white, on pedicels, which are furnished with one bractea each?

Var. β, *cinèrea* (D. C. l. c.) the whole plant almost white from short cinereous down. ♄. S. Native of Brazil, in the province of Minas Geraes, at the height of 4000 feet, in fields. Rhéxia cinèrea, Mart. herb. Flowers purplish.

Yew-leaved Marcetia. Sh. 1 to 2 feet.

5 M. glandulòsa (D. C. l. c.) shrubby, much branched; branches thickly beset with glandular hairs; leaves sessile, oval-oblong, but nearly lanceolate from the margins being revolute; cordate at the base, nerveless, crowded, ornamented with glandular hairs; flowers axillary; pedicels short, bibracteolate in the middle; lobes of calyx subulate. ♄. S. Native of Brazil, in the province of Minas Geraes. Rhéxia quadrivàlvis, Mart. herb. Flowers purplish, a little larger than those of *M. taxifòlia.*

Glandular Marcetia. Sh. 1 to 2 feet.

6 M. pube'scens (D. C. l. c.) shrubby, branched; branches clothed with glandular down; leaves sessile, oval-oblong from the revolution of the margins, oblong, cordate at the base, downy, not glandular, nerveless; flowers axillary, almost sessile; bracteoles small, setaceous; lobes of calyx short. ♄. S. Native of Brazil. Rhéxia Langsdorfiàna, Kunth ex Mart. Flowers purplish.

Pubescent Marcetia. Sh. 1 to 2 feet.

7 M. tenuifòlia (D. C. l. c.) shrubby, much branched; branches rather tetragonal, clothed with short hispid down; leaves sessile, linear, nerveless, clothed with short velvety down, revolute at the margins; pedicels axillary, short, 1-flowered, furnished with 2 bracteas each. ♄. S. Native of Brazil. Rhéxia tenuifòlia, Mart. herb. Allied to *M. taxifòlia,* from the white flowers, but differs from it in the down not being glandular, and in the leaves being narrower and more spreading.

Fine-leaved Marcetia. Sh. 1 to 2 feet.

8 M. Junipe'rina (D. C. l. c.) suffruticose; branches slender, downy; leaves lanceolate, but linear from the revolution of the edges, acute, nerveless, clothed with rough pubescence; flowers axillary, solitary, sessile, bibracteate; lobes of calyx linear-subulate; petals oval-oblong, awnedly mucronate. ♄. S. Native of Brazil. Rhéxia junipérina, Spreng. syst. 2. p. 310.

Juniper-like Marcetia. Sh. 1 foot.

9 M. tamaríscina (D. C. l. c) shrubby; leaves sessile, rather fleshy, oblong, cordate, with revolute margins, and hence as if they were sagittately cordate; flowers axillary, almost sessile; petals lanceolate. ♄. S. Native of Brazil, in the province of Minas Geraes. Rhéxia tamaríscina, Schrank et Mart. mss. Leaves, branches, and calyxes rather downy; lobes of calyx narrow, acute, acerose. Petals white. Stamens similar. Anthers rather tumid at the base. Seeds truncate at the base. Leaves almost like those of *Empètrum.* Very near *M. taxifòlia.*

Tamarisk-like Marcetia. Sh. 1 to 2 feet.

10 M. aceròsa (D. C. l. c.) suffruticose, very humble; leaves clothed with velvety down, oblong-linear, with revolute edges; flowers solitary, terminal, erect, sessile; genitals shorter than the petals, which are orbicular, and hardly apiculated. ♄. S. Native of Brazil, in the province of Minas Geraes, in the Certao or desert, in stony sandy fields. Rhéxia aceròsa, Schrank et Mart. mss. A small heath-like shrub. Leaves 1-2 lines long. Branches filiform. Anthers ovate, hardly auricled at the base. Petals purple. Allied to *M. taxifòlia* from the leaves, but differs in the flowers being 4-petalled and octandrous. Habit of *Tetrathèca.*

Needle-leaved Marcetia. Sh. 1 foot.

11 M. serpula'ria (D. C. l. c.) shrubby, branched; branchlets and leaves rough from thick glandular down; leaves sessile,

oval, with revolute margins, nerveless, small, crowded, coriaceous; flowers solitary at the tops of the branches; calyx oblong, beset with short, glandular hairs. ♄. S. Native of Brazil, in the province of Minas Geraes, at the height of 5000 feet. D.C. coll. mem. 1. t. 5. Rhéxia sertulària, Schrank et Mart. mss. Stamens exserted. Petals oval, white in a dried state. Very elegant and very distinct from the other species.

Sertularia-like Marcetia. Shrub 1 foot.

Cult. The species of *Marcètia* are elegant little shrubs, but probably of difficult cultivation. Should any of them be ever introduced to the gardens, we would recommend their being grown in a mixture of loam, peat, and sand, draining the pots well with sherds, and placing them on the shelves in a stove. Young cuttings will perhaps root in sand under a bell-glass, in heat.

XXIX. TREMBLE'YA (dedicated to Abraham Trembley, who by his observations on fresh water polypes, has contributed to determine the limits of the vegetable kingdom). D. C. prod. 3. p. 125.

LIN. SYST. *Decándria, Monogýnia.* Tube of calyx ovate, constricted at the apex; lobes 5, rather dilated from the base, awned, or oblong. Petals 5, oval. Stamens 10, 5 of which bear ovate-oblong anthers, with short blunt beaks; having their connectives drawn out into an obcordate or spatulate simple ligula each; the 5 alternate ones having the ligula hardly evident. Stigma dot-formed. Capsule ovate, 5-celled, glabrous. Seeds cochleate?—Shrubs, native of Brazil. Leaves sessile or petiolate, oblong or linear, quite entire, 1-3-nerved. Pedicels axillary or terminal, 1-3-flowered.—This genus agrees with *Rhéxia* in the urceolate calyx, but differs in the corolla being pentapetalous. The habits of the species are heterogeneous, but the characters are not so. The genus is therefore divided into 3 sections.

SECT. I. JACÒBIA (dedicated to James Andr. Trembley, who wrote a thesis on vegetation, which has been falsely attributed to Calandrini, a Swiss botanist). D. C. prod. 3. p. 125. Calyx turbinate, hardly constricted at the apex; lobes subulate. Petals oval, mucronate. Connectives of anthers drawn out into a short appendage each. Flower solitary, yellow. This section almost agrees with the genus *Marcètia*, but differs in the petals being yellow. Perhaps a proper genus. Seeds unknown.

1 T. ROSMARINOÌDES (D. C. prod. 3. p. 125.) shrubby, much branched, glabrous; branches tetragonal; leaves on short petioles, linear, quite entire, 1-nerved, besides 2 marginal veins, which are joined with the reticulating veins, clothed with yellowish down beneath; flowers axillary, solitary, pedicellate, and at the tops of the branches; tube of calyx ovate, somewhat costate, equal in length to the lobes, which are subulate, and 5-6 in number; anthers dissimilar. ♄. S. Native of Brazil, in the province of Minas Geraes, on the tops of mountains, at the elevation of 5000 feet. Rhéxia rosmarinoìdes, Schrank et Mart. mss. Petals obovate, yellow. Anthers ovate, with short blunt beaks; the alternate ones furnished with a longer auricled connective each.

Rosemary-like Trembleya. Shrub 1 foot.

SECT. II. ABRAHA'MIA (in honour of Abraham Trembley, see genus). D. C. prod. 3. p. 126. Calyx urceolate; lobes subulate or linear. Petals not gradually mucronated but apiculated. Connectives of anthers drawn out into a broad appendage each. Flowers purplish, pedicellate.

2 T. PHLOGIFÓRMIS (D. C. l. c.) plant suffruticose, oppositely branched; branches somewhat tetragonal, beset with glandular hairs; leaves sessile, elliptic-oblong, attenuated at both ends, ciliately serrated, 3-nerved, hispid on both surfaces; pedicels 1-flowered, axillary, and at the tops of the branches; calyx rather hispid, with an urceolate tube, and a limb which is campanulate at the base and 5-lobed at the apex, the lobes ending in setaceous points, hardly shorter than the tube; anthers dissimilar. ♄. S. Native of Brazil, in the province of St. Paul, in fields. Rhéxia phlogifórmis, Mart. et Schrank, mss. Petals oval-oblong, purple. Anthers 10, ovate, with short blunt beaks; the 5 longer ones having their connectives drawn out into a broad obcordate appendage each, and those of the 5 shorter ones drawn out into a small narrow appendage each. Capsule ovate, 5?-celled.

Phlox-leaved Trembleya. Shrub 1 to 2 feet.

3 T. AGRE'STIS (D. C. l. c.) shrubby; branches bluntly tetragonal; leaves elliptic-oblong, cuneated at the base, rather acutish, quite entire, 3-nerved, pruinose on both surfaces as well as the branchlets; upper ones pilose as well as the calyxes; flowers solitary, terminal; lobes of calyx 5, oblong, a little longer than the tube; petals obovate, cuneated. ♄. S. Native of Brazil, in the province of Minas Geraes, in elevated stony fields. Rhéxia agréstis, Mart. and Schrank, mss. Leaves 7-9 lines long and 3 lines broad. Flowers small. Anthers oval-oblong, ending in very short beaks, but having their connectives drawn out into a long, club-shaped process each at the articulation; inner anthers furnished with shorter connectives. The rest unknown.

Field Trembleya. Shrub 1 to 2 feet.

4 T. HETEROSTE'MON (D. C. l. c.) shrubby; branches bluntly tetragonal, when young clothed with velvety villi; leaves petiolate, lanceolate, cuneated at the base, obtuse at the apex, quite entire, 3-nerved [illegible] clothed with velvety tomentum beneath, smoothish above [illegible]mes 5-7-flowered, axillary, 3-times shorter than the leaves; [illegible]mately globose, with 5 short teeth; anthers 10, dissimilar. ♄. S. Native of Brazil, in the province of Minas Geraes, near subalpine fountains. Rhéxia heterostèmon, Mart. et Schrank, mss. Leaves 2 inches long, and 5 lines broad. Petals oblong, white. Anthers ovate, short, ending in short beaks, 5 of which are spurless, and the other 5 having their connectives drawn out at the base into an obcordate appendage each, which is about equal in length to the anther.

Variable-stamened Trembleya. Shrub.

5 T. TRIFLÒRA (D. C. l. c.) shrubby; branches tetragonal, glabrous; leaves petiolate, oblong-lanceolate, quite entire, 3-nerved, glabrous above, but white beneath from very minute down; peduncles axillary, 3-flowered, angular; calyx turbinate, glabrous, with 5 triangular short lobes; anthers dissimilar. ♄. S. Native of Brazil, in the province of Minas Geraes, in woods near Villa Ricca. Rhéxia triflòra, Mart. et Schrank, mss. Petals obovate, oblong, 3-4 lines long, not ciliated. Anthers 10, ovate, ending in short beaks, 5 of which have their connectives drawn out into a yellow retuse appendage each.

Three-flowered Trembleya. Shrub 2 feet.

SECT. III. ERIOLEU'CA (from *εριον*, *erion*, wool, and *λευκος*, *leucos*, white; plant clothed with white tomentum in every part). D. C. prod. 3. p. 126. Calyx hardly constricted at the apex, woolly on the outside; lobes oblong. Petals obtuse. Connectives of the longer anthers drawn out each into a broad appendage. Flowers axillary, sessile. Seeds unknown. Perhaps a proper genus.

6 T. LYCHNÌTIS (D. C. l. c.) shrubby, clothed in every part with white woolly tomentum, except the petals, genitals, and the upper surface of the adult leaves; branches terete; leaves almost sessile, ovate, or somewhat oblong, 3-nerved, quite entire; flowers axillary, sessile, somewhat verticillate; tube of calyx turbinate, equal in length to the lobes, which are 5, oblong, and glabrous inside; anthers dissimilar. ♄. S. Native of Brazil, in the province of Minas Geraes, in exposed stony places on the sides of mountains. Rhéxia lychnitis, Schrank et Mart. mss. Me-

lástoma laniflòrum, D. Don, in mem. wern. soc. 4. p. 292. Flowers about 3 together in each axil, yellow? Petals obovate-oblong. Stamens 10, one-half shorter than the petals. Anthers ovate, obtuse, ending in short beaks. The specific name is derived from λυχνις, a lamp; in reference to the cottony appearance of the wool on the plant resembling wicks.

Lamp Trembleya. Shrub 1 to 2 feet.

Cult. For culture and propagation see *Marcètia*, p. 749.

XXX. ADE'LOBOTRYS (from αδηλος, *adelos*, obscure, and βοτρυς, *botrys*, a raceme; in reference to the flowers not being sufficiently known). D. C. prod. 3. p. 127.

Lin. syst. *Decándria, Monogýnia.* Calyx free, somewhat campanulate, with 5 short blunt teeth. Petals 5, oval. Stamens 10. Anthers bifurcate at the base, and 2-valved? at the apex. Ovarium and style unknown. Capsule bursting by 5 parts, with the central column at length free from the valves.—Seeds unknown.—A climbing shrub with terete branches. Leaves clothed with rufous villi on both surfaces when young, but in the adult state glabrous, except the nerves, petiolate, ovate-cordate, acuminated, ciliately serrated, 5-nerved. Flowers white, crowded in cymose heads at the tops of the branches.

1 A. sca'ndens (D. C. l. c.). ♄ . ◡. S. Native of French Guiana, on the banks of the river Sinemari. Melástoma scándens, Aubl. guian. 1. p. 435. t. 172. Rhéxia scándens, Rich. herb. Ser. mss.

Climbing Adelobotrys. Shrub cl.

Cult. For culture and propagation see *Lasiándra*, p. 752. Being a climbing shrub it is fit for covering [illegible] in stoves.

Tribe III.

OSBE'CKIA (plants agreeing with *Osbéckia* in important characters). D. C. prod. 3. p. 127. Anthers opening by 1 pore at the apex. Ovarium sometimes free, and sometimes adnate to the calyx, crowned by scales or bristles at the apex. Seeds cochleate, with a basilar orbicular hylum. The species are natives of America, Africa, Asia, and a few of Australia.

XXXI. LASIA'NDRA (from λασιος, *lasios*, hairy, and ανηρ ανδρος, *aner andros*, a male; in reference to the hairy stamens). D. C. prod. 3. p. 127. Rhéxia species, Schrank and Mart. mss. —Pleròma species, D. Don, l. c.

Lin. syst. *Decándria, Monogýnia.* Tube of calyx ovate; lobes 5, narrow, acuminated. Petals 5, obovate. Stamens 10; filaments pilose; anthers elongated, terminating in short beaks, having their connectives tumid and biauriculate at the base. Ovarium setose at the apex, probably somewhat adnate to the calyx in the young state. Style usually pilose. Capsule dry, 5-celled. Seeds few, cochleate, rather angular, with a somewhat orbicular, basilar hylum.—Shrubs, natives of South America. Branches clothed with adpressed bristles. Leaves on short petioles or sessile, 3-5-nerved, quite entire, ciliated, bristly on the upper surface; the bristles adpressed, and usually regularly directed from the middle to the nerves; villous or setose on the nerves beneath, and velvety or villous between the nerves. Flowers large, purple, disposed in terminal racemes or panicles; before expansion hidden by 2 bracteas each, which fall off as the flower expands. The species have the habit of *Pleròma*, but differ in the genitals being hispid, and in the capsule being dry and free, not baccate and adnate to the calyx.

* *Calyx rough from stiffish bristles.*

1 L. frigi'dula (D.C. prod. 3. p. 127.) branches somewhat compressed, smoothish; leaves sessile, somewhat cordate at the base, oval-oblong, acute, quite entire, 3-nerved, glabrous; peduncles axillary, trichotomously cymose, disposed in a panicled thyrse; bracteas involving the flower-bud when young; calyx bristly, with 5 ciliated lobes; petals ciliated; filaments rather pilose. ♄ . S. Native of Brazil, in the alpine fields of Serro Frio. Rhéxia frigídula, Schrank et Mart. mss. Style much elongated.

Frigid Lasiandra. Shrub 2 to 3 feet.

2 L. trifòlia (D. C. l. c.) branches trigonal, roughish; leaves 3 in a whorl, almost sessile, oblong, quite entire, acute, 3-nerved, glabrous in the disk above, but beset with adpressed bristles beneath and on the margins; panicle terminal; calyx bristly, with 5 ciliated deciduous lobes; petals ciliated; filaments hispid; style glabrous. ♄ . S. Native of Brazil, in the province of St. Paul, in fields and on the edges of woods. Leaves 3 inches long, but hardly an inch broad. Pedicels and calyxes bristly. Rhéxia trifòlia, Schrank et Mart. mss.

Three-leaved Lasiandra. Shrub 2 to 3 feet.

3 L. Martiusia'na (D. C. l. c.) shrubby; branches nearly terete, beset with adpressed bristles; leaves sessile, ovate, 3-nerved, quite entire, glabrous above, dotted beneath but hardly bristly; thyrse terminal; bracteas 2, oval, half involving the flower-bud; calyx bristly, with an obovate tube: and 5 oval-oblong ciliated lobes, which are longer than the tube; filaments hispid; anthers rather dissimilar. ♄ . S. Native of Brazil, in the province of Minas Geraes in fields, at the elevation of 2000 feet. Rhéxia Lasiándra, Schrank et Mart. mss.

Martius's Lasiandra. Shrub 2 to 3 feet.

4 L. Moricandia'na (D. C. prod. 3. p. 128.) shrubby; branches nearly terete, clothed with short adpressed villi; leaves petiolate, oblong, acute, 3-5-nerved, clothed with adpressed bristles above and pale villi beneath; flowers in threes, terminal; bracteas ovate, clothed with adpressed villi, large; tube of calyx campanulate, bristly, longer than the lobes; filaments beset with glandular pili. ♄ . S. Native of Brazil. Rhéxia Moricandiàna, Ser. mss. Anthers long, having their connectives furnished with 2 tubercles at the base. Lobes of calyx at length deciduous. The outer nerves of the leaves almost marginal.

Moricand's Lasiandra. Shrub 2 to 3 feet.

5 L. Maximilia'na (D. C. l. c.) branches tetragonal, and are as well as the petioles and peduncles scabrous from bristles; leaves petiolate, ovate, obtuse at the base, acute at the apex, 5-nerved, bristly above, nerveless beneath, but with the nervules beset with silky bristles; thyrse panicled, corymbose, terminal; bracteas, and outside of calyx scabrous from adpressed bristles; style glabrous; filaments rather pilose at the base. ♄ . S. Native of Brazil, where it was collected by Prince Maximilian de Neuweid. Very like *L. Gaudichaudiàna*, but differs in the bristles being more stiff and harsh.

Maximilian's Lasiandra. Shrub 4 to 6 feet.

6 L. Gaudichaudia'na (D. C. l. c.) branches tetragonal, rough from small adpressed bristles; leaves petiolate, ovate, acuminated, 5-nerved, beset with small, softish bristles on both surfaces; panicle terminal; bracteas acuminated, shorter than the tube of the calyx; calycine tube ovate, clothed with adpressed bristles, twice the length of the lobes, which are acuminated; filaments rather pilose; style glabrous. ♄ . S. Native of Brazil. Lateral nerves of leaves forming a margin. Anthers long, falcate, having their connectives hardly drawn out into a thick appendage at the base.

Gaudichaud's Lasiandra. Shrub 2 to 3 feet.

7 L. ochype'tala (D. C. l. c.) branches tetragonal, and are as well as the petioles, peduncles, and upper surface of leaves beset with adpressed bristles; leaves petiolate, oblong, acuminated, 5-nerved, quite entire, clothed with adpressed villi beneath; racemes terminal, short; pedicels opposite, 1-3-flowered; calyx bristly, with an ovate-globose tube and lanceolate lobes; filaments and style hispid at the base. ♄ . S. Native of Peru, on the mountains. Rhéxia ochypétala, Ruiz et Pav. fl. per. 3. p. 86. t. 321. f. a. Rhéxia oxypétala, Spreng. syst. 2. p. 306.

Pleròma ochypétala, D. Don, l. c. Bracteas ovate, deciduous, bristly. Petals large, obovate, retuse, nearly obcordate, with a mucrone in the recess. Ovarium free.

Sharp-petalled Lasiandra. Shrub 10-12 feet.

8 L. Kunthia'na (D. C. l. c.) branches tetragonal, and are as well as the petioles clothed with adpressed villi; leaves petiolate, oblong, acute, 5-nerved, quite entire, scabrous above from little bristles, but white from adpressed silky villi beneath; pedicels hispid, axillary, 1-flowered, and terminal; tube of calyx campanulate, beset with stiff bristles, but with the lobes deciduous; filaments and style hispid. ♄. S. Native of Brazil. Petals very blunt. Ovarium bristly at the apex, rather longer than the tube of the calyx. Bracteas large, deciduous.

Kunth's Lasiandra. Shrub 4 to 8 feet.

9 L. æ'mula (D. C. l. c.) shrubby; branches, petioles, and peduncles clothed with hairy tomentum; leaves petiolate, ovate, mucronately acute, 5-nerved, quite entire, scabrous from bristles above, but densely clothed with adpressed villi beneath; pedicels rising from the upper axils of the leaves, and solitary at the tops of the branches, disposed in something like racemes; calyx bristly, with a globose tube; and 5 lanceolate deciduous lobes, which are glabrous inside. ♄. S. Native of Brazil, in the province of Minas Geraes. Meriània æ'mula, Schrank and Mart. mss. Ovarium bristly at the apex. Filaments and style hairy. Very like *L. hygróphila.*

Emulous Lasiandra. Shrub 4 to 6 feet.

10 L. hygróphila (D. C. l. c.) shrubby; branches terete, hispid from bristles; leaves sessile, ovate, acute, 5-7-nerved, ciliately serrated, rough from stiff bristles above, but hairy beneath; pedicels axillary, 1-flowered, disposed in racemose cymes; calyx bristly: with 5 subulate lobes, which are a little longer than the tube. ♄. S. Native of Brazil, in the province of St. Paul, in bogs in woods. Rhéxia hygróphila, Mart. mss. Leaves hardly an inch long and 8-9 lines broad. Like *L. Tonnèsii*, but differs in the anthers being shorter, and in the filaments bearing a few subglandular hairs.

Water-loving Lasiandra. Shrub 4 to 6 feet.

11 L. Tibouchinoìdes (D. C. l. c.) shrubby; branches bluntly tetragonal, beset with bristly pili; leaves petiolate, elliptic-oblong, mucronate, quite entire, 3-nerved, bearing a few scattered bristles above, but clothed with villous tomentum beneath; flowers terminal, bracteate, usually twin; calyx bristly, with 5, ovate, acute, ciliated lobes. ♄. S. Native of Brazil, in the province of St. Paul, in marshes. Rhéxia tibouchinoìdes, Schrank and Mart. mss. Leaves an inch long and 5-6 lines broad. Calyx ovate, red; lobes 5. Petals large. Anthers linear, falcate, acuminated by the beaks, a little longer than the connectives, which are tumid at the base. Stamens exserted, rather unequal, glabrous, and bearing a few glands at the very base. Habit of *Tibouchina* of Aublet or *Chætogástra lepidòta.*

Tibouchina-like Lasiandra. Shrub 6 to 8 feet.

12 L. hóspita (D. C. prod. 3. p. 129.) shrubby, much branched, scabrous in every part from adpressed bristles; branchlets somewhat tetragonal; leaves on short petioles, elliptic, 3-nerved, quite entire, acute; pedicels axillary, 1-flowered; calyx globose, scarcely 5-toothed; capsule 5-celled. ♄. S. Native of Brazil, in the province of Minas Geraes, on the mountains, in cold places. Rhéxia hóspita, Schrank and Mart. mss. Leaves an inch long. The bristles on the leaves regularly disposed between the veins. Bracteas deciduous. Stamens unknown. The branches becoming tumid from a species of cynips.

Stranger Lasiandra. Shrub 2 to 3 feet.

13 L. macrochi'ton (D. C. l. c.) shrubby; branches tetragonal, beset with adpressed little bristles; leaves petiolate, oval, 3-nerved, beset with adpressed bristles above, but with dot-like setæ beneath; thyrse terminal; bracteas 2, rather villous, involving the flower in its young state; calyx bristly, with an ovate tube, and 5 ovate, ciliated, longer lobes; filaments hispid; anthers long, nearly similar. ♄. S. Native of Brazil. Rhéxia macrochìton, Mart. mss. Petals ciliated when young. Anthers falcate, beaked.

Long-coated Lasiandra. Shrub 2 to 3 feet.

* * *Calyx clothed with adpressed, rather silky villi.*

14 L. Thereminia'na (D. C. l. c.) shrubby; branches terete, clothed with adpressed short villi; leaves petiolate, ovate, acute, quite entire, 7-nerved, clothed with canescent villi beneath, villous above; flowers solitary, terminal; bracteas 2, ovate; villi on calyx silky and adpressed; calycine lobes longer than the tube, which is very villous; filaments villous; appendages of the connectives of the anthers bearing scattered glands. ♄. S. Native of Brazil. Very like *Chætogástra muricàta*, but differs in the longer petiolate 7-nerved leaves; the flowers are also larger, and bibracteate and the anthers shorter.

Theremian Lasiandra. Shrub 8 to 10 feet.

15 L. semideca'ndra (Schrank et Mart. mss. ex D. C. l. c.) shrubby; branches tetragonal, villous; leaves petiolate, ovate, acute, quite entire, 5-nerved, rough from stiff bristles above, but villous beneath; flowers solitary, terminal, and axillary, pedicellate; bracteas bristly, deciduous, involving the flower-bud before they fall off; calyx clothed with silky villi: with 5 acuminated lobes, which are glabrous inside and longer than the tube. ♄. S. Native of Brazil, in the province of Minas Geraes, on the [illegible] Rhéxia semidecándra, Schrank et Mart. mss. Bra[illegible]y. The rest as in *L. hygróphila.* Flowers as in *L. Fontenesiàna.* The 5 alternate stamens larger; anthers falcate: having their connectives knotted at the base, and twice the length of the anthers. Style pilose.

Semidecandrous Lasiandra. Shrub 4 to 6 feet.

16 L. Candollea'na (D. C. l. c.) shrubby; branches nearly terete, rough from small adpressed bristles; leaves petiolate, oval-oblong, attenuated at both ends, triple-nerved, membranous, quite entire, clothed with adpressed bristles on both surfaces; pedicels axillary, solitary, tern; bracteas oval, oblong, acute, deciduous; calyx white from adpressed villi, having its lobes longer than its tube, which is ovate; style and filaments hispid. ♄. S. Native of Brazil, at Rio Grande de Belmonte. D. C. Coll. 1. f. 6. Rhéxia Candolleàna, Mart. herb. Allied to *L. Fontanesiàna*, but differs in the lateral nerves of the leaves being simple, not bifid. Petals violaceous, ciliated when young. Stamens 10, alternate ones rather the smallest.

De Candolle's Lasiandra. Shrub 2 to 3 feet.

17 L. Raddia'na (D. C. l. c.) shrubby; branches somewhat tetragonal, furnished with a few adpressed bristles; leaves petiolate, oblong, acuminated at both ends, quite entire, smoothish, but bearing a few adpressed bristles, 3-nerved; flowers terminal, usually solitary; calyx densely clothed with adpressed silky villi. ♄. S. Native of Brazil. Rhéxia uniflòra, Raddi. mem. l. c. p. 9. but not of Vahl. Rhéxia Raddiàna, Moricand. herb. Ser. mss. Flowers large. Style and filaments hispid. Lobes of calyx deciduous.

Raddi's Lasiandra. Shrub 4 to 6 feet.

18 L. Fontanesia'na (D. C. prod. 3. p. 130.) branches tetragonal; angles winged; petioles, peduncles, and upper surface of leaves beset with adpressed bristles; leaves petiolate, oblong, acute, 5-nerved, beset with adpressed bristles beneath on the nerves and on the margins, the rest clothed with white stellate velvety down; racemes terminal; pedicels opposite, 1-3-flowered; calyx very villous, white; filaments very hairy. ♄. S. Native of Brazil, about Rio Janeiro and St. Paul. Rhéxia Fontanèsii, Bonpl. rhex. t. 36. Rhéxia alàta, Raddi. mem. p. 8. Melástoma granulòsa, Desr. in Lam. dict. 4. p.

44. Sims, bot. mag. t. 214. Pleròma granulòsum, D. Don, wern. soc. mem. 4. p. 293. Melástoma Fontanesiànum, Spreng. syst. Rhéxia dasystamínea, Schrank, mss. Flowers large, of a rose-purple colour.

Var. β, angústior (D. C. l. c.) leaves not half the breadth; flowers smaller.

Desfontain's Lasiandra. Shrub 5 to 8 feet.

19 L. FISSINE'RVIA (D. C. l. c.) branches tetragonal, not winged; petioles, peduncles, and leaves beset with adpressed bristles; leaves petiolate, oblong, acute, 5-nerved or only 3-nerved, with the 2 lateral ones bifid, beset with adpressed bristles on the margins and on the nerves on the under surface, the rest velvety from dense stellate down; flowers racemose; peduncles opposite, 1-3-flowered; calyx clothed with adpressed white pubescence; filaments hairy; style glabrous. ♄. S. Native of Brazil, in the province of Minas Geraes. Rhéxia fissinérvia, Schrank et Mart. mss. Like *L. Fontanesiàna*, but differs in the stem being tetragonal, not winged, in the calyx being less villous, and in the flowers being smaller.

Cleft-nerved Lasiandra. Shrub 5 to 10 feet.

20 L. STENOCA'RPA (D. C. l. c.) branches tetragonal, having the angles rather winged, and are as well as the petioles and peduncles clothed with adpressed stiff villi; leaves on short petioles, oblong, acute, mucronate, 5-nerved, quite entire, beset with adpressed bristles above, and silky villi beneath; flowers panicled; branches of panicle tetragonal, opposite, 3-flowered; calyx clothed with adpressed villi; filaments hairy; style rather pilose. ♄. S. Native of Brazil, in rocky places near Maraca, in the province of Bahia. Rhé[illegible] Estre[illegible]is, Raddi, mem. p. 9.? Rhéxia stenocárpa, Schra[illegible]. mss. Allied to *L. Fontanesiàna*, but differs in the flowers being smaller, and especially in the down, which is very distinct.

Narrow-fruited Lasiandra. Shrub 5 to 8 feet.

21 L. LANGSDORFIA'NA (D. C. l. c.) branches tetragonal, having the angles winged, beset with bristles as well as the peduncles; petioles short, villous; leaves oval, acute from a mucrone, 5-nerved, clothed with adpressed bristles above, and with adpressed villi on the nerves beneath, and soft stellate tomentum between the nerves; panicle thyrsoid, terminal, many-flowered; calyx clothed with adpressed white villi, with an ovate tube, and lanceolate, deciduous lobes; filaments and style beset with bristles. ♄. S. Native of Brazil, in exposed fields in the provinces of Rio Janeiro and St. Paul. Rhéxia Langsdorfiàna, Bonpl. rhex. t. 51. Osbéckia Langsdorfiàna, Spreng. syst. 2. p. 312. Allied to *L. Fontanesiàna*, but differs in the leaves being ovate at the base, and rather rufescent beneath. Thyrse panicle-formed. Stamens beset with glandular pili.

Langsdorf's Lasiandra. Shrub 5 to 6 feet.

22 L. PROTEÆFÓRMIS (D. C. l. c.) branchlets acutely tetragonal, and are as well as the peduncles beset with bristles; petioles hardly any, villous; leaves ovate, mucronate, 5-nerved, densely clothed with adpressed silky villi on both surfaces, the down on the under surface stellate; thyrse panicled, terminal, many-flowered; bracteas and calyxes very villous; lobes of calyx lanceolate, acute; petals a little ciliated, twice the length of the calycine lobes; style and filaments beset with a few hairs. ♄. S. Native of Brazil, in woods, and in bushy exposed places in the province of Minas Geraes. Rhéxia proteæfórmis, Schrank et Mart. mss. Allied to *L. Langsdorfiàna*, but differs in the flowers not being above half the size, and in the nerves of the leaves being clothed with yellowish villi.

Protea-formed Lasiandra. Shrub 5 to 6 feet.

23 L. URVILLEA'NA (D. C. l. c.) branches tetragonal, clothed with soft villi; leaves on short petioles, oval-oblong, mucronate, 5-nerved, quite entire, clothed with adpressed silky villi on both surfaces; thyrse panicled, crowded, terminal; bracteas and calyxes very villous; lobes lanceolate, acute; filaments and style beset with glandular pili, from the base to the middle. ♄. S. Native of the island of St. Catharine, in the entrance to the Rio Janeiro, where it was collected by Captain d'Urville. Petals purple, ciliated, almost bearded at the apex. Knots of branches thickly beset with spreading bristles.

D'Urville's Lasiandra. Shrub 5 to 6 feet.

24 L. ADENOSTE'MON (D. C. l. c.) branches tetragonally winged, and are as well as the peduncles clothed with adpressed bristles; petioles hardly any; leaves ovate, quite entire, mucronate, 5-nerved, villous above and on the nerves beneath, but clothed with stellate tomentum between the nerves on the under surface; thyrse panicled, terminal; calyx and bracteas clothed with adpressed villi; lobes of calyx lanceolate; filaments and style pubescent and beset with glandular pili at the base; the 5 alternate filaments bearing a few thick pedicellate glands. ♄. S. Native of Brazil, about Rio Janeiro in exposed fields. Meriània adenostèmon, Schrank et Mart. mss. Habit of *L. proteæfórmis*, but the stamens are almost that of *Macairea*.

Gland-stamened Lasiandra. Shrub 5 to 6 feet.

25 L. ARGE'NTEA (D. C. prod. 3. p. 131.) branches tetragonal, clothed with adpressed bristles; leaves sessile, ovate, 5-7-nerved, quite entire, densely clothed with silky villi on both surfaces; thyrse panicled, terminal, with the rachis very villous and compressed; calyx tubular; filaments and style bearing a few pili. ♄. S. Native of Brazil, about Rio Janeiro. Melástoma argéntea, Desv. in Lam. dict. 4. p. 45. Rhéxia holoserícea, Bonpl. rhex. t. 12. Ker. bot. reg. t. 323. Lodd. bot. cab. t. 236. Delaun. herb. amat. t. 321. Spreng. syst. 2. p. 307. exclusive of the synonyme. Pleròma holoseríceum, D. Don, mem. soc. wern. 4. p. 293. Melástoma clavàta, Pers. ench. 1. p. 476. Flowers purple. A very beautiful species, and very distinct from the *Melástoma holosericea* of Lin. and Swartz.

Silvery Lasiandra. Fl. July. Clt. 1816. Sh. 6 to 10 feet.

Cult. All the species are elegant shrubs, bearing thyrsoid panicles of large purple flowers. They grow best in a mixture of loam, peat, and sand; and young cuttings root readily if planted in the same kind of soil, placed in heat, under a hand-glass.

XXXII. CHÆTOGA'STRA (from χαιτη, *chaite*, a bristle, and γαστηρ, *gaster*, a belly; in allusion to the tube of the calyx being beset with bristles or scales). D. C. prod. 3. p. 131.

LIN. SYST. *Decándria, Monogýnia.* Tube of calyx túrbinate, pilose, or scaly; lobes 5, permanent. Petals 5, obovate. Stamens 10, with glabrous filaments and oblong anthers; anthers opening by 1 pore at the apex; having their connectives drawn out, sometimes into a simple or bifid spur, and sometimes into 2 small, obtuse tubercles. Ovarium free, bristly at the apex, and often denticulated. Capsule 5-celled. Seeds cochleate.—Shrubs, rarely herbs, natives of South America, for the most part clothed with strigose pili. Leaves 3-5-nerved, quite entire, or hardly serrulated. Flowers terminal, purple, or white. This genus differs from *Lasiándra* in the stamens being glabrous, and in the inflorescence; from *Arthrostémma* in the quinary number of the parts of the flower, not quaternary; from *Osbéckia* in there being no appendages between the calycine lobes.

SECT. I. MONOCE'NTRA (from μονος, *monos*, one, and κεντρον, *kentron*, a spur; in reference to the anthers having their connectives drawn out into a simple spur at the base). D. C. prod. 3. p. 131. Tube of calyx obovate or turbinate; lobes 5, lanceolate, rather dilated at the base. Anthers having their connectives drawn out into a simple spur at the base. Ovarium toothed at the apex.—Showy Peruvian shrubs, with the habit of *Lasiándra*. Branches terete. Flowers large, purple. Perhaps a proper genus.

1 C. SPECIÒSA (D. C. l. c.) branches clothed with short, simple

down; leaves on short petioles, oblong, 3-nerved, quite entire, ciliated, glabrous on both surfaces, except the nerves, which are downy; flowers terminal, solitary; calyx turbinate, pubescent; connectives of anthers drawn out in a simple, thick, conical spur each. ♄. S. Native of Peru, on Mount Quindiu and near Popayan, where it is called *Flor de Mayo.* Rhéxia speciòsa, Bonpl. rhex. t. 4. Habit of *Cistus ladaniferus.* Flowers large, of a rose-purplish colour.

Showy Chætogastra. Shrub 3 to 6 feet.

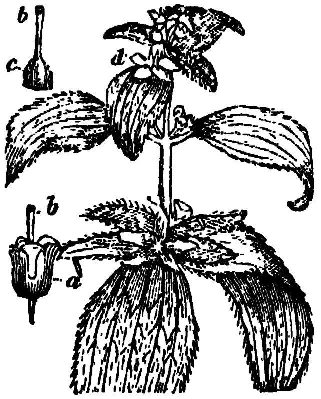
2 C. RETICULA'TA (D. C. l. c.) branches clothed with rufous villi; leaves petiolate, ovate-lanceolate, obtuse at the base, acuminated at the apex, denticulated, 5-nerved, beset with bristles on the upper surface, which are bullate at the base, reticulated beneath, and hairy on the nerves; flowers few, terminal; calyx villous; connectives of anthers drawn out into a simple, slender spur each; ovarium toothed at the apex. ♄. S. Native of Peru, on Mount Saragura, in cold places near Loxa. Rhéxia reticulàta, Bonpl. rhex. t. 9. Flowers large, violaceous. Style very long.

Reticulated-leaved Chætogastra. Tree 10 to 20 feet.

SECT. II. DIOTANTHE'RA (from δις, *dis*, two, *ους ωτος*, *ous otos*, an ear, and *ανθηρα*, *anthera*, an anther; in reference to the connectives of the anthers being drawn out into a bifid spur or 2 auricles). D. C. prod. 3. p. 131. Tube of calyx obovate, bractless; lobes 5. Connectives of anthers drawn out into a bifid spur or two auricles at the base. Flowers white or rose-coloured.

3 C. LANCEOLA'TA (D. C. l. c.) stem herbaceous, rather tetragonal, clothed with adpressed villi; leaves petiolate, broad-lanceolate, acuminated, serrulately ciliated, 5-nerved, villous on both surfaces; peduncles trichotomous, axillary, and terminal; tube of calyx ovate, rather longer than the subulate lobes, which are reflexed and ciliated; connectives of anthers drawn out into a didymous spur at the base. ⊙. S. Native of Peru and Trinidad. Hook. bot. mag. 2836. Rhéxia flexuòsa, Ruiz et Pav. fl. per. 3. p. 85. t. 320. f. 6. Rhéxia lanceolàta, Bonpl. rhex. t. 21. but not of Walt. or Poir. Osbéckia lanceolàta, Spreng. syst. 2. p. 312. Lateral nerves of leaves rather concrete at the base on both sides. Flowers white.

FIG. 110.



Lanceolate-leaved Chætogastra. Pl. 1 to 2 feet.

4 C. LONGIFÒLIA (D. C. prod. 3. p. 132.) stem herbaceous, angular, beset with adpressed pili; leaves petiolate, lanceolate, elongated, acuminate, pilose, 5-nerved; lateral nerves concrete at the base; panicle axillary, dichotomous, shorter than the leaves; tube of calyx ovate, longer than the lobes, which are subulate. ♃.? S. Native of South America. Rhéxia longifòlia, Vahl. eclog. 1. p. 39. icon. amer. t. 15.

Long-leaved Chætogastra. Pl. 1 to 2 feet?

5 C. HAVANE'NSIS (D. C. prod. 3. p. 132.) stem almost herbaceous; branches tetragonal, hairy; leaves petiolate, oval, acuminated, almost quite entire, 5-7-nerved, beset with scattered villi on both surfaces; panicles axillary, cymose, shorter than the leaves, alternate ones disposed in a panicled thyrse; tube of calyx ovate, villous, rather longer than the lobes, which are subulate; anthers furnished with 2 tubercles at the base. ♄. S. Native about the Havannah, in Cuba, where we have seen it growing in plenty, at very little distance from the town. D. C. coll. 1. t. 7. It is very nearly allied to the preceding species, but differs in the leaves being broader, cymes shorter, and in the connectives of the anthers being hardly evident.

Havanna Chætogastra. Shrub 1 to 2 feet.

6 C. SCHIEDEA'NA (Schlecht. et Cham. in Linnæa. 5. p. 566.) suffruticose; branches terete, beset with adpressed hairs; leaves on short petioles, ovate-lanceolate, acuminated, 3-nerved, obsoletely serrulated, strigose on both surfaces and ciliated on the margins; cymes terminal and axillary, 3-5-flowered; flowers on short pedicels; calyx strigose, campanulate, with linear-spatulate segments, which are about equal in length to the petals, which are obovate; connectives of anthers biauriculate at the base. ♄. S. Native of Mexico, near Misantla. Flowers rose-coloured.

Var. β, *macrántha* (Schlecht. et Cham. in Linnæa. 5. p. 566.) flowers purple, double the size of those of the species; petals twice the length of the calycine lobes; seeds small, white, cochleate.

Schiede's Chætogastra. Shrub 1 to 2 feet.

7 C. HI'SPIDA (D. C. l. c.) stem herbaceous, tetragonal, hispid; leaves petiolate, oval, attenuated at the base, and acuminated at the apex, 5-nerved, hardly serrulated, (lateral nerves confluent at the base,) villous above, hispid on the nerves beneath, but pubescent between the nerves; panicles lateral and terminal, disposed in a thyrse; calyx ovate, villous, with subulate lobes; connectives of anthers very short, furnished with 2 very short tubercles at the base of each. ♃. S. Native of Brazil. Like *C. lanceol*[illegible]*nénsis* and probably all three constitute but one species. Flowers white.

Hispid Chætogastra. Pl. 1 to 2 feet.

8 C. HYPERICOÌDES (D. C. l. c.) plant erect, simple, densely clothed with canescent villi; leaves oval, on short petioles, acute, 7-nerved; panicles axillary and terminal, leafy, loose; tube of calyx ovate, longer than the lobes; petals obovate, hardly exceeding the calycine lobes. ⊙. S. Native of Guiana, in marshes. Melástoma villòsa, Aubl. guian. 1. p. 168. Rhéxia villosíssima, Rich. in Bonpl. rhex. t. 31. Flowers small, white. Connectives of anthers drawn out into 2 elongated auricles. Ovarium bristly at the apex.

St. John's-wort-like Chætogastra. Pl. 1 to 2 feet.

9 C. LYCHNITOÌDES (D. C. l. c.) plant herbaceous, erect; stem almost simple, densely beset with spreading hairs; leaves sessile, oval, acute, clothed with adpressed silky villi, 7-nerved, quite entire; thyrse elongated; flowers bracteate, crowded on the peduncles; calyx villous, with an ovate tube, nearly twice the length of the lobes, which are lanceolate and acuminated. ♃.? S. Native of Brazil, in the province of Minas Geraes, on sandstone rocks. Rhéxia lychnitoìdes, Schrank et Mart. mss. Very like *C. hypericoìdes*, but differs in the calyxes being twice the size, and in the flowers being more crowded. Stamens unknown. Capsule 5-celled. Seeds small, cochleate, smooth.

Lychnitis-like Chætogastra. Pl. 1 to 3 feet.

10 C. STACHYOÌDES (D. C. l. c.) plant herbaceous, erect; branches tetragonal, hairy; leaves on short petioles, oblong, obtuse at the base, acute at the apex, quite entire, 5-nerved, clothed with adpressed villi; flowers crowded into verticillate heads in the axils of the leaves; calyx 4-5-cleft: appendages hair-formed, hardly distinct. ⊙. S. Native of Brazil. Rhéxia stachyoìdes, Bonpl. rhex. t. 43. Flowers rose-coloured. Five of the stamens are almost without auricles at the base, and the other 5 are furnished with a long connective each which ends in 2 bristles. There is a variety of this species, according to Bonpland, with 4-5-cleft octandrous or decandrous flowers.

Stachys-like Chætogastra. Pl. 2 feet.

11 C. ciliàris (D. C. l. c.) stem herbaceous, tetragonal, and is as well as the petioles and peduncles hispid; leaves on short petioles, oblong, acuminated, serrulated, 5-nerved, beset with stiff villi above and densely clothed with pale soft villi beneath; cymes terminal, subcorymbose; calyx very villous, with short, lanceolate lobes; connectives of anthers bluntly biauriculated at the base. ♃. S. Native of Santa Fe de Bogota. ex herb. Humb. Meriània ciliàris, Vent. choix. t. 34. Osbéckia ciliàris, Ser. mss. Flowers purple. Petals obovate, ciliated. Stamens glabrous.

Ciliated-petalled Chætogastra. Pl. 1 foot.

12 C. tortuòsa (D. C. l. c.) branches loose, terete, rather hairy; leaves petiolate, lanceolate, 3-nerved, quite entire, rather villous; flowers nearly terminal, 1-3-together; tube of calyx ovate, villous, almost equal in length to the lobes which are nearly subulate; connectives of anthers simple, but bifid at the apex. ♄. S. Native of Mexico, in arid places, near Tasco. Rhéxia tortuòsa, Bonpl. rhex. t. 7. Osbéckia tortuòsa, Spreng. syst. 2. p. 312. Flowers small, white.

Twisted Chætogastra. Shrub 1 foot.

13 C. divaricàta (D. C. l. c.) plant herbaceous, rather sarmentose; stem acutely tetragonal, divaricately branched at the apex, and scabrous along the angles; leaves on short petioles, lanceolate, acute, 3-nerved, ciliated, scabrous at the angles beneath; flowers disposed in a loose dichotomous panicle; calyx pentagonal, scabrous on the angles; petals ovate, awned, ciliated. ♃.? S. Native on the banks of the Orinoco, in shady places. Rhéxia divaricàta, Bonpl. rhex. t. 22. Osbéckia divaricàta, Spreng. syst. 2. p. 312. Flowers [illegible]

Divaricate Chætogastra. Pl. sarmentose.

14 C. gràcilis (D. C. prod. 2. p. 133.) herbaceous, erect, nearly simple, naked at the apex; stem tetragonally terete, villous; leaves almost sessile, lanceolate-linear, acute, quite entire, 3-5-nerved, villous; pedicels axillary, 1-flowered: and terminal, in threes; tube of calyx ovate, about equal in length to the lobes, which are lanceolate and acuminated. ♃. S. Native of Brazil, in elevated grassy fields about Rio Janeiro. Rhèxia grácilis, Kunth, in Bonpl. rhex. t. 52. Rhéxia agrostémma, Mart. et Schrank. mss. Root creeping. Petals violaceous. Anthers elongated, acutish, opening by 1 pore. Capsule 5-celled. Seeds cochleate.

Slender Chætogastra. Pl. 2 to 3 feet.

15 C. fratèrna (D. C. l. c.) herbaceous, erect; stem from compressed to terete, scabrous from adpressed short bristles; leaves hardly petiolate, oblong-linear, acute, 5-nerved, nearly entire, beset with adpressed bristles; racemes panicled, terminal, elongated; tube of calyx ovate, beset with adpressed bristles: with the lobes lanceolate, acute, coloured and glabrous on the inside. ♃. S. Native of South America. Very like *C. grácilis.*

Brotherly Chætogastra. Pl. 1 to 2 feet.

16 C. hirsùta (D. C. l. c.) plant herbaceous, erect, almost simple; stem terete, densely clothed with spreading hairs; leaves sessile, lanceolate, 5-nerved; cymes axillary, pedunculate and terminal, almost disposed in a panicle; petals ciliated at the apex; calyx bristly, with an ovate tube and 5 lanceolate acuminated lobes. ♃. S. Native of Brazil. Very like *C. grácilis*, but differs in the stem being hairy, not beset with adpressed bristles.

Hairy Chætogastra. Pl. 1 to 2 feet.

17 C. hieracioìdes (D. C. l. c.) almost herbaceous; stems simple, and are as well as the leaves and calyxes very hairy; leaves sessile, ovate, acute, 5-nerved, very few at the base of the stem; cymes racemosely panicled, contracted; flowers with 18 stamens; calyx very villous, with lanceolate, pectinately ciliated lobes; petals obovate; anthers elongated, acute. ♃. S. Native of Brazil, in the province of Minas Geraes, on the more elevated mountains, in fields. Rhéxia hieracioìdes, Mart. et Schrank, mss. Very like *Rhéxia piloselloìdes* of Bonpl. but the leaves are much broader, and 5-nerved, not 7-nerved, and all parts of the plant are much more hairy, the flowers more numerous, and on shorter pedicels, and according to Schrank the petals are obovate, of pale lilac colour, not yellow, nor terminated by a hair, and in the anthers being twice the length.

Hawkweed-like Chætogastra. Pl. 1 foot.

18 C. strigillòsa (D. C. l. c.) almost herbaceous, erect, densely clothed with adpressed stiff pili; leaves on short petioles, oval, acute, 5-nerved; peduncles longer than the leaves, bearing sessile flowers in the axils of the bracteas; flowers decandrous. ♃. S. Native of Brazil, in the province of Minas Geraes, on the sides of mountains. Rhéxia strigillòsa, Schrank et Mart. mss. Stem a foot high, hardly branched. Leaves nearly 3 inches long. Flowers purple, 9-10 lines in diameter; lobes of calyx lanceolate-linear. Petals obovate, ciliated. Anthers having their connectives hardly produced under the cells, tumid, straightish, and acuminated at the base. Allied to *C. hieracioìdes.*

Strigillose Chætogastra. Pl. 1 foot.

19 C. sherardioìdes (D. C. l. c.) plant erect, herbaceous, branched, rough from strigose adpressed short pili; leaves on very short petioles, narrow-lanceolate, quite entire, 3-nerved; flowers terminal, 3-together, or axillary and solitary, decandrous. ♃. S. Native of Peru, ex Hænke, or of Brazil, in the province of Minas Geraes, ex Mart. Rhéxia sherardioìdes, Schrank, mss. Leaves 6-7 lines long and 2-3 broad. Flowers middle-sized. Tube of calyx ovate; lobes 5, linear-subulate, elongated. Anthers linear, acuminated, drawn out at the base into a long pedicel each, which ends in 2 bristles. Style long, and is as well as the filaments glabrous.

Sherardia-like Chætogastra. Pl. ½ foot.

20 C. clinopodifòlia (D. C. l. c.) plant herbaceous, of many stems, beset with long villi in every part; leaves petiolate, ovate, serrulated, 3-nerved; flowers axillary, on short pedicels, solitary: or terminal, in threes; calyx hispid, campanulate, 5-toothed; anthers equal. ♃. S. Native of Brazil, in the provinces of St. Paul and Rio Janeiro, in shady woods. Melástoma rèpens, Schrank et Mart. mss. but the fruit is capsular, not baccate. Herb humble. Root fibrous. Flowers small. Anthers ovate, opening by 1 pore, having short hardly auricled connectives. Capsule globose, 5-celled, free, dehiscent. Seeds cochleate. Bristles on the ovarium few. Appendages hardly any, bristly, and rather palmate at the base.

Clinopodium-leaved Chætogastra. Pl. ½ foot.

21 C. móllis (D. C. prod. 3. p. 134.) shrubby; branches terete, clothed with soft adpressed villi; leaves petiolate, ovate, acuminated, 7-nerved, beset with soft villi; thyrse panicled, terminal, crowded, hairy; tube of calyx ovate, velvety, about equal in length to the lobes, which are linear; petals oval, acuminately mucronate; anthers almost without auricles at the base. ♄. S. Native of Peru, in groves about Loxa. Rhéxia móllis, Bonpl. rhex. t. 19. Flowers of a violaceous blue colour. Ovarium hairy.

Soft Chætogastra. Shrub 6 feet.

22 C. canéscens (D. C. l. c.) shrubby; branches terete, and are as well as the leaves densely clothed with short hairs; leaves petiolate, ovate-lanceolate, 3-nerved, quite entire; flowers subterminal, usually 3 together, drooping, on short pedicels; calyx rather hairy, with an ovate tube, which is about the length of the lobes; connectives of anthers hardly evident; anthers bluntly bifurcate at the base. ♄. S. Native of cold places, on Mount Purase at Popayan, where it is called *Sarzileja.*

Rhéxia canéscens, Bonpl. rhex. t. 6. Flowers dark purple or violaceous. Calyx red.

Canescent Chætogastra. Shrub 3 feet.

23 C. sarmentòsa (D. C. l. c.) shrubby; branches climbing almost terete, villous; leaves on short petioles, oval, somewhat cordate, serrulated, 7-nerved, villous; flowers terminal, approximating by threes, on very short pedicels; calyx villous, with the tube about equal in length to the lobes; connectives of anthers long, furnished with 2 tubercles each at the base. ♄. ◡ S. Native of Peru, in hot places near Cuenca and St. Felipe. Rhéxia sarmentòsa, Bonpl. rhex. t. 10. Flowers large, of a reddish violaceous colour.

Sarmentose Chætogastra. Shrub cl.

24 C. murica'ta (D. C. l. c.) shrubby; branches, peduncles, and calyxes pilose; leaves petiolate, broadly ovate, somewhat cordate, hardly acute, 5-nerved, beset with bristles above, which are blistered at the base, but clothed with silky tomentum beneath; flowers terminal, solitary; anthers each furnished with a slender appendage, which is bidentate at the base. ♄. S. Native of cold places on Mount Purase, near Popayan. Rhéxia muricàta, Bonpl. rhex. t. 1. Habit almost of *Cistus salvifòlius.* Flowers large, purple, or violaceous.

Muricated Chætogastra. Shrub 4 to 5 feet.

25 C. strigòsa (D. C. l. c.) suffruticose; branches tetragonal, beset with adpressed bristles; leaves on short petioles, ovate, acute, hardly 3-nerved, quite entire, with a few thick, scattered, adpressed bristles on the upper surface, and scabrous on the nerves beneath; cymes terminal, pedunculate, few-flowered; tube of calyx hispid, with 5 short, acute, lobes. ♄. S. Native of Guadaloupe, on the top of the Sulphur Mountain, among sphagnum; and on the mountains of Montserrat and Martinique. Melástoma strigòsa, Lin. fil. suppl. p. 236. Mel. ciliàta, Desr. in Lam. dict. 4. p. 49. Osbéckia ornàta, Swartz, fl. ind. occ. p. 647. Rhéxia incónstans, Vahl, elc. 1. p. 37. Rhéxia strigòsa, Rich. act. soc. hist. nat. par. 1791. p. 108. Rhéxia ornàta, Rich. in Bonpl. rhex. t. 26. R. chamæcístus, Sieb. pl. exsic. mart. no. 297. Flowers pale purple, bractless. Anthers yellow, obtuse, almost without auricles at the base. Capsule ovate, 5-celled, bristly at the apex. There are varieties of this plant having flowers either with 4 or 5 petals, smaller, and larger.

Strigose Chætogastra. Sh. 6 to 8 feet.

26 C. lepidòta (D. C. l. c.) shrubby; branchlets bluntly tetragonal, and are, as well as the petioles, leaves, peduncles, and calyxes scabrous from imbricated scaly bristles; leaves petiolate, oblong-lanceolate, 5-nerved, hardly serrulated; cymes pedunculate, terminal; flowers few, almost sessile, crowded; calyx with an obovate tube, and obtuse lobes; connectives of anthers hardly evident, and almost without any auricles at the base. ♄. S. Native of Peru, in cold places near Jaen de Bracamoros. Rhéxia lepidòta, Bonpl. rhex. t. 15. Flowers purple or violaceous. Capsule globose, bristly, and denticulated at the apex.

Lepidoted Chætogastra. Sh. 6 feet.

27 C. cardina'lis (D. C. l. c.) branchlets somewhat tetragonal, very hairy, and very leafy; leaves almost sessile, orbicularly reniform, quite entire, 5-7-nerved, strigose above, but clothed with silky hairs beneath; flowers terminal, crowded, almost sessile; calyx hispid, with a campanulate tube, rather longer than the lobes, which are bluntish; connectives of anthers hardly produced, emarginate. ♄. S. Native of Brazil, in hot places near Gran-Para. Rhéxia cardinàlis, Bonpl. rhex. t. 37. Melástoma cardinàlis, Spreng. syst. 2. p. 298. Calyx coloured inside. Flowers of a rose purple-colour.

Cardinal Chætogastra. Sh. 2 to 4 feet.

28 C. stricta (D. C. l. c.) branches terete, velvety from short down; leaves on short petioles, oval-lanceolate, 3-nerved, quite entire, rather hairy; flowers nodding, bibracteate; calyx campanulate, rather villous; connectives of anthers drawn out into 2 bristles, which are capitate at the apex. ♄. S. Native of Peru, in cold places on Mount Purase, and near Loxa. Rhéxia stricta, Bonpl. rhex. t. 8. but not of Pursh. Shrub much branched, straight. Flowers purple or violaceous. Calyxes and bracteas purplish. Petals ciliated. Ovarium bristly. There is a variety of this species having 4-petalled flowers.

Straight Chætogastra. Sh. 4 to 5 feet.

29 C. echina'ta (D. C. prod. 3. p. 135.) branches terete, and are, as well as the peduncles, petioles, and calyxes beset with thick adpressed stiff pili; leaves ovate, 5-nerved, woolly beneath, echinated above, quite entire; flowers inclinate; tube of calyx ovate, about equal in length to the lobes, which are lanceolate; connectives of anthers thick at the base. ♄. S. Native of Peru, on the tops of hills. Rhéxia echinàta, Ruiz et Pav. fl. per. 3. p. 85. t. 319. f. 6. Flowers large, spreading, of a violaceous purple-colour. Capsule 5-celled, bristly at the apex. Seeds cochleate.

Echinated Chætogastra. Sh. 2 to 3 feet.

30 C. cernua (D. C. l. c.) branches tetragonal, rough at the angles; leaves on short petioles, oval, rather crenulated, 5-nerved, often hispid along the nerves; flowers pedicellate, usually 3 together, terminal, drooping; tube of calyx campanulate, one-half shorter than the lobes, which are linear-lanceolate. ♄. S. Native of Peru, on the Andes, on Mount Purase near Popayan. Rhéxia cérnua, Bonpl. rhex. t. 13. Osbéckia cérnua, Spreng. syst. 2. p. 312. Petals oval, violaceous. [illegible] violaceous. Capsule 5-celled.

Drooping-[illegible]

Sect. III. Bractea'ria (from *bractea*, a bractea or prop; in reference to the flowers, which are furnished with 6 bracteas each at the base). D. C. prod. 3. p. 135. Calyx with an obovate pilose tube, girded at the base by 6 free bracteas, which are arranged in 3 series; lobes 5, obtuse. Anthers hardly biauriculate at the base.

31 C. confe'rta (D. C. l. c.) suffruticose, much branched; branchlets hairy; leaves on short petioles, crowded, small, oval, obtuse, 3-nerved, beset with adpressed bristles; flowers terminal, solitary, drooping; bracteas 6, involving the flower; calyx pilose, with 5 bluntish teeth. ♄. S. Native of Peru, in cold places near Loxa. Rhéxia confèrta, Bonpl. rhex. t. 20. Petals roundish, violaceous, almost conniving into a tube. Capsule globose, denticulated from 5 bristle-like teeth.

Crowded Chætogastra. Sh. 3 feet.

Cult. For culture and propagation see *Lasiándra*, p. 752.

XXXIII. ARTHROSTE'MMA (from αρϑρον, *arthron*, a joint, and στεμμα, for στημον, *stemon*, a stamen; in reference to their stamens or connectives being jointed). Pav. ex D. Don, mem. soc. wern. 4. p. 298. D. C. prod. 3. p. 135.—Melànium, Rich. herb.

Lin. syst. *Octándria, Monogýnia.* Tube of calyx turbinate or campanulate, usually clothed with bristles, pili, or scales; lobes 4, lanceolate, permanent, without any appendages between them. Petals 4. Stamens 8; filaments quite glabrous. Anthers oblong, opening by one pore at the apex, furnished with longish connectives, which are biauriculated at the base. Ovarium bristly at the apex. Capsule 4-celled. Seeds cochleate.—Herbs or subshrubs, very variable in habit, all natives of South America. The genus is composed, as it now stands, of a heterogeneous mass of species, which may hereafter be divided into many genera, instead of sections.

Sect. I. Chætope'talum (from χαιτη, *chaite*, a bristle, and πεταλον, *petalon*, a petal; in reference to the petals, which are terminated by a bristle each). D. C. prod. 3. p. 135. Petals 4, oval, each terminated by a bristle. Anthers 8, equal, having their connectives not appendiculated. Ovarium 4-toothed at the apex. Capsule 4-celled. Seeds reniform, not truly cochleate.—Herbs, suffruticose at the base. Flowers white or yellow. Perhaps this section is sufficient to form a proper genus.

1 A. Angusture'nse (D. C. l. c.) herbaceous; leaves lanceolate, 3-nerved, quite entire, pilose on both surfaces; flowers terminal, almost solitary; calyx clothed with stellate down. ♃. S. Native on the banks of the Orinoco, near Angustura. Rhéxia Angusturénsis, Bonpl. rhex. p. 77. t. 29. Flowers white. Genitals hardly longer than the petals. Anthers linear, falcate.

Angustura Arthrostemma. Pl. 2 to 3 feet.

2 A. piloselloìdes (D. C. prod. 3. p. 136.) suffruticose at the base; leaves crowded at the roots, lanceolate, quite entire, 7-nerved, pilose; stem almost a scape, loosely panicled, few-flowered; calyx pilose. ♄. S. Native of New Grenada, in cold places at the elevation of 3900 feet. Rhéxia piloselloìdes, Bonpl. rhex. p. 12. t. 5. Flowers yellow, spreading. Style short, rather clavate.

Mouse-ear-like Arthrostemma. Pl. ½ to ¾ foot.

Sect. II. Brachyòtum (from βραχυς, brachys, short, and ους ωτος, *ous otos*, an ear; auricles of the connectives of the anthers short). D. C. prod. 3. p. 136. Calyx 4-cleft, without any appendages. Petals 4, subaristate, usually convolute. Connectives of anthers furnished with 2 short auricles each. Ovarium bearing bristles at the apex, not 4-toothed. Capsule 4-celled.—Suf[illegible] Flowe[illegible]

3 A. rosmarinifòlium (D. C. l. c.) shrubby; branches terete, echinated; leaves nearly sessile, oblong-linear, 3-nerved, with revolute quite entire edges; peduncles 1-5-flowered, pendulous; calyx hispid; petals convolute. ♄. S. Native of Peru, on arid hills. Rhéxia rosmarinifòlia, Ruiz et Pav. fl. per. 3. p. 84. t. 318. f. a. Leaves small, numerous. Flowers violaceous, spreading in the night and morning. Style exserted, rather clavate.

Rosemary-leaved Arthrostemma. Shrub 1 to 2 feet.

4 A. lute'scens (D. C. l. c.) shrubby; branches rugged, pilose; hairs thick, stiff, short; leaves ovate, 3-nerved, curled a little, white beneath; peduncles 3-flowered; calyx pilose; petals convolute. ♄. S. Native of Peru, on the mountains. Rhéxia lutéscens, Ruiz et Pav. fl. per. 3. p. 84. t. 319. f. a. Leaves small, firm; when in a dry state they are olive-coloured above, and yellowish beneath. Calyx purplish, with lanceolate teeth. Petals yellowish.

Yellowish Arthrostemma. Sh. 2 feet.

5 A. quinquene'rve (D. C. l. c.) shrubby, much branched; branches tetragonal, beset with adpressed bristles; leaves petiolate, ovate, acute, quite entire, 5-nerved, bristly above, but villously tomentose beneath; peduncles axillary and terminal, many-flowered, inflexed at the apex; flowers drooping; calyx bristly, with an ovate tube, shorter than the lobes, which are setaceous. ♄. S. Native of Peru, on mountains and hills. Rhéxia quinquenérvis, Ruiz et Pav. fl. per. 3. p. 83. t. 321. f. 3. Petals almost conniving into a tube, ciliated. Connectives of anthers furnished each with 2 very short auricles. Capsule 4-valved, bristly at the apex. Style exserted.

Five-nerved-leaved Arthrostemma. Sh. 6 feet.

6 A. campanula're (D. C. l. c.) shrubby; branches clothed with rufous down; leaves ovate, 5-nerved, quite entire, very hispid above, but tomentose beneath; flowers drooping, campanulate; calyx pilose. ♄. S. Native of Peru, in cold places near Loxa, at the elevation of 8000 feet. Rhéxia campanulàris, Bonpl. rhex. p. 35. t. 14. Petals deep purple or violaceous, awned. Style thickened at the apex. Capsule globose. This plant appears to be intermediate between the first and the present section.

Campanulate-flowered Arthrostemma. Sh. 4 feet.

Sect. III. Ladanópsis (from λαδανον, *ladanon*, the ladanum bush, and οψις, *opsis*, resemblance; plants with the habit of *Cistus ladanifera* or ladanum-tree). D. C. prod. 3. p. 136. Calyx 4-cleft. Petals 4, obovate, expanded. Connectives of anthers rather long, furnished with two short auricles at the base of each. Capsule 4-celled, bristly at the apex. Seeds cochleate.—Herbs or subshrubs.

7 A. ladanoìdes (D. C. l. c.) plant hèrbaceous, erect; hairs or strigæ on the stems and leaves adpressed, but those on the calyx are spreading, and in fascicles; stem tetragonal; leaves on short petioles, lanceolate, acuminated, ovate at the base, 3-nerved, serrulated; pedicels elongated, loose, axillary, 1-flowered, and terminal 3-flowered; tube of calyx ovate, longer than the lobes, which are oblong and ciliated. ☉. S. Native of Brazil and Guiana, in marshes. Rhéxia híspida, Rich. in act. soc. hist. nat. par. 1791. p. 108. Rhéxia ladanoìdes, Rich. in Bonpl. rhex. t. 27. Rhéxia ùda, Mart. herb. Melástoma trichótomum, Willd. ined. ex herb. mus. par. Anthers oval, truncate, short, rather dissimilar, especially 4, having short connectives, and 4 with longer ones. Ovarium bristly, 4-celled. Seed cochleate. Flowers purplish.

Ladanum-like Arthrostemma. Pl. 1 to 1½ foot.

8 A. herba'ceum (D. C. prod. 3. p. 137.) herbaceous; stem tetragonal, covered with minute hairs; leaves on short petioles, ovate-lanceolate, acuminated, crenulately serrated, villous above, but clothed with hairy tomentum beneath; cymes on long peduncles, axillary, 3-flowered; calyx villous, with 4 ovate ciliated lobes; anthers rather dissimilar. ☉. ? S. Native of Brazil, in woods, in the province of Rio Janeiro and Minas Geraes, but rare. Rhéxia herbàcea, Schrank et Mart. mss. Petioles hairy. Petals obovate-oblong, when young ciliated at the apex. Anthers 8 oblong, with smooth beaks, the 4 longest having straight connectives, and the 4 shortest arched ones.

Herbaceous Arthrostemma. Pl. 1 foot.

9 A. hirsuti'ssimum (D. C. l. c.) herbaceous, erect; stem tetragonal, very hairy from long, rather bristly, spreading, somewhat retrograde hairs; leaves on short petioles, lanceolate, acuminated, crenulately serrated, densely clothed with adpressed villi; cymes on long peduncles, axillary, 3-flowered; calyx villous, with 4 ciliated lobes; anthers dissimilar. ☉. S. Native of Brazil. Very like *A. herbàceum*, but differs in the hairiness. Ovarium bristly at the apex. Seeds cochleate.

Very-hairy Arthrostemma. Pl. 1 foot.

10 A. Martiusia'num (D. C. l. c.) stem erect, hairy, almost herbaceous, oppositely and paniculately branched; branches quadrangular; leaves on short petioles, ovate-lanceolate, acute, serrulated, 5-nerved, beset with adpressed strigæ above, but with soft villi beneath; peduncles dichotomous, 3-7-flowered. ♃. ? S. Native of Para, in Brazil. Rhéxia paniculàta, Mart. herb. and Schrank, mss. but not Hamilt. Rhéxia Martiusiàna, Ser. mss. Rhéxia cerastiifòlia, Schrank, et Mart. mss. Tube of calyx ovate, rather pilose; lobes 4, acute. Petals ovate, purple, pilose on the back. Anthers articulated at the base; the articulation distant from the cells, and tumid on one side. Ovarium bristly at the apex.

Martius's Arthrostemma. Pl. 1 to 2 feet.

11 A. polygonoìdes (D. C. l. c.) suffruticose? branches loose, tetragonal, beset with a few slender adpressed bristles; leaves on short petioles, oblong, quite entire, 3-nerved, beset with adpressed bristles on both surfaces; flowers axillary, solitary, almost sessile; lobes of calyx 4, rarely 5, longer than the

tube, ovate-lanceolate, each terminating in a hair. ♃. ? S. Native of Brazil, in marshy fields in the province of Minas Geraes. Rhéxia polygonoìdes, Mart. herb. Very like *A. pùmilum*. Leaves terminating in a long hair. Hairs on the calyx simple, and adpressed. Petals small, white. Ovarium bristly at the apex.—Bonpl. rhex. t. 35. f. 4.

Polygonum-like Arthrostèmma. Pl. 1 to 2 feet.

12 A. villòsum (D. C. l. c.) suffruticose, decumbent, hairy in every part; branches tetragonal; leaves on short petioles, oval, denticulated, 3-nerved; flowers few, almost sessile at the tops of the branches; calyx with an ovate tube, and 4 lobes, which are subulate at the apex; connectives of anthers furnished with 2 horns each. ♄. S. Native of Cayenne, at Aroura in sandy meadows. Rhéxia villòsa, Aubl. guian. 1. p. 334. t. 129. f. 1. Petals concave, violaceous. Capsule 4-celled.

Villous Arthrostemma. Pl. decumbent.

13 A. Auble'tii (D. C. l. c.) suffruticose, decumbent, hairy in every part; branches tetragonal; leaves on short petioles, roundish, acutish, serrulated, 5-nerved; flowers solitary, terminal; tube of calyx globose; lobes subulate at the apex; connectives of anthers furnished with 2 horns at the base. ♄. S. Native of Guiana, in sandy meadows at Aroura. Rhéxia latifòlia, Aubl. guian. t. 129. f. 2. Very like the preceding species, but differs in every part, being twice the size.

Aublet's Arthrostemma. Shrub decumbent.

14 A. versi'color (D. C. l. c.) suffruticose, pilose; leaves petiolate, ovate, serrulated, 5-nerved, discoloured beneath; flowers terminal, solitary; lobes of calyx 4, serrated at the apex. ♄. S. Native of Brazil, on the sea shore. Rhéxia versícolor, Lindl. bot. reg. t. 1066. Petals obovate, ciliated, at first white, but at length becoming reddish. Ovarium bristly at the apex. Anthers hardly biauriculate at the base. Habit of *Chætogástra clinipodifòlia*.

Party-coloured-flowered Arthrostemma. Fl. Sept. Clt. 1825. Shrub 1 foot.

15 A. nummularioìdes (D. C. l. c.) shrubby, much branched, clothed with minute down; leaves petiolate, nearly orbicular, cordate, crenated, 5-nerved, rather tomentose beneath; flowers solitary, on the tops of the axillary branchlets; connectives of anthers drawn out each into 2 blunt appendages, or one bifid one. ♄. S. Native near Esmaraldas, on the Orinoco. Rhéxia nummularioìdes, Bonpl. rhex. 2. p. 23. Flowers rose-coloured. Perhaps this species belongs to a different section.

Money-wort-like Arthrostemma. Shrub decumbent.

Sect. IV. Trifurca'ria (from *tres*, three, and *furca*, a fork; in reference to the connectives of the anthers being drawn out each into a 3-toothed appendage, or into 3 bristles at the base). D. C. prod. 3. p. 138. Calyx 4-cleft. Petals 4. Connectives of anthers drawn out each into a tridentate appendage, or into 3 bristles at the base.

16 A. cilia'tum (Pav. ex D. Don, mem. soc. wern. 4. p. 299.) stem herbaceous, quadrangular; leaves cordate, smooth on both surfaces, serrulated and ciliated on the margins; appendages of anthers tridentate at the base. ♃. S. Native of Peru.

Ciliated-leaved Arthrostemma. Pl. 2 to 3 feet.

17 A. latifòlium (D. Don, l. c.) stem shrubby; leaves broad, ovate, acuminated, serrulated and ciliated; panicle large; appendages of anthers of 3 bristles. ♄. S. Native of French Guiana.

Broad-leaved Arthrostemma. Shrub.

Sect. V. Monochæ'tum (from μονος, *monos*, one, and χαιτη, *chaite*, a bristle; in reference to the appendages of anthers being drawn out into one single or emarginate spur at the base). D. C. prod. 3. p. 138. Calyx 4-cleft. Petals 4. Connectives of anthers drawn out each into one simple or emarginate ascending spur, or in a bristle at the same base. Perhaps this section is sufficient to constitute a distinct genus.

18 A. calcara'tum (D. C. l. c.) shrubby; branchlets somewhat tetragonal, smoothish, bearing wherles of bristles at the knots; leaves petiolate, oblong, acuminated, 3-nerved, ciliately serrated, beset with a few bristles beneath; flowers pedicellate, solitary, or by threes at the tops of the branchlets; calyx beset with adpressed bristles: with 4 lanceolate, somewhat coloured, ciliated lobes; anthers with long beaks, ending in a long slender spur at the base. ♄. S. Native of Mexico. Flowers purple, like those of a species of *Lasiándra*, but differs in the petals being 4, and in the stamens being glabrous. Ovarium densely beset with bristles.

Spurred-anthered Arthrostemma. Sh. 1 to 2 feet.

19 A. Deppea'na (Schlecht. et Cham. in Linnæa. 5. p. 566.) suffruticose, much branched; branches terete, beset with adpressed hairs; leaves narrow-lanceolate, bluntish, triple-nerved, quite entire, strigose on the nerves on the under surface, and between the nerves on the upper surface, and on the margins; flowers terminal, solitary; tube of calyx turbinate, strigose; calycine segments lanceolate, acute; petals roundish, obovate; connectives of anthers drawn out into a simple ascending spur. ♄. S. Native of Mexico, at San Andres and on Serro Colorado. Flowers purple.

Deppe's Arthrostemma. Fl. Aug. Sh. 1 to 2 feet.

20 A. myrtoideum (D. C. l. c.) suffruticose; branches clothed with powdery down; leaves oblong, quite entire, glabrous, triple-nerved, [illegible] beneath, perhaps from down; flowers axillary and s[illegible]r terminal and tern; tube of calyx turbinate, glabrous, [illegible]ete. ♄. S. Native of Mexico, near Quaretaro; and near Santa Fe de Bogota. Rhéxia myrtoidea, Bonpl. rhex. t. 3. Petals violaceous, oval-lanceolate. Adult branches glabrous, with separable bark. Ovarium downy at the apex from minute stellate down.

Myrtle-like Arthrostemma. Sh. 2 feet.

21 A. Bonpla'ndii (D. C. l. c.) suffruticose; branches densely clothed with short down; leaves on short petioles, ovate, 5-nerved, quite entire, villous on both surfaces from soft down, canescent beneath; flowers pedicellate, 1-3-together, axillary, and terminal; tube of calyx ovate, longer than the lobes. ♄. S. Native of South America, on the banks of the river Amazon. Rhéxia canéscens, Bonpl. rhex. p. 14. t. 18. Rhéxia Bonplándii, Kunth, ined. Rhéxia incàna, Spreng. syst. 2. p. 309. Flowers violaceous.

Bonpland's Arthrostemma. Sh. 3 feet.

22 A. dicrananthe'rum (D. C. l. c.) suffruticose, much branched; branches tetragonal, and are, as well as the peduncles, calyxes, and leaves, beset with long spreading hairs; leaves almost sessile, ovate, acute, 5-nerved, entire; flowers subcorymbose; calyx with an ovate-globose tube, and 4 oval acute lobes. ♄. S. Native of Peru, in woods. Rhéxia dicrananthèra, Ruiz et Pav. fl. per. 3. p. 84. t. 320. f. a. Arthr. multiflòrum, D. Don, in mem. wern. soc. 4. p. 299. Ovarium pilose at the apex. Seeds cochleate.

Two-headed-anthered Arthrostemma. Sh. 1 to 2 feet.

23 A. linea'tum (D. Don, l. c.) stem shrubby, pilose; leaves lanceolate, quite entire, with hairy lines on both surfaces. ♄. S. Native of Peru. The rest unknown.

Lined-leaved Arthrostemma. Shrub.

24 A. multiflòrum (D. C. l. c.) suffruticose, branched at the base; leaves on short petioles, lanceolate, 5-7-nerved, quite entire, villous; thyrse panicled, terminal, many-flowered; appendages of anthers bristle-formed, rising from the base. ♄. S. Native on the banks of the Orinoco, in humid shady places. Rhéxia multiflòra, Bonpl. rhex. t. 16. Osbéckia Bonplandiàna, Spreng. syst. 2. p. 313. Flowers rose-coloured.

Many-flowered Arthrostemma. Sh. 3 feet.

Cult. The shrubby species of this genus should be cultivated and propagated in the manner of the species of *Melástoma*, p. 764. The annual species in the manner of those of *Centradènia*, p. 766.

XXXIV. OSBE'CKIA (in honour of Peter Osbeck, a Swedish clergyman and naturalist, author of Dagbock Oefer en Ostendyck resa, 1 vol. 8vo. Stockholm, 1757). Lin. gen. no. 467. D. Don, in mem. soc. wern. 4. p. 292. D. C. prod. 3. p. 138.

Lin. syst. *Octo-Decándria, Monogýnia.* Tube of calyx ovate, usually clothed with stellate bristles or down; lobes 4-5, permanent or deciduous: bearing appendages between the lobes on the outside of various sizes and forms. Petals 4-5. Stamens 8-10; filaments glabrous; anthers nearly equal, terminating in short beaks, and having their connectives furnished with 2 short auricles at the base. Ovarium bristly at the apex. Capsule 4-5-celled. Seeds cochleate.—Herbs, but usually sub-shrubs, natives of America, Africa, and Asia. Leaves quite entire, 3-5-nerved. Flowers terminal. This genus is perhaps divisible in several genera instead of sections.

Sect. I. Micro'lepis (from *μικρος*, *mikros*, small, and *λεπις*, *lepis*, a scale; so named on account of the small scale-like appendages between the lobes of the calyx). D. C. prod. 3. p. 139. Tube of calyx ovate-oblong, urceolate, and constricted at the apex; limb 5-cleft: teeth deciduous. Stamens [illegible] Appendages between the lobes of the calyx small and [illegible] Species all South Amer[illegible] Flow[illegible]

1 O. urceola'ris (D. C. prod. 3. p. 139.) plant almost herbaceous; stems tetragonal; leaves petiolate, oval, quite entire, 5-nerved, clothed with villous tomentum on both surfaces; panicles terminal and axillary; calyx 5-toothed, with an ovate tube, which is constricted under the teeth; appendages between the teeth of the calyx short and lacerately ciliated; petals ciliated. ♃. ? S. Native of Brazil, near Rio Janeiro. Rhéxia urceolàris, Schrank et Mart. mss. Petioles 6 lines long. Leaves 4 inches long. Petals purple. Anthers linear-falcate, beaked, length of filaments: having their connectives short, and tumid at the articulation. Seeds cochleate, truncate at the base, striated longitudinally.

Urceolate-calyxed Osbeckia. Pl. 1 foot.

2 O. jucu'nda (D. C. l. c.) shrubby, glabrous; branches terete; leaves petiolate, ovate-lanceolate, acuminated, quite entire, 3-nerved, or somewhat 5-nerved; panicle terminal; peduncles and calyxes clothed with furfuraceous down; tube of calyx urceolate; petals oblong. ♄. S. Native of Brazil, in shady woods near Almada, in the province of Bahia. Rhéxia jucúnda, Schrank et Mart. mss. Leaves 6-7 inches long, and 2 broad. Petals white, 3 or 4 times longer than the calycine teeth. Stamens 10; filaments bluish. Anthers yellow, elongated, with short beaks: 5 of which have their connectives drawn out into a little lateral sack, and those of the other 5 are not drawn out.

Pleasant Osbeckia. Shrub 1 to 2 feet.

3 O. pityrophy'lla (D. C. l. c.) shrubby; leaves on very short petioles, oblong-ovate, acuminated, 3-nerved, glabrous above and shining, with impressed veins, clothed with white tomentum beneath, as well as on the calyxes; cymes few-flowered, terminal; lobes of calyx acute, 3 times shorter than the ovate tube; petals acuminated. ♄. S. Native of Brazil, on high dry mountains, in the province of Minas Geraes. Rhéxia pityrophýlla, Mart. herb. Rhéxia acuminàta, Schrank, mss. Shrub branched; branches tetragonal, with separable bark. Leaves 10 lines long. Anthers falcate, without any beak. Style very long. Ovarium beset with small bristles at the apex. Appendages of calyx small. Tomentum velvety. Fruit and seeds unknown.

Scurfy-leaved Osbeckia. Sh. 1 to 2 feet.

4 O. oleæfòlia (D. C. l. c.) suffruticose; branches hardly tetragonal, clothed with powdery tomentum; leaves petiolate, oblong-lanceolate, quite entire, 3-nerved, clothed with white velvety tomentum beneath, glabrous above; thyrse terminal; bracteas hiding the calyx when young; calyx velvety from small stellate down: lobes or teeth 5 or 6, short, oblong; anthers rather dissimilar. ♄. S. Native of Brazil, in the province of St. Paul, in elevated dry fields. Rhéxia oleæfòlia, Schrank et Mart, mss. Petals purple, minutely ciliated. Anthers linear, falcate, long, beaked: having their connectives drawn out into a ligula each, which are sometimes bifurcate, and sometimes somewhat 2-lobed. Leaves 15-20 lines long, and 6-7 broad.

Var. β, quaternifòlia (D. C. l. c.) young branches tetragonal, furfuraceous, and bearing glandular pili; leaves on short petioles, 3 or 4 in a whorl, oblong, blunt at the base, and acute at the apex, 5-nerved, minutely dotted above, but clothed with white furfuraceous velvety down beneath. ♄. S. Native of Brazil, in the province of Minas Geràes, at the sides of woods. Rhéxia quaternifòlia, Schrank et Mart. mss. Petals purple, obovate-oblong. Anthers long, linear, falcate, beaked: 5 of which have forked connectives. Ovarium bristly at the apex. Down on calyx stellate.

Olive-leaved Osbeckia. Sh. 1 to 2 feet.

Sect. II. Chæto'lepis (from *χαιτη*, *chaite*, a bristle, and *λεπις*, *lepis*, a scale; there are stiff bristles between the lobes of the calyx, which hold the place of the appendages). D. C. prod. 3. p. 140. Lobes of calyx 4, with as many stiff simple bristles between the lobes on the outside, holding the place of appendages.—American plants.

5 O. microphy'lla (D. C. l. c.) shrubby, much branched; branches terete, scabrous from strigæ; leaves on short petioles, ovate, quite entire, 5-nerved, scabrous on both surfaces from adpressed strigæ, pale beneath; flowers solitary, subcorymbose, pedicellate; tube of calyx ovate, bristly at the apex; ovarium furnished with 8 bristles at the apex. ♄. S. Native of Guadaloupe, on the mountains; and near Santa Fe de Bogota. Rhéxia microphýlla, Bonpl. rhex. t. 2. Flowers yellow. Anthers obtuse. Petals obovate. Lobes of calyx, as well as the appendages, permanent.

Small-leaved Osbeckia. Sh. 1 foot.

Sect. III. Ptero'lepis (from *πτερον*, *pteron*, a wing, and *λεπις*, *lepis*, a scale; in reference to the appendages between the lobes of the calyx being pectinated). D. C. prod. 3. p. 140. Stamens 8-10. Calyx 4-5-cleft; lobes permanent, with the appendages between the lobes elongated and pectinated.—American plants.

* *Flowers 5-cleft, decandrous.*

6 O. parnassifòlia (D. C. prod. 3. p. 140.) shrubby, clothed in every part with silky villi; branches terete; leaves sessile, orbicular, rather cordate at the base, quite entire, 5-nerved; flowers almost sessile, axillary, usually solitary, but sometimes terminal and aggregate; calyx very hairy, with villous bristle-formed appendages between the lobes, and 5 ciliated coloured lobes. ♄. S. Native of Brazil, in stony grassy places, in the province of Bahia. Rhéxia parnassifòlia, Mart. et Schrank, mss. Lobes of calyx purplish, linear-oblong. Petals purple, obovate-cuneated. Style a little longer than the calyx. Stamens unknown. Young leaves mucronate. Capsule 1-5-celled. Seeds cochleate.

Parnassia-leaved Osbeckia. Shrub.

7 O. striphnocalyx (D. C. l. c.) shrubby; branches nearly terete, and are, as well as the peduncles and under side of the

leaves, scabrous from adpressed bristles; leaves petiolate, elliptic-oblong, acuminated, quite entire, 3-nerved, glabrous above, and with oblique stripes between the nerves; panicles terminal; calyx very hairy; bristles palmately stellate; anthers 5. ♄. S. Native of Brazil, in the province of Rio Negro. Rhéxia striphnocalyx, Mart. herb. Anthers linear, beaked, 3 times the length of the connectives, which are drawn out into one or two small lobules at the base. Calyx clothed with long white hairs. Stripes between the nerves of the leaves very evident. Flowers purple.

Hairy-calyxed Osbeckia. Shrub.

8 O. Si'msii (D. C. l. c.) branches tetragonal, hispid; leaves on short petioles, oblong-elliptic, 3-nerved, ciliated on the nerves and margins; flowers terminal, aggregate; appendages of calyx bristle-formed. ♄. S. Native of the Mauritius, but probably cultivated there. Melástoma Osbeckioìdes, Sims, bot. mag. 2235. Flowers large, purple. Perhaps the same as Osbéckia Chinénsis, Lin.

Sims's Osbeckia. Fl. July. Clt. 1818. Sh. 2 feet.

9 O. Pri'nceps (D. C. l. c.) branches angular, and are, as well as the leaves, clothed with fuscescent tomentum beneath; leaves petiolate, oblong, rather cordate at the base, sharply serrulated, 7-nerved, unequal, strigose on the upper surface; corymbs terminal; hairs on calyx glandular; appendages of calyx ending in a stellate tuft of hairs. ♄. S. Native of Brazil. Rhéxia Prínceps, Bonpl. rhex. t. 48. Flowers large, purple, composed of 5 petals according to the description, but only of 4 according to the figure.

Princeps's Osbeckia. Sh. 3 to 4 feet.

** *Flowers 4-cleft, octandrous.*

10 O. alpe'stris (D. C. l. c.) shrubby, beset in every part with somewhat adpressed strigose pili; leaves on short petioles, ovate, acute, quite entire, nerveless; flowers almost sessile, disposed in a terminal head; calyx very villous. ♄. S. Native of Brazil, on the alps of Serro Frio and Itambe. Rhéxia semiadnàta, Schrank, mss. Rhéxia alpéstris, Mart. herb. Leaves 6 lines long and 4 broad; petioles thick, semiadnate. Lobes of calyx lanceolate, glabrous inside. Petals violaceous, minutely ciliated. Anthers falcate, wrinkled transversely, with short beaks; having their connectives not drawn out beyond the articulation.

Alp Osbeckia. Sh. 1 to 2 feet.

11 O. repa'nda (D. C. prod. 3. p. 141.) herbaceous; stem nearly terete, and is, as well as the peduncles and leaves, villous from adpressed strigæ; leaves petiolate, lanceolate, 3-5-nerved, quite entire, acute; peduncles elongated, dichotomous; calyx very strigose, with the lobes acuminated and ciliated at the base, and having the scales or appendages between the lobes pectinated; petals somewhat repandly truncate at the apex. ♃. S. Native of Brazil, in elevated fields, in the province of Minas Geraes. Rhéxia repánda, Mart. et Schrank, mss. Petals purple. Anthers linear-falcate, acuminated by the beaks, twice the length of their connectives, which are hardly tumid at the base. Habit of *Arthrostémma grácilis.*

Repand-leaved Osbeckia. Pl. 1 to 2 feet.

12 O. glomera'ta (D. C. prod. 3. p. 141.) herbaceous; branches nearly tetragonal, scabrous from adpressed bristles; leaves on short petioles, ovate-lanceolate, acuminated, 3-nerved, clothed with adpressed stiff hairs; flowers axillary, usually solitary, but capitate at the tops of the branches; tube of calyx beset with branched stellate pili, ovate: with its scales ciliately pectinated, elongated and distant, and with its lobes ciliated, stiff, and lanceolate. ⊙. S. Native of Martinique, Trinidad, Surinam, and Brazil. Hook. bot. mag. 2838. Rhéxia glomeràta, Rottb. sur. 8. t. 46. Rhéxia capitàta, Rich. in Bonpl. melas. 2. t. 32. Petals rose-coloured, obovate, hardly longer than the lobes of the calyx, minutely ciliated. Connectives furnished with 2 tubercles at the base of each.

Var. β, *albiflòra* (D. C. l. c.) flowers white, fewer and larger. Rhéxia glomeràta, Lodd. bot. cab. t. 334. Native of Brazil. Perhaps a proper species.

Glomerate-flowered Osbeckia. Fl. July, Aug. Clt. 1818. Pl. 1 to 2 feet.

13 O. sipaneoìdes (D. C. l. c.) shrubby, very hairy all over; leaves sessile, oval-oblong, acute, 3-nerved, terminated by a bristle; flowers sessile in the axils of the upper leaves, and somewhat aggregate at the tops of the branches; calyx hispid from palmate bristles, having its lobes terminating in a hair, and the appendages long, and ending in a palmate tuft of bristles at the apex. ♄. S. Native of Brazil. Rhéxia sipaneoìdes, Mart. herb. Habit almost of *Chætogástra lychnitoìdes*, but the characters are very different.

Sipanea-like Osbeckia. Sh. 1 to 2 feet.

14 O. bracteola'ris (D. C. l. c.) shrubby; leaves on short petioles, oblong, 5-nerved, quite entire, villously pubescent above, but clothed with velvety tomentum beneath, reticulated; peduncles axillary, dichotomous, bracteolate; flowers octandrous; calyx, branches, and peduncles densely clothed with glandular hairs; lobes of calyx linear, about equal in length to the tube, which is ovate. ♄. S. Native of Brazil, in elevated fields, in the province of Minas Geraes. Rhéxia bracteolàris, Schrank et Mart. mss. Calyx nearly as in *Osbéckia Chinénsis*, [illegible]ntly 8-[illegible] from the intervening scales. Anthers elongated, falcate, [illegible]less. Seeds cochleate, hairy, truncate at the base. Ovarium [illegible]

Bracteolate Osbeckia. Sh. 2 to 3 feet.

15 O. pu'mila (D. C. l. c.) herbaceous, rather pilose; leaves oblong-lanceolate, entire, 3-nerved; flowers axillary and terminal, solitary, almost sessile; calyx clothed with stellate hairs, with the lobes acute, and shorter than the tube, and having the appendages ending in a stellate tuft of hairs at the apex.—Native country unknown. Rhéxia pùmila, Bonpl. rhex. t. 35. without a description. Flowers according to the figure small, and pale purple. Connectives of anthers bluntly biauriculated at the base. Ovarium bristly at the apex. Calyx beset with scattered pili, which are stellate at the apex.

Dwarf Osbeckia. Pl. ½ foot.

Sect. IV. Osbeckia'ria (an alteration from the generic name). D. C. prod. 3. p. 141. Calyx 4-5-cleft, ornamented with bristles on the tube, which are palmate from the base: with the appendages between the lobes plumose, but usually pectinated; the lobes fall off along with the appendages, leaving the mouth of the calyx truncate, or as if it was cut round.—All natives of Asia.

16 O. Chine'nsis (Lin. spec. p. 490.) nearly herbaceous; stems 4-winged; leaves almost sessile, lanceolate-oblong, 3-nerved, rather hispid, a little crenulated; flowers cymose, terminal, few; calyx hemispherical, with 4-5 acute, linear acute, bristly, deciduous lobes. ♄. G. Native of China. Ker. bot. mag. t. 542. Petals obovate, acuminated, purple, longer than the stamens. Anthers rather falcate. Style filiform, incurved at the apex. Capsule roundish, white, 5-celled. Perhaps *O. Símsii*, no. 8. is the same.

China Osbeckia. Fl. July. Clt. 1818. Sh. 1 to 2 ft.

17 O. Zeyla'nica (Lin. fil. suppl. p. 215.) suffruticose; branches tetragonal, beset with adpressed bristles; leaves ovate-lanceolate, rather reflexed, 3-nerved, nearly sessile, strigose; flowers nearly sessile, usually 3-together; calyx tubular, with 4 ovate-oblong lobes; ovarium crowned by 16-20 bristles. ♄. S. Native of Ceylon, Amboyna, and Manilla, Lam. ill. t. 283. f. a. 1. Ker. bot. reg. t. 565. O. Chinénsis, Gærtn. fruct. 2. p. 202.—Pluk. alm. t. 173. f. 4. Calycine scales radiating into ciliæ,

nearly the length of the tube. Petals 4, obovate, somewhat truncately acuminated, rose-coloured, largish. Stamens 8. Style a little curved. Capsule elliptic, 4-5-celled.

Ceylon Osbeckia. Fl. July, Aug. Clt. 1799. Sh. 1 to 2 ft.

18 O. angustifòlia (D. Don, prod. fl. nep. p. 221.) stem herbaceous, straight, tetragonal, beset with adpressed strigæ; leaves ovate-lanceolate, tapering to the apex, 3-nerved, beset with adpressed bristles; flowers bracteate, aggregate into terminal few-flowered heads; calyx tubular, glabrous, with 4 oval-oblong lobes, having the appendages between the lobes ending in a palmated tuft of bristles; ovarium crowned by 8 bristles. ♃. S. Native of Nipaul. Wall. pl. asiat. rar. 3. p. 33. t. 251. O. ciliàris and O. tènuis Hamilt. herb. Flowers purple. Anthers 8, furnished with a long slender beak each. Very nearly allied to *O. Nipaulénsis*.

Narrow-leaved Osbeckia. Pl. 2 to 3 feet.

19 O. lineàris (Blum. in bot. zeit. 1831. no. 27. p. 473.) plant herbaceous, beset with short strigose bristles; branches tetragonal; leaves sessile, linear-lanceolate, 3-nerved; heads terminal, few-flowered, bracteate; calyx furnished with 5 appendages at the throat, terminating in palmate bristles; calycine segments ovate-oblong, acute, ciliated; ovarium crowned by numerous bristles. ♃. S. Native of Java, near Batavia, in humid places; also of the Moluccas. Tristemma angustifòlia, Blum. bijdr. p. 1079.

Linear-leaved Osbeckia. Pl. 1 to 2 feet.

20 O. Nipaulénsis (Hook, exot. fl. t. [illegible]) suffruticose; branches somewhat tetragonal, rough from short adpressed bristles; leaves sessile, oblong-lanceolate, b[illegible] with [illegible]pressed hairs, 5-nerved; flowers bracteate [illegible]; scales of calyx b[illegible] the lobes deciduous, length of the tube, which is obovate. ♄. G. Native of Nipaul. O. speciòsa, D. Don, prod. fl. nep. p. 222. Petals 5, obovate, violaceous. Anthers 10, somewhat falcate, undulated. Fruit 5-celled, truncate, naked from the scales being deciduous.

Var. β, *albiflòra* (Lindl. bot. reg. 1475.) flowers white. ♄. S. Native of Nipaul.

Nipaul Osbeckia. Fl. June. Clt. 1821. Sh. 2 to 3 feet.

21 O. stellàta (D. Don, in bot. reg. t. 674. and prod. fl. nep. p. 221.) suffruticose; branches rough from adpressed hairs; leaves petiolate, ovate-lanceolate, acuminated, 5-nerved, beset with stiff hairs on both surfaces; flowers corymbose; tube of calyx elongated, urceolate, covered with stellate plumose scales. ♄. S. Native of Nipaul. Petals 4, obovate, violaceous. Anthers 8, yellow, falcate, long. Style deflexed. Capsule 4-celled, inclosed in the truncate, elongated calyx. Seeds scabrous. Hook, exot. fl. t. 37. Melástoma stellàta, Hamilt. mss.

Var. β; scales of calyx palmately ciliated, and more distant.

Stellate-calyxed Osbeckia. Fl. Ju. Aug. Clt. 1820. Sh. 2 ft.

22 O. ternifòlia (D. Don, in prod. fl. nep. 221.) shrubby; branches trigonal, furnished with rough bristles; leaves opposite, but usually 3 in a whorl, and sometimes even 4, almost sessile, lanceolate, acuminated, 5-nerved, beset with minute bristles along the margins and the nerves; racemes disposed in a terminal panicle; bracteas cordate; calyx urceolate, beset with ciliately pectinated scales, which at length fall off, and the calyx becomes in consequence naked; lobes of calyx lanceolate-linear, acute, hispid, deciduous. ♄. S. Native of Nipaul. Wall. pl. asiat. rar. t. 3. p. 21. t. 240. Calyx almost like that of *O. stellàta*. Flowers large, purple. Anthers 8, yellow.

Tern-leaved Osbeckia. Shrub 2 to 4 feet.

23 O. Leschenaultiàna (D. C. prod. 3. p. 142.) shrubby; branches tetragonal, beset with stiff pili; leaves sessile, ovate, acutish, approximate, 5-nerved, villous on both surfaces; flowers sessile, bracteate, in heads, usually of threes; tube of calyx globose, with the scales palmately ciliated, and the lobes 4 and lanceolate. ♄. S. Native of the East Indies, on the Nelligherry mountains, where it is called *Taberi-Guida*. Leaves hardly an inch long. Stamens 8.

Leschenault's Osbeckia. Shrub 3 to 4 feet.

24 O. Manilliàna (D. C. l. c.) suffruticose; branches tetragonal, and are as well as the petioles hispid; leaves petiolate, ovate, acuminated, 5-nerved, somewhat ciliately serrated, and with a few scattered hairs on both surfaces, pale beneath; flowers terminal, and in the forks of the branches, 3-5 in a fascicle; tube of calyx beset with long stellate hairs: having the lobes and appendages deciduous. ♄. S. Native of Manilla, one of the Philippine Islands. Flowers large, purple, almost like those of a species *Lasiándra*.

Manilla Osbeckia. Shrub 6 to 8 feet.

25 O. áspera (Blum. in bot. zeit. 1831. no. 27. p. 474.) shrubby, rough from short strigose bristles; branches obscurely tetragonal; leaves on short petioles, oblong-ovate, or oblong-lanceolate, acute, obtuse at the base, 3-nerved; flowers decandrous, on short pedicels, terminal, subracemose; calyx clothed with adpressed down, furnished with subulate, minute appendages at the throat; calycine segments ovate-oblong, obtuse; ovarium rather downy. ♄. S. Native of Ceylon. Melástoma áspera, Lin. spec. p. 560. Rheed. mal. 4. p. 91. t. 43. Rumph. amb. 4. p. 135. t. 71. Flowers red or purple.

Rough Osbeckia. Shrub 3 to 4 feet.

26 O. rèpens (D. C. prod. 3. p. 142.) stem suffruticose, branched, creeping at the base, tetragonal at the apex, glabrous; leaves petiolate, roundish-obovate, somewhat cuneated at the base, 3-5-nerved, glabrous, almost quite entire; flowers terminal, solitary, on short pedicels; tube of calyx beset with chaffy bristles; lobes 4-7, lanceolate: with the appendages between the lobes spiny-ciliated. ♄. S. Native of China. Melástoma rèpens, Desrous. in Lam. dict. 4. p. 54. Rhéxia heteranthèra, Bonpl. rhex. t. 23. Flowers rose-coloured. Capsule 5-celled. Habit of *Córnus Canadénsis*.

Creeping Osbeckia. Shrub creeping.

27 O. octándra (D. C. prod. 3. p. 142.) stems suffruticose, glabrous, but beset with adpressed bristles at the tops, creeping at the base; leaves petiolate, ovate, 3-nerved besides the 2 marginal nervules, glabrous, except the margins and the nerves on the under surface, which are beset with adpressed bristles; flowers solitary, terminal, on short pedicels; tube of calyx ovate, scabrous from bristles. ♄. S. Native of Ceylon. Melástoma octándra. Lin. spec. 560. Willd. spec. 2. p. 595. Very like *O. rèpens*, but differs in the leaves being not cuneated at the base.

Octandrous Osbeckia. Shrub 1 foot.

28 O. Chulèsis (D. Don, prod. fl. nep. p. 221.) shrubby; branches lepidotted; leaves oval-oblong, mucronulate, 5-nerved, cordate at the base, pilose and rough on both surfaces, canescent beneath; flowers corymbose; scales on calyx membranous, ciliated with bristles, scattered: segments ovate-oblong and ciliated. ♄. G. Native of Nipaul, at Narainhetty. Melástoma Chulèsis, Hamilt. mss. Leaves 3 inches long and an inch or an inch and a half broad. Flowers large, pale purple, 5-cleft, at first bracteated by broad membranous scales.

Chulesis Osbeckia. Fl. June. Shrub 2 to 3 feet.

29 O. rostràta (D. Don, prod. fl. nep. p. 221.) leaves lanceolate, acute, somewhat 5-nerved, rounded at the base, nakedish on both surfaces, green; flowers corymbose; bracteas cordate; calyx oblong, furnished with numerous scattered bristly scales; the lobes oblong-lanceolate and ciliated. ♄. G. Native of Nipaul, at Narainhetty. Melástoma? rostràta, Hamilt. mss. Flowers purple, 4-cleft.

Beaked Osbeckia. Shrub 2 to 3 feet.

Cult. All the species of *Osbéckia* are worth cultivating for the beauty of their flowers. Their culture and propagation is the same as that for the species of *Melástoma*, p. 764.

XXXV. TIBOUCHI'NA (meaning not explained by Aublet). Aubl. guian. 1. p. 445. D. C. prod. 3. p. 143.—Savastènia, Neck. elem. no. 795.

Lin. syst. *Decándria, Monogýnia.* Tube of calyx turbinate, clothed with imbricate scales; girded at the base by a double involucrum, both formed of 2 connate bracteas; lobes 5, lanceolate, without any appendages between the lobes, as in *Osbéckia.* Petals 5, oval. Stamens 10; filaments glabrous; connectives of anthers bluntly biauriculate at the base. Ovarium free, bristly at the apex. Capsule dehiscent. Seeds cochleate. —A shrub, native of Guiana. Branches slightly tetragonal, and are as well as the petioles scabrous from scales. Leaves on short petioles, ovate, blunt at the base and acute at the apex, quite entire, 5-nerved, clothed with stiffish hairs beneath, and adpressed villi above, which is confluent between the nerves. Flowers few, nearly terminal, girded by a double involucrum.

1 T. a'spera (Aubl. guian. 1. p. 177.). ♄. S. Native of French Guiana. Rhéxia áspera, Willd. spec. 2. p. 304. Melástoma Tibouchìna, Desr. in Lam. dict. 4. p. 49. D. Don, mem. soc. wern. 4. p. 288. Melástoma aromática, Vahl. ecl. 1. p. 41. Flowers purple.

Rough Tibouchina. Shrub 2 to 3 feet.

Cult. For culture and propagation, see *Melástoma*, p. 764.

XXXVI. TRISTE'MMA (from τρεις, *treis*, three, and στεμμα, *stemma*, a crown; in reference to the calyx being girded by 3 circles of bristles). Juss. gen. p. 329. D. C. prod. 3. p. 144.

Lin. syst. *Octo-Decándria, Monogýnia.* Calyx tubular, 4-5-cleft, furnished with margins or bearded appendages near the limb, and surrounded by many bracteas at the base. Petals 4-5, unguiculate. Stamens 8-10; anthers a little arched, somewhat auriculated at the base. Ovarium hardly adnate to the calyx at the base, and crowned by stiff hairs at the apex. Berry variously depressed, 4-5-celled, clothed by the calyx. Seeds unknown. Subshrubs or herbs, with tetragonal stems. Leaves 3-5-nerved. Flowers capitate. This genus appears to be intermediate between *Osbéckia* and *Melástoma*.

1 T. virusa'num (Comm. mss. ex Juss. l. c.) stem suffruticose; leaves oval, acuminated, 5-nerved, pilose on both surfaces as well as the branches; heads of flowers terminal, almost sessile, usually composed of 5-8 flowers. ♄. S. Native of the Mauritius. Vent. choix. t. 35. Tristémma Mauritiànum, Pers. ench. 1. p. 476. Melástoma virusàna, D. Don, in wern. soc. mem. 4. p. 396. Calyx girded by 3 rings of bristles. Flowers purple.

Poisonous Tristemma. Shrub 1 foot.

2 T. hi'rtum (Vent. choix. p. 35. in a note) stem herbaceous, tetragonal; branches and petioles beset with spreading stiff hairs; leaves ovate, 5-nerved, acuminated; flowers capitate, terminal, sessile, bracteate. ♃. S. Native of Guinea, in the kingdom of Waree. Beav. fl. d'ow. vol. 1. p. 93. t. 57, with a figure. Very like *T. virusànum,* but differs in the stems being herbaceous, and in the hairs being longer and more patent. Calyx having only 2 circles of bristles. Flowers red.

Hairy Tristemma. Pl. 1 foot.

Cult. For culture and propagation, see *Melástoma*, p. 764.

XXXVII. SARCOPY'RAMUS (σαρξ σαρκος, *sarx sarcos*, flesh, and πυραμις, *pyramis*, a pyramid; in allusion to the herb, which is fleshy and pyramidal in its growth). Wall. tent. fl. nep. 1. p. 32. t. 23. D. C. prod. 3. p. 485.

Lin. syst. *Octándria, Monogýnia.* Calyx adhering to the ovarium at the base, permanent, obversely pyramidal, with a truncate 4-toothed border; teeth compressed, ciliated, having the interstices naked. Petals oval, acute. Stamens 8. Anthers simple, straight, naked, opening by 2 pores at the apex. Ovarium semi-adnate to the calyx, with a funnel-shaped, 4-lobed apex. Capsule square, 4-winged at the apex, 4-celled, 4-valved; valves dilated and foliaceous. Seeds cuneated and triangular. —A fleshy erect herb. Leaves petiolate, oval, acute, 3-nerved, with entire margins, those opposite each other unequal in size. Flowers rose-coloured, in cymes. This genus differs from others in a remarkable degree, in the fruit being capsular, and in the ovarium being semi-adnate at the same time.

1 S. Nipaule'nsis (Wall. l. c. t. 23.). ⊙. S. Native of Nipaul, in moist stony valleys, among the mountains.

Nipaul Sarcopyramus. Pl. 1 foot.

Cult. For culture and propagation, see *Centradenia*, p. 760.

XXX[illegible]I. MELA'STOMA (from μελας, *melas*, black, and στομα, *sto*[illegible], the mouth; the berries of some of the species are black: the[illegible] are commonly eaten by children, whose mouths they stain [illegible]ck). Burm. fl. ind. D. C. prod. 3. p. 144.—Melástoma [illegible]cies of Lin. gen. 544. D. Don, in wern. soc. mem. 4. p. 2[illegible].

Lin. syst. [illegible]eca-Dodecándria, *Monogýnia.* Tube of calyx ovate, half adh[illegible]ng to the ovarium, densely covered with scales [illegible] bristles; li[illegible]5 (f. 111. *a.*), rarely 6-cleft; the segments al[illegible] [illegible] appendages, both deciduous. Petals 5 (f. 111. *c.*)-6. Stam[illegible] the [illegible] of the petals. Anthers oblong-linear, a little a[illegible] opening by a pore at the apex, each furnished with a stipe-formed connective, which is in some species elongated, and in others short, but always biauriculate or emarginate in front. Free part of ovarium conical and bristly. Style filiform, somewhat thickened at the apex. Stigma a pruinose dot. Capsule baccate, 5-6-celled opening irregularly. Seeds cochleate. —Shrubs, usually covered with strigæ. Leaves petiolate, quite entire, or serrulated, nerved. Peduncles terminal, disposed in fascicles or panicled-corymbs, sometimes solitary; pedicels bibracteate. Flowers large, white, rose-coloured, or purple. The genus differs from *Osbéckia* in the fruit being hardly dry, not opening regularly at the cells, but fleshy at the base and opening in an irregular transverse manner.

* *Fruit baccate.*

1 M. denticula'tum (Labill. caled. 1. p. 65. t. 64.) shrubby; branches a little compressed, and are as well as the petioles scabrous from adpressed bristles; leaves petiolate, oval-oblong, acuminated, 5-nerved, scabrous from small bristles above, pale beneath, and beset with adpressed strigæ along the nerves; flowers few, in a kind of cyme; calyx urceolate, clothed with adpressed strigæ, with the lobes lanceolate and deciduous. ♄. G. Native of New Caledonia. Ovarium bristly at the apex. Seeds cochleate. Flowers white?

Denticulated-leaved Melastoma. Shrub 3 to 4 feet.

2 M. Taite'nse (D. C. prod. 3. p. 144.) shrubby; branches tetragonal, and are as well as the petioles rough from strigæ; leaves petiolate, oval-oblong, acuminated, rather denticulated, 3-nerved, besides the 2 marginal nervules, scabrous from bristles on the upper surface, but strigose on the nerves beneath; corymbs few-flowered; calyx scabrous from thick bristles; lobes 5, oblong, deciduous. ♄. G. Native of the Island of Tait, in the South Sea. Allied to *M. denticulàtum*, but differs in the corolla being of 5, not of 6 petals, and in the leaves being 3-nerved, not 5-nerved. Flowers white. Berry 5-celled. Seeds cochleate.

Tait Melastoma. Shrub 3 to 6 feet.

3 M. affìne (D. Don, in mem. wern. soc. 4. p. 288.) shrubby; branches scaly; leaves lanceolate, acute, 3-nerved, pilose on both surfaces; flowers usually 3 together; calyx densely clothed with scales. ♄. S. Native of the East Indies and the Straits of Sunda. Very like the preceding and following species, and probably only a variety of one or the other; from the following it differs in the leaves being longer and narrower, 3-nerved, and more rough.

Allied Melastoma. Shrub 4 to 6 feet.

4 M. Malaba'thricum (Lin. spec. p. 559.) shrubby; branches tetragonal, rough from strigæ; leaves elliptic-oblong, obtuse at the base, acute at the apex, quite entire, green on both surfaces, and scabrous from strigæ; corymbs 1-5-flowered; calyx clothed with adpressed strigose scales: with ovate, acute lobes; alternate stamens barren, according to Blume; connectives of the anthers short or very long. ♄. S. Native of the East Indies; frequent in the Indian Archipelago.—Rheed. mal. 4. t. 42.—Rumph. amb. 4. t. 72. Flowers large, purple.

Malabar Melastoma. Fl. Ju. Aug. Clt. 1793. Sh. 6 to 8 ft.

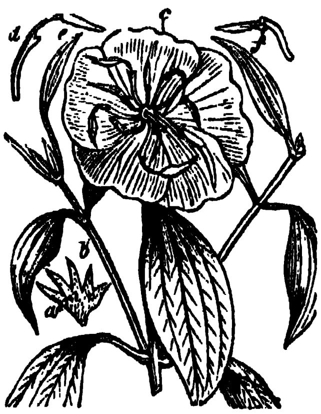
5 M. ere'ctum (Jack, in Lin. soc. trans. 14. p. [illegible]) shrubby; branches terete, or obscurely tetragonal; leaves ovate, 5-nerved, acute at both ends, villous; flowers corymbose, terminal, few; bracteas small; calyx scabrous from long, erect [illegible], with linear deciduous segments; fruit 5-celled. ♄. S. Native of Sumatra and Java. Petals large, purple. Probably distinct from *M. Malabáthricum*, according to Blume, bijdr. p. [illegible]16.

Erect Melastoma. Shrub 6 to 8 feet.

6 M. ca'ndidum (D. Don, in mem. soc. [illegible] p. 228.) shrubby; br[illegible]ved, densely clothed with silky white down on both surfaces; calyxes covered with soft, white, linear-elongated, adpressed scales. ♄. S. Native of China and the Straits of Sunda. Flowers purple.

White Melastoma. Fl. May, Ju. Clt. 1822. Sh. 4 to 6 ft.

FIG. 111.



7 M. macroca'rpum (D. Don, in mem. soc. wern. 4. p. 289.) shrubby; branches nearly terete, clothed with adpressed stiff hairs, as well as the petioles; leaves oval-oblong, acuminated, 5-nerved, quite entire, green on both surfaces, scabrous from scattered bristles above, as well as on the nerves beneath, and between them puberulous; flowers terminal, usually solitary; calyx roundish, densely clothed with long stiff hairs; stamens alternately dissimilar. ♄. G. Native of China. Melástoma Malabáthricum, Sims, bot. mag. t. 529. D. Don, in bot. reg. t. 672. Flowers large, reddish purple.

Large-fruited Melastoma. Fl. June, Aug. Clt. 1793. Sh. 4 to 6 feet.

8 M. sangui'neum (D. Don, l. c.) shrubby; branches terete, very rough from red bristles; leaves on short petioles, ovate-lanceolate, acuminated, 5-nerved, green above and shining, but red at the nerves beneath and on the petioles; flowers few, terminal; calyx covered with very long incurved bristles; petals 6, large. ♄. S. Native of the Straits of Sunda. Sims, bot. mag. 2241. Flowers large, purple. Very like *M. macrocárpum*.

Bloody-veined Melastoma. Fl. Sept. Oct. Clt. 1818. Sh. 4 to 6 feet.

9 M. polya'nthemum (Blume, in bot. zeit. 1813. no. 28.) branches, petioles, and under side of leaves rough on the nerves, from little scales; leaves elliptic or ovate-oblong, acute at both ends or obtuse at the base, quite entire, 3-nerved, besides 2 little marginal nervules, scabrous from strigæ above, but clothed with silky pubescence beneath; flowers 7-11 or more, disposed in a corymbose panicle; calyx covered with adpressed, scale-like strigæ: having short, triangular, ovate, acute segments; each of the alternate stamens has its connective elongated. ♄. S. Native of Java and Sumatra in bushy places. M. Malabáthricum, Jack, in Lin. trans. 14. p. 4. Blum. bijdr. p. 1070.—Rumph. amb. 4. t. 72. Flowers purple.

Var. β; scales of the calyx spreading.

Var. γ; leaves on short petioles; flowers smaller, white; segments of the calyx bluntish.

Many-flowered Melastoma. Shrub 4 to 6 feet.

10 M. Tidore'nse (Blum. l. c. p. 482.) branches, petioles, and nerves on the under surface of the leaves rough from scaly strigæ; leaves ovate-oblong, acuminated, rounded at the base or obtuse, denticulated, rough from strigæ above, but very hairy beneath, 5-nerved; flowers subcorymbose, terminal; calyx beset with adpressed bristles: with broad, subulate segments; each alternate stamen has its connective elongated. ♄. S. Native of the Moluccas, on the top of Mount Tidor. M. Malabáthricum, Reinwd. ined. Flowers purple.

Tidor Melastoma. Shrub 4 to 6 feet.

11 M. Roye'nii (Blum. l. c. p. 483.) branches, petioles, and nerves of leaves on the under surface, rough from little scales; leaves lanceolate or ovate-lanceolate, acuminated at both ends or bluntish at the base, slightly denticulated, 3-nerved, as well as having 2 marginal, hardly distinct nervules, rough from strigæ; flowers 5-7, disposed in a terminal kind of corymb; calyx beset with scale-like adpressed strigæ: having short, broad-subulate segments; each alternate stamen has its connective elongated. ♄. S. Native of Ceylon.—Burm. thes. 2. p. 154. t. 72. Flowers purple.

Royen's Melastoma. Shrub 4 to 6 feet.

12 M. a'sperum (Blume, bijdr. p. 1076. but not of Lin.) branches, petioles, and nerves of leaves on the under surface, rough from little scales; leaves ovate-oblong, acuminated, obtuse at the base, quite entire, sub-5-nerved, rough from strigæ; flowers 3-7, in a terminal fascicle; calyx beset with adpressed, scale-like strigæ, with linear elongated segments; stamens equal, each with an elongated connective. ♄. S. Native of Java, in woods on the higher mountains. M. Malabáthricum, flore albo, Reinwd. ined. Flowers white. Stamens all equal and fertile.

Rough Melastoma. Shrub 4 to 6 feet.

13 M. sylva'ticum (Blum. bijdr. p. 1077.) branches, petioles, and nerves of leaves on the under surface, rough from little scales; leaves elliptic-oblong, acuminated, acute at the base, quite entire, 5-nerved, scabrous; flowers 3-5, in terminal fascicles; calyx beset with scale-like strigæ: with linear-elongated segments; stamens equal, each having a short connective. ♄. S. Native of Java, where it is called *Harendong-Gunung*. Flowers whitish. Stamens 10, yellowish.

Var. β, *uniflòrum* (Blum. l. c. in bot. zeit. 428.) stems decumbent, rooting; leaves smaller; flowers terminal, solitary. ♄. S. Native of Java, in the province of Bantam.

Wood Melastoma. Shrub 4 to 6 feet.

14 M. seti'gerum (Blum. bijdr. p. 1077.) branches, petioles, and nerves on the under surface of the leaves, thickly beset with chaffy bristles; leaves ovate-oblong, acuminated, rounded at the base, 5-nerved, bristly above, roughish and hairy beneath. ♄. S. Native of Java, on Mount Salak.

Var. β, *angústo-bracteàtum* (Blum. in bot. zeit. 1831. no. 28.) leaves ovate-oblong, rounded at the base, nearly 5-nerved; flowers in terminal corymbs; bracteas linear, acuminated; calyx beset with adpressed scale-like strigæ, with the segments broad-subulate. ♄. S. Native of Java, on the mountains called Megamendung in woods.

Var. γ, lato-bracteàtum (Blum. l. c.) leaves oblong-lanceolate, obtuse at the base, 3-nerved; flowers in terminal bundles; bracteas oval, acuminated, fringed. ♄. S. Native along with the preceding var. at Laga.

Bristle-bearing Melastoma. Shrub 4 to 6 feet.

15 M. lanuginòsum (Blum. bijdr. p. 1077.) branches, petioles, and nerves of leaves on the under surface clothed with chaffy bristles; leaves ovate, or oblong-ovate, acute, rather cordate at the base or roundish, quite entire, 5-nerved, clothed with yellowish villi on both surfaces, but when in a young state woolly; flowers few, in terminal fascicles; calyx beset with adpressed scale-like bristles, with the segments broad-subulate; each alternate stamen has its connective elongated. ♄. S. Native of Java, in the province of Tjanjor, near Tjibidoy. Flowers purple?

Woolly Melastoma. Shrub 4 to 6 feet.

16 M. Cele'bicum (Blum. in bot. zeit. 1831. no. 28.) branches, petioles, and nerves of the leaves on the under surface covered with adpressed scales; leaves ovate-oblong, acuminated, rounded at the base, or obtuse, finely denticulated, 3-nerved, as well as with 2 lateral nervules, bristly above and villous beneath; flowers in terminal corymbs; calyx beset with adpressed scale-like strigæ, with the segments subulate. ♄. S. Native of Celebes, on Mount Sempa.

Celebes Melastoma. Shrub 3 to 6 feet.

17 M. porphy'reum (Zipp. ex Blum. l. c.) branches, petioles, and nerves of leaves on the under surface, rough from scales; leaves oblong-lanceolate, acuminated, obtuse at the base, finely denticulated, 3-nerved, as well as having 2 lateral nervules, rather scabrous; flowers terminal, usually solitary, on short peduncles; calyx covered with long, incurved, spreading bristles. ♄. S. Native of the Moluccas. Flowers purple?

Porphyry Melastoma. Shrub 4 to 6 feet.

18 M. Walli'chii (D. C. prod. 3. p. 146.) branches terete, strigose; leaves elliptic-oblong, narrowed at the base, acuminated at the apex, 5-nerved, villous on both surfaces; flowers 3 together at the tops of the branches; calycine tube subglobose, covered with scale-like ciliated strigæ, with 6 deciduous segments. ♄. G. Native of Nipaul. Appendages between the lobes of the calyx small. Flowers purple. Each alternate stamen has its connective elongated.

Wallich's Melastoma. Shrub 4 to 6 feet.

19 M. norma'le (D. Don, prod. fl. nep. 220.) branches thickly covered with bristly hairs; leaves elliptic, acute, rounded at the base, 5-nerved, beset with bristly hairs above and with tomentum beneath; flowers 3 together at the tops of the branches; calyx globose, covered with narrow, hoary, ciliated adpressed scales, the lobes deciduous. ♄. G. Native of Nipaul. Appendages between the lobes of the calyx small. Flowers pale red. Each alternate stamen has its connective elongated. Habit of *M. Malabàthricum.*

Normal Melastoma. Shrub 3 to 6 feet.

20 M. decemfidum (Roxb. hort. beng. p. 90. ex Jack. in Lin. trans. 114. p. 6.) shrubby, decandrous; branches terete, beset with scattered, scale-like strigæ; leaves ovate-lanceolate, attenuated, 5-nerved, hardly spinulose on the margins; flowers terminal, usually solitary, on short pedicels; calyx 5-cleft, echinated, from soft stretched bristles; anthers of the longer stamens apiculated at the base. ♄. S. Native of Pulo-Penang. Flowers purple. Allied to *M. Malabàthricum,* but the flowers are larger and more beautiful. The appendages between the lobes of the calyx large.

Ten-cleft-calyxed Melastoma. Shrub 3 to 4 feet.

21 M. cyanoìdes (Smith, in Rees. cycl. vol. 23.) leaves ovate, acute, entire, 5-nerved, beset with yellowish bristles; racemes terminal, forked; calyx densely clothed with bristles; bracteas oval, fringed. ♄. S. Native of Amboyna. Rumph. amb. 4. t. 71.—Rheed. mal. 4. t. 43. ex Smith.

Cyanus-like Melastoma. Shrub 3 to 6 feet.

22 M. dodeca'ndrum (Lour. coch. p. 274.) shrubby; leaves ovate, quite entire, glabrous, 5-nerved; peduncles few-flowered, terminal; flowers dodecandrous, rose-coloured; larger stamens have their connectives elongated, in the smaller ones the connectives are hardly evident, all fertile; berry roundish, 5-celled. ♄. G. Native of Cochin-china and China, about Canton. M. ròsea, Poir. dict. suppl. 3. p. 644. Flowers red.

Dodecandrous Melastoma. Shrub 1 foot.

23 M. obvolu'tum (Jack. in Lin. trans. 14. p. 3.) shrubby; branches tetragonal, scaly; leaves ovate, 5-nerved, clothed with adpressed pili; flowers few, in terminal panicles; bracteas ovate, involving the calyx; calyx covered with stellate pili; anthers of longer stamens furnished with 2 appendages at the base; ovarium 5-celled. ♄. S. Native of Sumatra. Limb of calyx crowned by long scales on the outside. Flowers purple.

Obvolute-calyxed Melastoma. Shrub 2 feet.

24 M. septemne'rvium (Lour. p. 273.) shrubby; branches terete; leaves oval-lanceolate, quite entire, 7-nerved, pilose on both surfaces, glabrous, petiolate; flowers few, terminal, large, purple, decandrous; calyx 5-cleft; petals roundish; stamens [illegible] refract, furnished with a long tail each; berry ovate, hispid, [illegible]-celled. ♄. G. Native of Cochin-china, every where on the [illegible] fields. Flowers purple.

Seven-nerved-[illegible] Melastoma. Shrub [illegible] feet.

25 M. Madagascarie'nsis (D. Don, mem. wern. soc. 4. p. 290.) leaves elliptic, 3-nerved, mucronate, acute at the base, beset with stiff hairs beneath as well as the branches; flowers panicled; calyx hispid; anthers furnished with long connectives, each ending in 2 bristles. ♄. S. Native of Madagascar.

Madagascar Melastoma. Shrub.

* * *Species natives of Sierra Leone, with dry capsules.*

26 M. cymòsum (D. C. prod. 3. p. 147.) stem branched, bluntly tetragonal, warted, pubescent; leaves cordate, acuminated, petiolate, serrulated, 7-nerved; flowers cymose; calyx campanulate: with its teeth triangular, and one-half shorter than the tube; petals obovate, somewhat laterally acuminated, purple or red; genitals deflexed; larger stamens falcate, purple, each furnished with a prominent connective, which is broadish at the base and somewhat truncately emarginate at the apex; style filiform; capsule 5-celled, 5-valved. ♄. S. Native of Sierra Leone. Vent. hort. malm. t. 14. Lois. herb. amat. t. 135. ex Balb. Sims, bot. mag. 984. Flowers purple.

Cymose-flowered Melastoma. Shrub 2 feet.

27 M. plumòsum (D. Don, l. c.) herbaceous, erect; stem branched; branches quadrangular; leaves roundish-ovate, entire, acute, 3-nerved, pilose on both surfaces as well as the branches; flowers scattered, solitary, on the tops of the branches and branchlets; calyx beset with scales, which are stellately plumose at the apex. ⊙. S. Native of Sierra Leone, on the mountains, particularly in the coffee plantations near the Governor's house. Osbéckia rotundifòlia, Smith, in Rees' cycl. vol. 25.

Plumose-scaled Melastoma. Pl. ½ foot.

28 M. involucra'tum (D. Don, l. c. but not of Desr. nor Schrank, nor Mart.) the whole plant beset with stiff pili; stems and branches red; branches diffuse; leaves elliptic, or ovate-lanceolate, acute, obsoletely 5-nerved, quite entire; flowers few

together, sessile, terminal, glomerated, involucrated by lanceolate bracteas; calyx pilose, with the segments lanceolate and acuminated. ♄. S. Native of Sierra Leone, on the banks of rivulets, in shady places. Petals red. Anthers yellow. Flowers 3-5 in each cluster.

Involucrated-flowered Melastoma. Shrub 1 to 2 feet.

29 M. AFZELIA'NUM (D. Don, l. c.) the whole plant beset with short stiff hairs; branches erect and furrowed; leaves ovate, acuminated, 5-nerved as well as with 2 marginal nervules; flowers secund, terminal, racemose or panicled; calyx covered with bristles, which are usually disposed in stellate fascicles, with the segments linear and plumose at the apex. ♄. S. Native of Sierra Leone, by the sides of rivulets, in shady places. Osbéckia Afzeliàna, Smith, in Rees' cycl. vol. 25.

Afzelius's Melastoma. Shrub 1 to 2 feet.

30 M. ALBIFLÒRUM; shrubby, branched; rather pilose; stems and branches quadrangular; leaves elliptic, acute, 5-nerved, beset with short pili on both surfaces, purplish beneath; flowers in terminal, crowded heads; calyx glabrous. ♄. S. Native of Sierra Leone. Petals white; anthers yellow. The calyx very smooth, that is, without any bristles or scales; it is therefore doubtful whether it is a true species of *Melástoma*.

White-flowered Melastoma. Shrub 2 to 3 feet.

31 M. CAPITA'TUM; shrubby, branched; branches quadrangular, pilose; leaves ovate, acute, quite entire, 5-nerved, pilose, yellowish beneath; calyx glabrous, nerved; flowers sessile, disposed in crowded heads. ♄. S. Native of Sierra Leone. Petals red. Anthers yellow. Calyx smooth [illegible] last species.

Capitate-flowered Melastoma. Shrub 1 to [illegible]

32 M. THEÆFÒLIUM; [illegible] branches quadrangular; leaves small, oval-lanceolate, [illegible] quite entire, sessile, 3-nerved; flowers terminal, disposed in crowded heads. ♄. S. Native of Sierra Leone, in the low lands, common. Calyx smooth, like the 2 last species.

Tea-leaved Melastoma. Shrub 5 to 10 feet.

33 M. ELONGA'TUM (D. Don, l. c.) the whole plant beset with stiff hairs; root black, tuberous; tubers numerous from the same neck, fusiform; stems herbaceous, quadrangular, erect, simple, several from the same root; leaves small, elliptic, acute, entire, 3-nerved, as well as with 2 lateral nervules; flowers panicled; peduncles axillary and terminal, few-flowered; calyx oblong, clothed with scales on the outside, which are terminated by a tuft of hair at the apex: having the segments oblong and membranous, bristly at the apex. ♃. S. Native of Sierra Leone, plentiful in the low lands about Freetown, among grass, flowering in great abundance in March and April. Nothing can exceed the beauty of this plant when in flower, in its native place of growth; the flowers are large and vary from blue to purple and white. Osbéckia grandiflòra, Afz. mss. Smith, in Rees' cycl. vol. 25.

Elongated-peduncled Melastoma. Fl. March, April. Clt. 1822. Pl. 1 to 1½ foot.

34 M. DECU'MBENS (Beauv. fl. d'ow. 1. p. 69. t. 61.) stem decumbent at the base, tetragonal; leaves ovate-lanceolate, 3-nerved, besides the lateral nervules, petiolate serrated; flowers solitary, terminal. ♄. S. Native of the western coast of Africa, on the banks of the river Formosa, in humid parts of woods. Flowers large, rose-coloured. Anthers 10, bisetose under the anthers. Capsule 5-celled.

Decumbent Melastoma. Shrub dec.

Cult. All the species of *Melástoma* are very showy when in flower. A mixture of loam, peat, and sand suits them best; and young cuttings root readily, if planted in pots filled with peat, and placed in heat, with a hand-glass over them.

XXXIX. OTANTHE'RA (from ους ωτος, *ous otos*, an ear, and ανθηρα, *anthera*, an anther; in reference to the anthers being furnished with 2 auricles at the base of each). Blume, in bot. zeit. 1831. no. 28. p. 488. Melástoma species, Blum. bijdr. 1078.

LIN. SYST. *Decándria, Monogýnia.* Tube of calyx ovate, half adhering to the ovarium, beset with palmately ciliated scales; limb 5-cleft, deciduous. Petals 5, obovate. Stamens 10, equal. Anthers oblong-linear, a little arched, attenuated upwards and opening by 1 pore, but biauriculate in front at the base; their connectives indistinct. Free part of ovarium conical and bristly. Style filiform. Stigma a pruinose dot. Berry pulpy, 5-celled. Seeds cochleate.—A shrub with terete, glabrous branches, outer branches rather tetragonal; petioles and nerves of leaves on the under surface beset with scattered, adpressed bristles. Leaves elliptic-lanceolate, acuminated, almost quite entire, 5-nerved, membranous, roughish, pale green, but with the nerves blush on the under surface. Panicle terminal, trifid, or trichotomous; branches usually 3-flowered. Flowers small, white, lateral ones bibracteate, middle one on a short pedicel, bractless.

1 O. MOLUCCA'NA (Blum. l. c. p. 489.). ♄. S. Native of Amboyna. Melástoma Moluccàna, Blum. bijdr. p. 1078.—Rumph. amb. 4. t. 71. middle figure.

Molucca Otanthera. Shrub 1 to 2 feet.

Cult. See *Melástoma* for culture and propagation, p. 764.

XL. LACHNOPO'DIUM (from λαχνη, *lachne*, down, and πους ποδος, *pous podos*, a foot; in reference to the filaments or stalks of the anthers being girded by a crown of hairs at the base). Blum. in bot. zeit. 1831. no. 27. p. 477. in a note.—Melástoma species, Link. et Otto.

LIN. SYST. *Decándria, Monogýnia.* Tube of calyx ovate-oblong, adhering to the ovarium; limb 5-cleft, with the segments linear-subulate. Petals 5, ovate-oblong, obtuse. Stamens 10, equal; filaments girded by a crown of hairs at the base. Anthers oblong, beaked. Style filiform; stigma small, obtuse. Capsule 5-celled, crowned by the calycine segments. Seeds cochleate? This genus comes very near *Pleròma* and *Lasiándra*.

1 L. RU'BRO-LIMBA'TUM (Blum. l. c.) branches terete, clothed with rufescent stiff hairs; leaves opposite, petiolate, cordate-oblong, acuminated, denticulately crenated, 5-nerved, wrinkled, beset with rufous pili; flowers cymose, axillary, contracted; bracteas obsolete; calyx margined with red in the adult state. ♄. S. Native of the East Indies. Melástoma rùbro-limbàtum, Link. et Otto, abb. t. 41. Flowers white.

Red-limbed-calyxed Lachnopodium. Shrub 4 to 6 feet.

Cult. For culture and propagation, see *Melástoma*, p. 764.

XLI. PLERO'MA (from πληρωμα, *pleroma*, fulness; cells of capsule). D. Don, wern. soc. 4. p. 293. exclusive of Lasiándra of D. C. prod. 3. p. 151.

LIN. SYST. *Decándria, Monogýnia.* Tube of calyx ovate, when young often involved in 2 deciduous bracteas; lobes 5, deciduous. Petals 5, obovate. Stamens with glabrous filaments; anthers nearly equal, elongated, arched at the base, each furnished with a stipe-formed connective, which is biauriculate at the base. Ovarium adnate to the calyx, bristly at the apex; stigma a pruinose dot. Capsule baccate, 5-celled, Seeds cochleate.—American shrubs, with the habit of *Lasiándra*, but differs in the filaments being glabrous, not villous, and in the ovarium being adnate to the calyx, not free. Capsule baccate, not dry.

1 P. LEDIFÒLIUM (D.C. prod. 3. p. 151.) branches nearly terete, villous from stiffish somewhat adpressed hairs beneath; leaves ovate-oblong, obtuse at the base, acutish at the apex, scabrous from scattered bristles above, 3-nerved, with revolute edges; pedicels axillary, 1-flowered, length of petioles; brac-

teas 2 under each flower, ovate, villous on the outside and brown inside. ♄. S. Native of Peru. Melástoma ledifòlia, Desr. in Lam. dict. 4. p. 48. Tube of calyx beset with adpressed bristles; lobes 5, obtuse. Petals purple, ciliated. Stamens with smooth filaments. Free part of ovarium conical, rather bristly.

Ledum-leaved Pleroma. Shrub.

2 P. la'xum (D. C. l. c.) branches nearly terete, and are as well as the petioles beset with spreading bristles; leaves ovate, rather cordate, ending in a short acumen, ciliately serrated, beset with scattered nearly adpressed bristles on the upper surface, but villously tomentose beneath; peduncles nearly opposite, axillary, long, bifid at the apex: branches 3-flowered; calyx very villous. ♄. S. Native of Peru. Melástoma láxa, Desr. in Lam. dict. 4. p. 41. Tube of calyx ovate; lobes 5, lanceolate-linear, about equal in length to the tube. Petals purple, ciliated. Filaments glabrous. Anthers long, rather falcate, beaked, each furnished with a long connective. Fruit baccate.

Loose Pleroma. Shrub 3 to 6 feet.

3 P. tricho'podum (D. C. l. c.) branches from compressed to tetragonal, rather hispid; petioles hispid from villi; leaves oval-oblong, acuminated at both ends, 3-nerved, somewhat denticulated, hardly pubescent above, pale beneath, and clothed with adpressed bristles, especially on the nerves; flowers solitary in the axils of the upper leaves, and on the tops of the branches, pedicellate; bracteas 2, oval, involving the calyx, which is bristly. ♄. S. Native of Brazil. Habit of *Lasiándra*, but differs from that genus, in the stamens being glabrous [illegible] ovarium being adnate to the calyx.

Hairy-petioled Pleroma. Sh. 4 to 6 feet.

4 P. vimi'neum (D. Don, in mem. soc. wern. 4. p. 293.) leaves ovate-lanceolate, acute, petiolate, and are as well as the branches scabrous, but canescent beneath; calyx covered with glandular hairs: having the segments lanceolate and mucronate. ♄. S. Native of Brazil. Rhéxia vimínea, D. Don, in bot. reg. t. 664. Spreng. syst. 2. p. 302. Flowers purple. Filaments smooth.

Twiggy Pleroma. Fl. Ju. Aug. Clt. 1821. Sh. 6 feet.

5 P. heteroma'lla (D. Don, l. c.) leaves oval, cordate, petiolate, beset with flocky wool beneath; calycine segments oblong, obtuse; petals obcordate. ♄. S. Native of Brazil. Melástoma heteromálla, D. Don, in bot. reg. t. 644. Sims, bot. mag. 2337. Filaments short, glabrous, conniving. Anthers arched at the base. Petals 5-6, purplish violet. Calyx pubescent; teeth deciduous.

Heteromallous Pleroma. Fl. July, Sept. Clt. 1819. Sh. 4 to 6 feet.

6 P. villòsum (D. C. prod. 3. p. 152.) branches terete, and are, as well as the leaves, villous beneath; leaves ovate, acute, quite entire, villous, 5-nerved; flowers terminal, few, pedunculate; petals obovate, retuse, mucronate; stamens 5 fertile and 5 sterile. ♄. S. Native of South America. Melástoma villòsum, Sims, bot. mag. t. 2630. Lodd. bot. cab. t. 853. but not of Aubl. Filaments glabrous.

Villous Pleroma. Fl. May, Ju. Clt. 1820. Sh. 3 to 4 ft.

7 R.? diffu'sum (D. C. prod. 3. p. 152.) stems tetragonal, decumbent, much branched, pilose: leaves ovate, acute, 3-nerved, serrated, pilose beneath; flowers axillary, solitary, pedicellate; calyx globose, nearly naked: having lanceolate, mucronate segments. ♄. S. Native of Porto Rico. Melástoma diffùsa, Pav. ex D. Don, mem. wern. soc. 4. p. 291. Flowers purple.

Diffuse Pleroma. Sh. decumbent.

8 P.? Mexica'num (D. C. prod. 3. p. 152.) stem erect, branched, pilose; leaves lanceolate, acuminated, 3-nerved, pilose on both surfaces; flowers 1-2, axillary or terminal; calyx pilose, with linear acute segments. ♄. S. Native of Mexico. Melástoma áspera, Pav. in herb. Lamb. Melástoma Mexicàna, D. Don, in mem. wern. soc. 4. p. 290.

Mexican Pleroma. Sh. 2 to 3 feet.

Cult. For culture and propagation see *Melástoma*, p. 764.

XLII. DIPLOSTE'GIUM (from διπλοος, *diploos*, double, and στεγος, *stegos*, a covering; in reference to the calyx, which is inclosed in a double calyptra or covering). D. Don, in mem. wern. soc. 4. p. 296. D. C. prod. 3. p. 152.

Lin. syst. *Decándria, Monogýnia.* Limb of calyx 5-cleft, permanent, inclosed in a double cucullate hispid calyptra. Petals 5. Stamens 10; anthers nearly equal, biauriculate at the base. Ovarium? Stigma a pruinose dot. Capsule baccate, 5-celled. Seeds unknown.—A Brazilian shrub. Stem terete, densely beset with white pili. Leaves ovate, acute, quite entire, petiolate, 5-nerved, clothed with silky pili beneath, but scabrous above. Peduncles terminal, trichotomous, 3-flowered. Flowers large, red.

1 D. cane'scens (D. Don, l. c.) ♄. S. Native of Brazil.

Canescent Diplostegium. Sh.

Cult. For culture and propagation see *Melástoma*, p. 764.

XLIII. ACIO'TIS (from ακις, *akis*, a point, and ους ωτος, *ous otos*, an ear; in reference to the petals, which are obliquely awned). D. Don, in mem. wern. soc. 4. p. 296. D. C. prod. 3. p. 152.

Lin. syst. *Octándria, Monogýnia.* Tube of calyx globose, fleshy; limb coarctate, permanent, 4-lobed; petals 4, obliquely awned at the apex. Stamens 8, with long connectives, and as if [illegible] were joi[illegible] in the middle. Anthers erect, naked at the base. [illegible] Capsule baccate, 4-celled. Seeds cochleate. —A West [illegible] fruticose plant, with numerous, erect, tetragonal, branched stems. Leaves petiolate, elliptic-oblong, acuminated, 3-nerved, purple beneath, and of a deep shining green above. Flowers small, red, disposed in spicate racemes. Berry globose, purple, edible, with a grateful acid taste.

1 A. díscolor (D. Don, l. c. p. 301.) ♄. S. Native of the Island of St. Vincent. Rhéxia bícolor, Anders. in herb. Lamb.

Two-coloured-leaved Aciotis. Fl. July, Sept. Clt. 1816. Sh. 1 foot.

Cult. For culture and propagation see *Melástoma*, p. 764.

XLIV. CENTRADE'NIA (from κεντρον, *kentron*, a spur, and αδην, *aden*, a gland; in reference to the gland-formed spur of the smaller stamens). Rhéxia, nov. gen. Cham. et Schlecht. in Linnæa. 5. p. 567.

Lin. syst. *Octándria, Monogýnia.* Calyx rather tetragonal, campanulate, membranous, 8-nerved, rather pilose; limb 4-toothed; teeth broad, triangular, acute. Petals obovate. Stamens 8, alternately smaller; filaments glabrous; anthers opening by 1 pore, elliptic, those of the longer stamens drawn out each into an emarginate cuneated copper-coloured spur or connective, but the spurs of the smaller stamens are gland-formed. Style short, smooth, crowned by a subcapitate stigma. Ovarium free, crowned by one series of short bristles at the base of the style. Capsule within the calyx 4-valved, 4-celled, at length separating from the axis along with the dissepiments. Seeds numerous, minute, clavately elliptic, echinated, brown: with a terminal dot-formed hardly coloured hylum.—An annual, branched herb, with tetragonal pilose branches. Leaves opposite each other, unequal in size, one of which being almost abortive. Large leaves, oblong-lanceolate, acute, on short petioles, unequal-sided, quite entire, ciliated, triple-nerved, pale beneath, 2 inches long, and 5 lines broad. Racemes few-flowered, axillary. Flowers on longish pedicels, small, white.

1 C. inæquælatera'lis. ⊙. S. Native of Mexico, in Cuesta Grande de Chiconquiaco. Rhéxia inæquælateràlis, Cham. et Schlecht. l. c.

Unequal-sided-leaved Centradenia. Pl. 1 to 1½ foot.

Cult. The seeds of this plant require to be sown in a hot-bed; and when the plant have attained the height of 2 or 3 inches, they may be potted off into separate pots, and again returned to the hot-bed; and when they begin to come into flower, they may be removed to the stove.

Tribe IV.

MICONIEÆ (this tribe contains plants agreeing with *Micònia* in important characters). D. C. prod. 3. p. 152. Anthers opening by 1 or 2 pores at the apex. Ovarium adnate to the calyx. Fruit baccate. Seeds not cochleate.

XLV. ROUSSEAU'XIA (dedicated by De Candolle to — Desrousseaux, coadjutor with Lamarck in his Dictionnaire de Botanique.) D. C. prod. 3. p. 152.

LIN. SYST. *Octándria, Monogýnia.* Tube of calyx hemispherical, smooth; lobes 4, broad. Petals 4, obovate. Stamens 8; anthers oblong-linear, opening by 1 pore? sometimes all fertile, with their connectives rather gibbous at the base; sometimes the alternate ones are sterile, having their connectives short: and the others fertile, with long connectives, which are furnished with 2 bristles at the base. Ovarium adnate to the calyx, bearing 4 bristle-like scales at the base around the origin of the style. Style filiform. Capsule baccate, opening at the apex. Seeds angular, shining.—Shrubs, natives of Madagascar. Leaves petiolate, 3-nerved, quite entire, oval-oblong. Cymes trichotomous, terminal.

§ 1. *Stamens equal, all fertile, each furnished with [illegible] connective.*

1 R. CHRY[illegible]g branches bluntly tetragonal, at length glabrous, rather bristly at the apex; leaves petiolate, oval-oblong, acute, 3-nerved, glabrous on both surfaces, beset with adpressed setæ on the nerves beneath, and on the margins, which are entire; cymes terminal, twice trifid; tube of calyx campanulate, quite smooth: with 4 broad-lanceolate lobes, which are ciliated with bristles. ♄. S. Native of Madagascar. Melástoma chrysophýlla, Desr. in Lam. dict. 4. p. 50. but not of Rich. Leaves yellowish when dried. Petals 5, obovate. Flower-bud conical, acute. Stamens 8, equal; filaments glabrous. Anthers oblong-linear, bluntish. Ovarium crowned by 4 spiny-ciliated scales. Style filiform, rising between the scales. Fruit unknown.

Golden-leaved Rousseauxia. Shrub.

§ 2. *Stamens alternately unequal; fertile ones furnished each with a long connective, which ends in 2 bristles.*

2 R. ARTICULA'TA (D. C. l. c.) branches bluntly tetragonal, at length terete, knotted at the insertion of the leaves, roughish from rather adpressed scattered bristles; leaves petiolate, oval-oblong, acuminated, quite entire, 3-nerved, glabrous above, bristly beneath, but especially on the nerves; cymes trichotomous; tube of calyx hemispherical, glabrous, with 4 broad obtuse lobes; ovarium bristly at the apex. ♄. S. Native of Madagascar, ex herb. Juss. not of Cayenne, as mentioned by Desrousseaux. Melástoma articulàta, Desr. in Lam. dict. 4. p. 56. Capsule adnate to the calyx, opening at the apex. Seeds angular, shining. Style filiform. Filaments glabrous, filiform. Anthers linear, opening by one pore, rather shorter than their connectives.

Articulated-stamened Rousseauxia. Shrub.

Cult. See *Melástoma* for culture and propagation, p. 764.

XLVI. LEA'NDRA (in honour of — Leandro do Sacramento, director of the botanic garden at Rio Janeiro, author of Nova Plantarum Geneva, inserted in Act. Acad. Monach. vol. 7. Raddi in mem. soc. ital. 1820. p. 6. D. C. prod. 3. p. 153.)

LIN. SYST. *Octo-Decándria, Monogýnia.* Tube of calyx ovate, urceolate, almost bottle-shaped, drawn out beyond the ovarium; lobes disposed in two rows, with 4-6 outer subulate ones, and 6 inner oval membranous ones, in front of the outer ones. Petals 4-6, linear-lanceolate. Stamens 8-12. Anthers linear, hardly auricled at the base. Style filiform, exserted, hairy at the base. Stigma dot-formed. Berry dry, 3-4-celled. Seeds angular, somewhat ovate and shining, with a linear hylum.—Brazilian shrubs, more or less rough from villi or setæ. Leaves triple-nerved, ciliately-serrated. Flowers capitate, usually bracteate.

SECT. I. LEANDRA'RIA (an alteration from the generic name). D. C. prod. 3. p. 153. Calyx 5-6-cleft; lobes disposed in two series. Hairs of the calyx and bracteas bristly.

1 L. AMPLEXICAU'LIS (D. C. l. c.) branches tetragonal, rough from bristles, as well as both surfaces of the leaves and margins; leaves oval-oblong, acuminated, triple-nerved, quite entire, sessile, cordate and stem-clasping at the base; heads of flowers bracteate; bracteas obtuse or emarginate. ♄. S. Native of Brazil, at the river Xipote. L. híspida, Schrank et Mart. mss. Calyx almost bottle-shaped, rough from short bristles; lobes double, 6 outer ones subulate and thick, and the 6 inner ones oval and rather membranous. Seeds angular, shining, with a linear hylum. Stamens not seen.

Stem-clasping-leaved Leandra. Sh. 2 to 3 feet.

2 L. PAULI'NA (D. C. l. c.) branches terete, thickly beset [illegible] villi; leaves on very short petioles, broadly ovate, bluntly cordate at the base, acute at the apex, somewhat denticulately serrated, quintuple-nerved, very villous on both surfaces; heads of flowers dense, hairy, almost sessile along the short rachis; calyx very villous; inner lobes of calyx linear and glabrous, outer ones lanceolate and villous on the outside. ♄. S. Native of Brazil, in woods on the mountains between Rio Janeiro and St. Paul. Melástoma Paulìnum, Schrank et Mart. mss. Upper leaves hispid from hairs, which are somewhat bulbous at the base, but clothed with villous tomentum beneath. Bracteas very villous on the outside, and smooth inside.

St. Paul Leandra. Sh. 2 to 3 feet.

3 L. UMBELLA'TA (D. C. l. c.) branches terete, and are, as well as the petioles, densely clothed with velvety down; leaves petiolate, ovate, acuminated, serrately ciliated, 7-nerved, clothed with velvety down on both surfaces; flowers in dense umbellate heads; bracteas oblong; calyx beset with glandular hairs, 6-lobed, bearing 6 appendages on the outside similar to the lobes. ♄. S. Native of Brazil, in woods, in the low lands in the province of Minas Geraes. Melástoma umbellàtum, Schrank et Mart. mss. Petioles 14 lines long. Leaves 2-3 inches long. Peduncles and calyx thickly beset with capitate hairs. Lobes of calyx length of the tube. Petals linear, acute. Anthers linear, falcate. Connectives short. Genitals exserted.

Umbellate-flowered Leandra. Sh. 2 to 3 feet.

4 L. INVOLUCRA'TA (D. C. prod. 3. p. 154.) branches terete, and are, as well as the petioles, densely clothed with short velvety down; leaves petiolate, ovate, acuminated, serrately ciliated, 7-nerved, clothed with velvety down on both surfaces; flowers in dense heads; bracteas ovate; heads disposed in a terminal panicle, like those of the preceding species; calyx covered with glandular hairs, appendiculated with 5 lobes on the outside of the inner ones. ♄. S. Native of Brazil, in woods. Melástoma involucràtum, Schrank et Mart. mss. Perhaps the same as *L. umbellàta*, but the bracteas are broader at the apex; tube of calyx a little longer, lobes shorter, petals narrower, and the style is hairy at the base.

Involucrated Leandra. Sh. 2 to 3 feet.

5 L. SERI'CEA (D. C. l. c.) branches terete, and are, as well as

the peduncles and petioles, densely clothed with rusty villi; leaves oval-lanceolate, acuminated, ciliately serrated, quintuple nerved, scabrous from bristles above, but clothed with silky soft villi beneath; lateral nerves distant from the margin of the leaf; racemes terminal, very villous; heads on short peduncles; bracteas concave, ovate. ♄. S. Native of Brazil, in the province of Rio Janeiro. Osbéckia Brasíla, Schrank, herb. Leándra Ráddii? Mart. herb. Petals lanceolate. Tube of calyx very villous; lobes double, outer ones tooth-formed, inner ones ovate.

Silky Leandra. Shrub 3 to 6 feet.

6 L. villòsa (D. C. l. c.) branches terete, and are, as well as the petioles and peduncles, densely clothed with short hairs; leaves petiolate, elliptic-oblong, acuminated, attenuated at the base, quintuple-nerved; (lateral nerves approximating the margins,) denticulated, scabrous above from short scattered bristles, which are bulbous at the base, villous beneath, and rather foveolate; flowers in dense heads; the heads disposed in a thyrse; bracteas glabrous on the outside; inner lobes of calyx membranous, exceeding the outer ones. ♄. S. Native of Brazil, at Rio Janeiro. Intermediate between *L. sericea* and *L. scàbra*.

Villous Leandra. Shrub 3 to 6 feet.

7 L. sca'bra (D. C. l. c.) branches terete, and are, as well as the peduncles and petioles, beset with longish retrograde stiff hairs; flowers in dense heads; bracteas glabrous inside; heads disposed in a crowded thyrse; inner lobes of calyx membranous, shorter than the outer ones. ♄. S. Native of Brazil, in the provinces of St. Paul and Rio Janeiro, in woods on [illegible] mountains. Melástoma acutiflòrum, Schrank et Mart. herb. L. melastomoìdes, Raddi, l. c. p. 7. t. 8. Tube of calyx oblong, campanulate, hairy. Petals very acute. Style filiform, exserted.

Scabrous Leandra. Shrub 3 to 6 feet.

8 L. angustifòlia (D. C. l. c.) branches terete, and are, as well as the petioles, clothed with short rufous down; leaves oblong-linear, 3-nerved, acuminated, ciliately serrated, scabrous from bristles above, villous beneath; heads axillary, sessile, few-flowered; bracteas linear; outer lobes of calyx subulate, villous: inner ones very short or hardly any. ♄. S. Native of Brazil. Flower-bud conical. Petals acuminated. Style exserted. Perhaps a species of *Clidèmia*, belonging to section *Axillària*.

Narrow-leaved Leandra. Shrub 2 to 3 feet.

9 L. du'bia (D. C. l. c.) branches rather tetragonal, and are, as well as the panicles, petioles, and leaves, rather hispid from scattered bristles; leaves petiolate, oblong, acuminated both at the base and the apex, ciliated, and triple-nerved; nerves arising from about the sixth part of the length of the leaves; panicle short, terminal; flowers crowded on the tops of the branches. ♄. S. Native of Brazil, in woods between Rio Janeiro and Lorena. Melástoma dùbium, Schrank et Mart. mss. Lobes of calyx double, very short, hardly distinguishable.

Doubtful Leandra. Shrub 3 to 6 feet.

10 L. sylve'stris (D. C. l. c.) branches terete, and are, as well as the panicles, petioles, and leaves, hispid; leaves petiolate, oval-oblong, acuminated at both ends, ciliated, entire, quintuple-nerved; panicle terminal, trifid at the base, divaricate; flowers bractless, approximating by threes; calyx ovate, hispid. ♄. S. Native of Brazil, in the province of Minas Geraes, in woods. Melástoma silvéstre, Schrank et Mart. mss. Seeds small, angular, attenuated, shining. Lobes of calyx so short as hardly to be distinguishable.

Wild Leandra. Shrub 3 to 6 feet.

11 L. hi'rta (Raddi, l. c. p. 8.) leaves oblong-lanceolate, acuminated, crenulated, 3-nerved, pilose beneath; flowers in terminal bractless racemes. ♄. S. Native of Brazil, on Mount Mandiocca near Rio Janeiro. Perhaps distinct from *L. sylvéstre*.

Hairy Leandra. Shrub 2 to 3 feet.

Sect. II. Leandroi'des (so named from the plant being like *Leándra* in habit, but whether it is a true species of the genus is doubtful). D. C. prod. 3. p. 155. Calyx 4-cleft; lobes double. Bracteas and calyxes clothed with stellate tomentum. Petals and genitals unknown.

12 L.? racemi'fera (D. C. prod. 3. p. 155.) branches terete, and are, as well as the petioles, densely clothed with branched tomentum; leaves on short petioles, oblong, acuminated, repandly subserrated, 5-nerved, or almost quintuple-nerved, glabrous above in the adult state, but scabrous from stellate down beneath; panicle terminal, elongated, racemose, oppositely branched; flowers crowded on the branchlets; calyxes very hairy, 4-cleft. ♄. S. Native of Brazil. Melástoma racemífera, Schrank et Mart. mss. Anthers 8, oblong, obtuse.

Raceme-bearing Leandra. Sh. 4 to 6 feet.

Cult. See *Melástoma* for culture and propagation, p. 764.

XLVII. TSCHU'DYA

(dedicated to M. le Baron de Tschudy, author of Traite des Arbres coniferes et resineux). D. C. prod. 3. p. 155.

Lin. syst. *Decándria, Monogýnia*. Tube of calyx globose; lobes 5, bristle-formed, small, permanent. Petals 5. Stamens [illegible]ttish; anthers oblong, without auricles, opening by one [illegible] the apex. Ovarium free, bristly at the apex. Style filifo[illegible] [illegible]pule globose, membran[illegible], perhaps indehiscent, 4-5-celled. Seeds numerous, small, [illegible]unately incurved, crowned by a cellular acute curved appendage.—Shrubs, with the habit of *Clidèmia*, clothed with rufous hairs in every part. Branches terete. Leaves on short petioles, 5-nerved, oval, acuminated, toothed, having the nerves hairy on both surfaces. Thyrse panicled, terminal. Flowers small, very hispid, sometimes 4-cleft and octandrous.

1 T. verticilla'ta (D. C. l. c.) branches of panicle unequal, 6 in a whorl. ♄. S. Native of French Guiana, in woods at Yueri. Melástoma verticillàta, Rich. herb. Panicle loose, beset with dark purple pili. Young fruit whitish. Flowers small, white.

Whorled Tschudya. Shrub 1 to 2 feet.

2 T. rufe'scens (D. C. l. c.) branches of panicle opposite, rarely furnished with a small short branchlet; leaves serrulated. ♄. S. Native of Brazil and Guiana. Melástoma heterocárpum, Schrank et Mart. herb. Melast. rufídula, Rich. herb. Fruit whitish, smaller than a grain of pepper.

Rufescent Tschudya. Sh. 1 to 2 feet.

3 T. asperiu'scula (D. C. l. c.) branches of panicle opposite, short; leaves nearly quite entire. ♄. S. Native of Cayenne, in woods. Melástoma asperiúscula, Rich. herb. Flowers white. Thyrse narrower than in *T. ruféscens*. Down short, rufous. Seeds not seen. Ovarium and base of style hairy.

Roughish Tschudya. Sh. 3 to 6 feet.

4 T. pulverule'nta (D. C. l. c.) branches of panicle opposite, 3-5-flowered; leaves quite entire, and rather ciliated; down on the branches of the panicle and on the leaves stellate. ♄. S. Native of Guiana, at Yuera, in woods. Melástoma pulverulénta, Rich. herb. Flowers small, 4-cleft, and sometimes the lower ones are 3-cleft. Seeds like those of the rest of the genus, but the habit of the plant is by no means similar. Ovarium hardly villous at the apex. Stamens not seen. Leaves membranous. Flowers white.

Powdery Tschudya. Shrub 3 to 6 feet.

Cult. For culture and propagation see *Melástoma*, p. 764.

XLVIII. CLIDE'MIA (in honour of Clidemi, an ancient Greek botanist). D. Don, in mem. soc. wern. 4. p. 306. D. C. prod. 3. p. 155.

LIN. SYST. *Decándria, Monogýnia.* Tube of calyx ovate, naked, rarely bracteate at the base; lobes 5, permanent, narrow, acute. Petals 5, rarely 6. Stamens 10; anthers constricted at the base, and rather biauriculate, opening by one pore at the apex. Ovarium adnate to the calyx, usually crowned by a circle of bristles at the apex. Style filiform; stigma a pruinose dot. Capsule baccate, 5-celled. Seeds ovate or rather angular, not cochleate, nor appéndiculated.—Hispid or hairy shrubs, native of South America. Leaves usually crenated, 3-7-nerved. Flowers axillary and terminal. This genus is easily distinguished from the rest of the genera of the present order by the habit, but the species are difficult to define. Perhaps the species with obtuse petals are separable from those with acute petals.

§ 1. *Axillàres. Flowers in axillary panicles or spikes.*

* *Flowers crowded, almost sessile.*

1 C. AGGREGA'TA (D. Don, in mem. soc. wern. 4. p. 309.) leaves elliptic, quite entire, acute at both ends, and are, as well as the branches, pilose; flowers axillary, verticillate, almost sessile. ♄. S. Native of Peru.

Aggregate-flowered Clidemia. Sh. 1 to 2 feet.

2 C. SERI'CEA (D. Don, l. c.) leaves oval, acute, crenated, 5-nerved, clothed with silky villi on both surfaces; flowers solitary, axillary, verticillate, scaly at the base. ♄. S. Native of Peru. The rest unknown.

Silky Clidemia. Sh. 2 to 3 feet.

3 C. CONF[illegible] branches terete, densely clothed with retrograde villi; leaves on [illegible] petioles, oval, acute, nearly entire, villous beneath, and beset with short bristles above, 7-nerved; nerves crowded above the base of the leaves; panicles axillary, crowded, very short; tube of calyx very hairy. ♄. S. Native of Brazil, near Rio Janeiro, in woods. Melástoma aggregàtum, Schrank et Mart. mss. Petioles an inch long, covered with spreading down. Setæ long, yellow. Lobes of calyx 5, hardly distinct. Petals oval-lanceolate, flesh-coloured, but red in the middle. Anthers oval, furnished with filiform connectives. Style filiform.

Crowded-flowered Clidemia. Sh. 3 to 4 feet.

4 C. RETROPI'LA (D. C. l. c.) branches hairy, beset with rufous retrograde pili; petioles very hairy; leaves oval, acuminated, serrulated, quintuple-nerved, hairy or downy on both surfaces; nerves rather distant from the base; flowers in almost sessile clusters in the axils of the leaves; calyx hispid, 5-cleft. ♄. S. Native of Brazil. Petioles 5 lines long, rufous from spreading down. Lobes of calyx 5, setaceous.

Bent-haired Clidemia. Sh. 2 to 3 feet.

5 C. MARGINA'TA (D. C. l. c.) branches nearly terete, and are, as well as the petioles, clothed with small short powdery velvety down; leaves petiolate, elliptic, acuminated, ciliated, triple-nerved, besides the marginal nervules, downy beneath, but beset with scattered bristles above; racemes few-flowered, axillary, 3 times shorter than the petiole; calyx very hispid, 5-cleft. ♄. S. Native of Brazil, near Rio Janeiro, on the mountains in woods. Melástoma marginàta, Desr. in Lam. dict. 4. p. 32. Melast. Januarénsis, Schrank et Mart. mss. Flowers and fruit not sufficiently examined.

Margined-leaved Clidemia. Sh. 3 to 4 feet.

6 C. AMYGDALOI'DES (D. C. l. c.) branches tetragonal, and are, as well as the petioles and panicles, clothed with stiff bristles; leaves petiolate, oblong, acuminated, 3-5-nerved, somewhat crenulated, villous on both surfaces; panicles axillary, short, few-flowered; calyx very hispid, 5-lobed; lobes bearing small stellate down on the inside. ♄. S. Native of Brasil, in woods on mount Cercòvado, near Rio Janeiro. Melástoma amygdaloìdes, Schrank et Mart. mss. Leaves almost triple-nerved, 3 inches long, and 8-9 lines broad. Petals white, oblongly triangular, acute.

Almond-like Clidemia. Sh. 4 to 6 feet.

7 C.? BRACHYSTA'CHYA (D. C. l. c.) branches terete, and are, as well as the petioles, densely hispid; leaves petiolate, elongately linear, acuminated, 3-nerved, ciliately serrated, bristly on the middle nerve above, the rest glabrous, but covered with long bristles beneath; spikes hispid, axillary, shorter than the petioles. ♄. S. Native of Brazil, in the province of Rio Janeiro, in woods. Rhéxia spicàta, Schrank et Mart. mss. Very near *C. amygdaloides.* Fruit globose, hairy, crowned by the 5 short acute lobes of the calyx. Flowers not seen.

Short-spiked Clidemia. Sh. 1 to 2 feet.

8 C. CONGLOMERA'TA (D. C. l. c.) branches terete, hispid from thick branched hairs; petioles clothed with the same kind of hairs; leaves ovate, attenuated at the base, acuminated at the apex, irregularly crenated and ciliated, 5-nerved, glabrous except on the nerves, membranous; flowers in terminal and axillary, almost sessile clusters; calyx beset with violaceous hairs, with 5 lobes, each ending in a plumose bunch of bristles. ♄. S. Native of Cayenne, in woods. A very beautiful species, allied to *C. purpùrea.* Melástoma conglomeràta, Rich. herb.

Conglomerate-flowered Clidemia. Sh. 1 to 2 feet.

9 C. ERYTHROPÒGON (D. C. prod. 3. p. 157.) branches terete, and are, as well as the petioles, hairy; leaves petiolate, oval-acu[illegible]ticulated, 5-nerved, beset with scattered stiff hairs on both surfaces; racemes axillary, almost sessile, 3-flowered; calyx very hispid from red bristles, with 6 setaceous lobes. ♄. S. Native of Jamaica. Melástoma sessilifòlium, Spreng. syst. 2. p. 295.? Petals and stamens not seen.

Red-bearded Clidemia. Sh. 3 to 4 ft.

* * *Peduncles axillary,* 1-*flowered.*

10 C. CILIA'TA (D. Don, mem. soc. wern. 4. p. 309.) leaves cordate, acute, crenated, almost sessile, pilose above, densely clothed with stellate tomentum beneath; calyx tomentose. ♄. S. Native of Peru. Melástoma ciliàta, Pav. in herb. Lamb. but not of Desr. nor Rich. Perhaps belonging to a different section.

Ciliated-leaved Clidemia. Sh. 2 to 3 feet.

11 C. CAPILLA'RIS (D. Don, l. c. p. 308.) leaves elliptic, crenulated, 3-nerved, acuminated, clothed with silky villi on both surfaces, and on the branchlets; pedicels capillary, axillary, twin, 1-flowered. ♄. S. Native of Peru. Melast. capillàris, Pav. in herb. Lamb. but not of Swartz.

Capillary-pedicelled Clidemia. Sh. 2 to 3 feet.

* * * *Peduncles axillary, bearing cymes or panicles of flowers.*

12 C. EPIBATE'RIUM (D. C. prod. 3. p. 157.) stem climbing, branched, terete, rooting, clothed with rufous hairs above, as well as the petioles; leaves petiolate, ovate, acuminated, obtuse at the base, 5-7-nerved, denticulated, rather pilose; flowers few, in axillary racemose cymes; calyx hispid. ♄. S. Native of Brazil, in the province of Rio Negro. Melástoma Epibatèrium, Mart. herb. Melast. volùbile, Schrank, mss. A very distinct species. Lobes of calyx bristly at the apex. Anthers bluntly auriculated at the base, opening by one pore at the apex. The name is derived from επι, upon, and βαινω, to walk, in allusion to the plant climbing upon others.

Climbing Clidemia. Sh. climbing.

13 C. PETIOLA'TA (D. C. l. c.) branches terete, and are, as well as the petioles, covered with rufous spreading hairs; leaves on long petioles, cordate-ovate, acuminated, 7-nerved, ciliated, with a few bristles above, but smoothish

flowers aggregate, almost sessile, few, hispid. ♄. S. Native of Guiana. Melástoma petiolàta, Rich. herb. Easily distinguished from the other species in the leaves being cordate, and in the petioles being 1-2 inches long.

Petiolate Clidemia. Sh. 1 to 2 feet.

14 C. HI'RTA (D. Don, in mem. wern. soc. 4. p. 309.) branches terete; petioles and panicles clothed with rufous villi; leaves ovate-lanceolate, somewhat attenuated at the base, and acuminated at the apex, denticulated, 5-nerved, densely pilose on the nerves, but sparingly so on the rest of the leaf; panicles axillary, trichotomous, few-flowered, hardly the length of the petioles; calyx hispid, with an ovate tube and setaceous-lobes; petals obovate. ♄. S. Native of Jamaica. Melástoma hírta, Lin. spec. p. 559. Swartz, obs. p. 175. Sims, bot. mag. t. 1971. but not Desr. Melast. rústica, Forst. mss. There is a variety of this plant with 6-petalled dodecandrous flowers.

Hairy Clidemia. Sh. 1 to 2 feet.

15 C. PETIOLA'RE (Cham. et Schlecht. in Linnæa. 5. p. 562.) branches terete, silky at the apex; leaves ovate, acuminated, acute or obtuse at the base, 5-nerved, crenulately denticulated; cymes axillary, nearly sessile, trichotomous, beset with spreading hairs, shorter than the petioles; tube of calyx hispid, hemispherical, longer than the lobes, which are setaceous; petals elliptic. ♄. S. Native of Mexico, among bushes near Hacienda de La Laguna, &c. Leaves 4 inches long, and 2 broad. Like *C. hirta.*

Petiolar Clidemia. Sh. 1 to 2 feet.

16 C. PAUCIFLÒRA (D. C. l. c.) branches terete, [illegible] well as the panicles, petioles, and leaves, beset with long spreading stiff hairs; leaves on short petioles, ovate, acutish, rather cordate at the base, 5-nerved, ciliated, hardly crenulated; panicles terminal, few-flowered, oppositely branched; lobes of calyx 5, setaceous, shorter than the tube; calyx interspersed with bristles and short starry down. ♄. S. Native of Brazil, in the province of Bahia. Melástoma pauciflòra, Desr. in Lam. dict. 4. p. 49. Melast. crýptodon, Schrank et Mart. Allied to *C. élegans*, but certainly distinct.

Few-flowered Clidemia. Sh. 1 to 2 feet.

17 C. CRENA'TA (D. C. l. c.) branches from compressed to terete, and are, as well as the panicles, petioles, and both sides of the leaves, hairy from long spreading pili; leaves petiolate, rather cordate at the base, broadly ovate, acuminated, crenated, ciliated, 5-nerved; panicle axillary, trichotomous, few-flowered, wideish, a little longer than the petiole: tube of calyx ovate, with subulate lobes; petals oblong. ♄. S. Native of Porto Rico, Brazil, Cuba, Trinidad, &c. Melástoma crenàta, Vahl. ecl. amer. 3. p. 41. icon. pl. amer. 2. t. 22. Melast. aristàtum, Mart. mss. Clid. hírta, D. Don, l. c. ? There is no down between the hairs on the plant. Petals crenated, ex Rich. Perhaps not distinct from Clid. crenàta, D. Don.

Crenate-petalled Clidemia. Sh. 2 to 3 feet.

18 C. E'LEGANS (D. Don, l. c. p. 309.) branches from compressed to terete, and are, as well as the petioles, panicles, and both sides of the leaves, beset with long scattered stiff bristles; leaves cordate, acuminated, 5-nerved, ciliated, broadly crenated, crenæ rounded and crenulated; panicles axillary, trichotomous, few-flowered, longer than the petioles; calyx hispid, with an ovate tube, and setaceous lobes; petals obovate. ♄. S. Native of Cayenne, on walls; and in Brazil. Melástoma élegans, Aubl. guian. 1. p. 425. t. 167. Flowers small, white.

Elegant Clidemia. Fl. July, Aug. Clt. 1822. Shrub 1 to 2 feet.

19 C. TILIÆFÒLIA (D. C. prod. 3. p. 158.) branches from compressed to terete, rather hispid, but at length glabrous; petioles clothed with brown hairs; leaves ovate, cordate at the base, acuminated at the apex, doubly crenated, ciliated, rather pilose on both surfaces, 7-nerved; panicles axillary, trichotomous, few-flowered, longer than the petioles, loose, and are, as well as the calyxes, smoothish. ♄. S. Native of Brazil, at Para, in woods. Melástoma tiliæfòlium, Schrank et Mart. mss. Leaves crenated, as in *C. élegans.*

Lime-tree-leaved Clidemia. Sh. 2 to 3 feet.

20 C. BLEPHARÒDES (D. C. l. c.) shrubby; branchlets terete, and are, as well as the petioles, hispid; leaves petiolate, ovate, acuminated, quite entire, 3-nerved, ciliated, rather bristly; racemes somewhat capitate, lateral, pedunculate, hispid; bracteas ciliated; lobes of calyx setaceous, longer than the tube, which is campanulate and hispid; anthers oblong-linear. ♄. S. Native of Brazil, near Bananal and elsewhere. Melástoma blepharòdes, Mart. herb. Melast. Bananàle, Schrank, mss. Style long, filiform, not dilated at the apex. Petals of a rose purple-colour. Fruit unknown. Perhaps a proper genus.

Eye-lash-bractead Clidemia. Sh. 1 to 2 feet.

21 C. URCEOLA'TA (D. C. l. c.) branches terete, and are, as well as the panicles, covered with glandular bristles and branched down; leaves petiolate, cordate, acuminated, serrately ciliated, 5-nerved, setose above, but clothed with stellate tomentum beneath; panicles terminal, oppositely branched; calyx hairy, urceolate, 5-cleft. ♄. S. Native on dry mountains about Rio Janeiro. Melástoma urceolàtum, Schrank et Mart. mss. Petals obovate, rose-coloured. Allied to *C. umbonàta.*

Urceolate-calyxed Clidemia. Sh. 1 to 2 feet.

22 C. BULLÒSA (D. C. l. c.) shrubby; branches terete, and [illegible] well as the petioles, calyxes, and peduncles, clothed with [illegible] down; leaves petiolate, ovate, acuminated, somewhat cordat[illegible] ciliately serrated, covered with bulla[illegible] the upper surface, and tomentum beneath; [illegible]nicles axillary, terminal, loose-flowered; bracteas bristle-formed under the flower. ♄. S. Native of Brazil, at Para, in hedges. Melástoma bullòsum, Schrank et Mart. mss. and perhaps the same as Melast. bullòsum of Spreng. neue. entd. 2. p. 172. Calyx campanulate, short, with 5 short bristly teeth. Anthers oval, obtuse, opening by 1 pore. Flowers small, purple. Fruit unknown.

Blistered-bristled Clidemia. Sh. 2 to 3 feet.

23 C. BISERRA'TA (D. C. l. c.) branches terete, and are, as well as the panicles and petioles, clothed with branched stellate down, mixed with stiff glandular bristles; leaves petiolate, ovate, somewhat cordate at the base, acuminated at the apex, 5-nerved, doubly and unequally serrate-ciliated, beset with bristles on the upper surface, which are tumid at the base, but covered with branched down beneath, intermixed with foveolate bristles; panicles axillary, and nearly terminal, with opposite divaricate branches; calyx ovate, acutely 5-lobed. ♄. S. Native of Brazil, in woods about Rio Janeiro. Melástoma biserràtum, Schrank et Mart. mss. Very like *C. urceolàta* and *C. umbonàta.* Petals ovate, purple.

Biserrate-leaved Clidemia. Sh. 2 to 3 feet.

24 C. UMBONA'TA (D. C. l. c.) branches terete, and are, as well as the panicles, petioles, and under side of the leaves, clothed with stellate branched soft down; leaves petiolate, ovate, somewhat cordate, acuminated, ciliately serrated, covered with hairs on the upper surface, which are tumid at the base; panicle terminal, oppositely branched; calyx urceolate. ♄. S. Native of Brazil, in hedges at Nogueira. Melástoma umbonàtum, Schrank et Mart. mss. Petals ovate, purple.

Umbonate-fruited Clidemia. Sh. 2 to 3 feet.

25 C. PURPU'REA (D. Don, mem. soc. wern. 4. p. 308.) branches terete, hispid from spreading bristles, as well as the petioles; leaves broadly elliptic, acuminated, crenulated, 5-nerved, villous on both surfaces, but especially beneath, and when young they are purple, as well as the calyxes; peduncles axillary,

trichotomous, 3-flowered. ♄. S. Native of Peru. Melástoma purpùrea, Pav. in herb. Lamb. M. purpuráscens, Domb.

Purple-leaved Clidemia. Sh. 2 to 3 feet.

26 C. denta'ta (D. Don, l. c.) leaves oval, crenated, acuminated, 5-nerved, covered with rough hairs on both surfaces, as well as the stem; peduncles short, axillary, trichotomous, many flowered. ♄. S. Native of Peru. Melástoma dentàta, Pav. in herb. Lamb.

Toothed-leaved Clidemia. Sh. 2 feet.

27 C. Japure'nsis (D. C. prod. 3. p. 159.) branches nearly terete, and are, as well as the petioles and panicles, hispid; leaves elliptic-oblong, acuminated, quite entire, membranous, rather pilose on both surfaces, and on the margins, 7-nerved; lateral nerves somewhat feathered from the middle to the base; panicles axillary, loose, shorter than the leaves; teeth of calyx setaceous, very short. ♄. S. Native of Brazil, in the woods of Japura. Melastoma Japurénse, Schrank et Mart. mss. Flowers small. Fruit globose, crowned by the teeth of the calyx. Seeds small, angular. Anthers nearly terete, obtuse, hardly tumid at the base.

Japura Clidemia. Sh. 2 feet.

28 C. plumòsa (D. C. prod. 3. p. 159.) branches, petioles, peduncles, and calyxes woolly from rufous pili; leaves oval, rather cordate at the base, acuminated, crenulated, 5-7-nerved, pilose beneath, but especially on the nerves; panicles axillary, trichotomous; bracteas and calycine lobes plumose from purple bristles. ♄. S. Native of St. Domingo. Melástoma plumòsa, Desr. in Lam. dict. 4. p. 32. Leaves 6-7-inches long, [illegible] 3 broad, standing on petioles one inch long.

Plumose-calyxed Clidemia. Sh. 2 to 3 feet.

29 C. latifo'lia (D. C. l. c.) bran[illegible]s hispid; leaves petiolate, broad-ovate, acuminated, denticulated, ciliated, 7-nerved, pilose on both surfaces, but especially on the nerves; panicles axillary, usually twin, trichotomous; bracteas setaceous; fruit spherical. ♄. S. Native of the West Indies. Melástoma latifòlia, Desr. in Lam. dict. 4. p. 31.

Broad-leaved Clidemia. Sh. 4 to 6 feet.

30 C. diversifòlia (D. C. l. c.) branches terete, and are, as well as the petioles, panicles, and under surface of the leaves, clothed with flocky powdery down; the leaves opposite each other are different in form, the one is large and broadly ovate, 7-nerved, and tapering abruptly into the petiole, the other is smaller and truly ovate, and almost sessile; panicles axillary, trichotomous, length of the smaller leaves; calyx with a globose tube, which is urceolate at the apex, and 5 subulate lobes. ♄. S. Native on the banks of the river Magdalena, near St. Bartholomew. Melástoma diversifòlia, Bonpl. mel. t. 59. Fruit blue, 5-celled. Seeds cuneated. Petals small, white.

Diverse-leaved Clidemia. Sh. 4 to 6 feet.

* * * * *Peduncles axillary, spike-formed.*

31 C. spica'ta (D. C. l. c.) branches terete, and are, as well as the petioles and panicles, hispid from elongated bristles, intermixed with stellate down; leaves petiolate, ovate, acuminated, serrated, obtuse at the base, 5-nerved, beset with stiff hairs on both surfaces; peduncles axillary, spicately racemose; pedicels opposite, short, 1-3-flowered; calyx hispid, with an ovate-globose tube, and setaceously acuminated lobes. ♄. S. Native of French Guiana, Brazil, Trinidad, &c. Melástoma spicàta, Aubl. guian. 1. p. 423. t. 165. Vahl. ecl. 3. p. 20. Meyer in act. bonn. 13. p. 792. Flowers white. Berry red.

Spicate-racemed Clidemia. Sh. 1 to 2 feet.

32 C. pustula'ta (D. C. l. c.) branches terete, and are, as well as the petioles, hairy from short glandular down; leaves ovate, acuminated, obtuse at the base, and nearly cordate, ciliately subserrated, 7-nerved, scabrous from bristles above, and rather pustulate at the base of the bristles, but beset with foveolate fascicles of hairs beneath; panicles elongated, axillary, with their branches twice trifid or 3-flowered; calyx hispid, with lanceolate lobes, which are shorter than the tube. ♄. S. Native of Brazil, in the provinces of Rio Negro and Para, in woods. Melástoma pustulàtum, Schrank et Mart. Habit almost of *C. spicàta*, but the thyrse is more loose, the lobes of the calyx are broader, and the hairs are different. Perhaps the same as *C. strigulòsa?*

Pustulate-leaved Clidemia. Sh. 2 to 3 feet.

33 C. strigillòsa (D. C. l. c.) branches rather tetragonal, and are, as well as the petioles, pilose; leaves oblong, rather cordate at the base, acuminated, 5-nerved, 3 times longer than the petioles, rather denticulated, hispid above, and clothed with canescent tomentum beneath; racemes axillary, with short opposite 3-4-flowered branchlets; calyx hairy, with filiform teeth; petals oblong. ♄. S. Native of Jamaica. Melástoma strigillòsa, Swartz, fl. ind. occ. p. 793. Berry roundish, hairy, 5-celled. Like *C. spicàta*, but differs in the leaves being cordate at the base, and in the racemes being compound.

Strigulose Clidemia. Sh. 2 to 3 feet.

34 C. capitella'ta (D. Don, in mem. wern. soc. 4. p. 310.) branches terete, and are, as well as the petioles, densely clothed with branched down intermixed with a few bristles; leaves petiolate, ovate, acuminated, 5-7-nerved, serrulated, very hairy above, and woolly beneath; peduncles axillary, bearing heads of flowers; lower heads of flowers opposite; flowers very hairy and [illegible]. ♄. S. Native of New Granada, in shady woods. Melástoma capitellàtum, Bonpl. melast. p. 5. t. 3. Lobes of calyx 5, obtuse, very hispid on the outside, but glabrous inside. Style filiform. Berry blue, rather globose. Flowers white.

Headed-flowered Clidemia. Sh. 6 to 12 feet.

35 C. negle'cta (D. Don, l. c. p. 307.) leaves ample, cordate, acuminated, crenated, 7-nerved, very hairy on both surfaces, as well as the stems; spikes elongated, axillary, drooping, simple or compound; calyx girded by 5 scales at the base. ♄. S. Native of Peru.

Neglected Clidemia. Sh. 3 to 4 feet.

§ 2. *Terminales* (from *terminus*, the end; in reference to the spikes or panicles of flowers being terminal). D. C. prod. 3. p. 160. *Spikes or panicles of flowers terminal. Flowers 5-petalled, decandrous.*

* *Thyrse spike-formed, terminal.*

36 C. spicæfórmis (D. C. prod. 3. p. 160.) branches clothed with silky villi; leaves broadly elliptic, crenulated, triple-nerved, acute at both ends, clothed with silky villi beneath; racemes terminal, spike-formed; pedicels 3-flowered. ♄. S. Native of Peru. Melástoma spicàta, Pav. in herb. Lamb. but not of Aubl. Clid. spicàta, D. Don, l. c. p. 308. Evidently distinct from the species of the same name from Guiana.

Spike-formed Clidemia. Sh. 2 to 3 feet.

37 C. depe'ndens (D. Don, in mem. wern. soc. 4. p. 307.) leaves elliptic, acuminated, crenated, 3-nerved, very hairy on both surfaces, as well as the stem; spikes terminal, drooping; calyxes sessile, each girded by 5 bracteas at the base. ♄. S. Native of Peru. Melástoma depéndens, Pav. in herb. Lamb.

Dependent-spiked Clidemia. Sh. 2 to 3 feet.

38 C. eróstra'ta (D. C. prod. 3. p. 160.) shrub densely clothed in every part with stiff ferruginous hairs; leaves petiolate, broadly ovate, obtuse, crenated, 5-7-nerved; spikes terminating the branchlets; flowers sessile along the branchlets, in crowded whorles. ♄. S. Native of Brazil, at Coari. Melástoma eróstràtum, Mart. et Schrank, mss. Allied to *C. spicàta*, but differs in the leaves being obtuse, in the hairs being rufes-

cent, in the lobes of the calyx being small and oblong. Anthers oblong, falcate, each with a long connective. Style filiform.

Beakless-anthered Clidemia. Sh. 4 to 6 feet.

39 C. ceramica'rpa (D. C. l. c.) branches, petioles, and nerves of leaves on the under surface, clothed with adpressed silky villi; leaves ovate-oblong, acute, crenated, villous on both surfaces, 7-nerved; nerves rather feathered at the base; thyrse subspicate, terminal, shorter than the leaves, and rather hispid from villi; branches 3-flowered; tube of calyx bluntly 8-ribbed, with a quite entire limb; petals 5, linear. ♄. S. Native of Brazil, in the province of Rio Negro, in the woods of Japura. Melástoma ceramicárpum, Schrank et Mart. mss. Anthers elongated. Seeds small, angular. Fruit globose, a little ribbed, hardly the size of a coriander.

Ribbed-fruited Clidemia. Shrub 2 to 3 feet.

40 C.? verticilla'ta (D. C. l. c.) branches tetragonal, densely clothed with villi; leaves petiolate, ovate-oblong, attenuated, denticulated, villous, scabrous above; racemes axillary, whorled along the rachis; calyx villous, with lanceolate-linear, short, reflexed lobes. ♄. S. Native of South America. Melástoma verticillàta, Vahl. eclog. 1. p. 14. Berry globose, small. Petals lanceolate. Perhaps belonging to a separate section.

Whorled-flowered Clidemia. Sh. 2 to 3 feet.

** *Thyrse panicled, terminal.*

41 C. astrótricha (D. C. l. c.) branches from tetragonal to terete, and are, as well as the petioles, panicles, and leaves, hispid; hairs nearly all bristle-formed and stellately branched at the apex, with a very few simple ones on the calyxes and teeth of the leaves; leaves ovate, acuminated, obtuse at the base, dentately serrated, 5-nerved; panicle terminal, having its branches opposite and elongated; teeth of calyx setaceous, not half so long as the tube. ♄. S. Native of Brazil, in Para. Melástoma agréste, Schrank et Mart. mss. but not of Aubl. Petals oval, obtuse. Anthers linear.

Starry-haired Clidemia. Sh. 3 to 4 feet.

42 C. Berbicea'na (D. C. l. c.) branchlets tetragonal, and are, as well as the petioles and peduncles, clothed with soft woolly deciduous irregularly branched down; leaves on short petioles, oval, obtuse at the base, and ending in a short abrupt acumen at the apex, 5-nerved, bristly on both surfaces, but with soft velvety down on the nerves beneath; the margins irregularly and almost doubly crenated; panicle terminal, oppositely branched; calyx and bracteas smoothish. ♄. S. Native of Berbice. Leaves crenated, nearly as in *C. élegans*. Flowers small. Limb of calyx bluntly 5-toothed. Petals oval. Fruit unknown.

Berbice Clidemia. Sh. 2 to 3 feet.

43 C. dichótoma (D. Don, mem. wern. soc. 4. p. 307.) leaves large, ovate, acuminated, serrated, 7-nerved, very villous on the under surface, as well as on the stems; panicle terminal, racemose. ♄. S. Native of Peru. Melástoma dichótoma, Pav. in herb. Lamb. but not of Desr.

Dichotomous Clidemia. Sh. 2 to 3 feet.

44 C. pilòsa (D. Don, l. c. p. 308.) leaves cordate, acuminated, crenulated, 7-nerved, very pilose on both surfaces, as well as on the stems; panicle small, terminal; peduncles usually 3-flowered. ♄. S. Native of Peru. Melástoma pilòsa, Pav. in herb. Lamb. but not of Swartz.

Pilose Clidemia. Sh. 2 to 3 ft.

45 C. trístis (D. Don, l. c. p. 307.) leaves cordate-oblong, crenulated, acuminated, 5-nerved, rough from pili above, but clothed with fuscous wool beneath; panicle terminal, woolly. ♄. S. Native of Peru. Melástoma trístis, Pav. in herb. Lamb.

Sad Clidemia. Sh. 4 to 6 ft.

46 C. agre'stis (D. Don, l. c. p. 309.) stems and branches terete, and are, as well as the petioles, panicles, and leaves, villous; leaves on short petioles, ovate-oblong, acuminated, somewhat serrated, 5-nerved: panicle terminal, oppositely branched; bracteas none or very small; calyx with a globose tube, and 5 short acute lobes. ♄. S. Native of Cayenne, on the banks of rivulets, and in hedges. Melástoma agréstis, Aubl. guian. 1. p. 425. t. 166. Petals oval, white. Berry blue, villous.

Field Clidemia. Fl. Ju. Aug. Clt. 1822. Sh. 1 foot.

47 C. reve'rsa (D. C. l. c.) branches, petioles, and peduncles densely clothed with reflexed stiff hairs; leaves petiolate, lanceolate-oblong, acuminated, crenulately serrated, hispid, 5-nerved; panicle terminal; tube of calyx subglobose, with lanceolate, acuminated lobes, which are about the length of the tube. ♄. S. Native of Brazil. Melástoma revérsum, Ser. mss. Allied to C. *agréstis*.

Reverse-haired Clidemia. Sh. 1 foot.

48 C. anisophy'lla (D. C. l. c.) branches terete, and are, as well as the petioles, peduncles, and calyxes hispid from long spreading distant hairs; the leaves that are opposite each other are very unequal in size; they are petiolate, oval-oblong, acuminated, ciliated, toothed, triple-nerved, besides the marginal nervules, beset with a few scattered pili above, hairy beneath, especially on the nerves; thyrse panicled, terminal, bractless, [illegible] than the leaves; lobes of calyx plumose from bristles. ♄. S. [illegible] of Guiana, where it is called *Tarimoutou*. Melástoma str[illegible] 5-nerved, acutely [illegible] the genitals, have been see[illegible]

Unequal-leaved Clidemia. Sh. 1 to 2 feet.

49 C. trichòdes (D. C. l. c.) branches terete, and are, as well as the petioles, panicles, and leaves densely clothed with long crowded bristles; leaves petiolate, oval-oblong, 5-nerved, ending each in a long taper-point, quite entire, ciliated, with a few scattered bristles above; panicle terminal, oppositely branched, furnished with ovate bracteas at the origin of the branches and flowers, which are pilose on the outside. ♄. S. Native of Cayenne. Leaves 6-7 inches long and 2 broad. Lobes of calyx 5, short, very pilose. Berry blue, pilose at the apex. Seeds ovate. Petals not seen.

Hairy Clidemia. Sh. 2 to 3 feet.

50 C. depaupera'ta (D. C. l. c.) branches terete, and are, as well as the peduncles and petioles, hispid from long spreading scattered rufous bristles; leaves on long petioles, oval, acuminated, 5-nerved, crenated, pilose on both surfaces; the crenæ blunt and crenulated, ciliated; panicle terminal, loose, very hispid, few-flowered; fruit hispid. ♄. S. Native of Guiana, in woods. Melástoma depauperàta, Rich. herb. Leaves soft, spreading.

Depauperated Clidemia. Sh. 2 to 3 feet.

51 C. lìma (D. C. l. c.) branchlets terete, and are, as well as the peduncles, petioles, and calyxes, hispid from short thick adpressed scale-like strigæ; leaves petiolate, oval, acutish, 3-5-nerved, toothed, beset with bristles above, which are bullate at the base, and reticulately foveolate beneath; the nerves rough from bristles; thyrse terminal, short; branches 3-flowered; calyx 5-toothed; petals lanceolate, short, acute. ♄. S. Native of the West Indies. Melástoma Lima, Desr. in Lam. dict. 4. p. 47. Style filiform, acutish. Ovarium bristly. Seeds unknown.

Wrasp Clidemia. Sh. 3 to 4 ft.

52 C. a'ptera (D. C. l. c.) branches bluntly tetragonal, and are, as well as the panicles, petioles, and under side of leaves, hairy from short, bristly, crowded, rufous down; leaves petiolate,

ovate or oblong, acuminated, obtuse at the base, and a little ciliated; nerves 5-7, somewhat feathered; panicle terminal, with opposite divaricate branches; calyx globose, very hairy, with 5 acute lobes, but the points being deciduous they at length become obtuse. ♄. S. Native of Brazil, in woods, in the province of St. Paul. Melástoma ápterum, Schrank et Mart. mss. The whole plant is brown when dried.

Wingless Clidemia. Shrub 2 to 3 ft.

53 C. PURPURA'SCENS (D. C. l. c.) branchlets terete, and are as well as the panicles and petioles clothed with reflexed villi; leaves petiolate, oblong-lanceolate, acuminated, ciliated, hardly quite entire, 5-nerved; panicle terminal, rather loose, oppositely branched; calyx urceolate, hispid, 5-cleft, with the lobes glabrous on the inside. ♄. S. Native of Brazil, near Oeiras, in the province of Bahia. Melástoma purpuráscens, Schrank et Mart. mss. But is different from *Melástoma purpuráscens* of Aubl. in the flowers being nearly twice the size. Branches and calyxes brownish purple on the outside. Bracteas linear. Petals and genitals unknown.

Purplish Clidemia. Shrub 3 to 4 feet.

54 C. CARASSA'NA (D. C. prod. 3. p. 162.) branches nearly terete, rather compressed, and are as well as the petioles, panicles, and under surface of leaves densely clothed with velvety stellate down; leaves on long petioles, oval, acuminated, scabrous on the upper surface from short, simple bristles, quintuple-nerved; panicle terminal; style much exserted, acute. ♄. S. Native of Brazil, on the high mountain called Carassa, in the province of Minas Geraes. Melástoma Caras[illegible] Schrank et Mart. mss. Petioles 12-15 lines [illegible] Ovarium bristly at the ap[illegible]

Carassa Clidemia. Shrub 1 to 2 ft.

55 C. BRACTEA'TA (D. C. prod. 3. p. 162.) branches terete, and are as well as the panicles and petioles hairy from crowded, long, rufous bristles; leaves oval, rather cuneated at the base, acuminated at the apex, 5-nerved, almost quite entire, ciliated, beset with stiff hairs beneath; thyrse panicled, terminal, with opposite branches, bearing dense heads of flowers at the apex, intermixed with ovate acute bracteas. ♄. S. Native of Guiana, between Conana and Yueri. Melástoma trístis, Rich. herb. Flowers white.

Bracteate-flowered Clidemia. Shrub 1 to 2 feet.

56 C. MUTA'BILIS (D. C. l. c.) branchlets terete, and are as well as the petioles and peduncles very villous from rufous, adpressed, strigose hairs; leaves oval, cuneated at the base, acuminated at the apex, quite entire, 5-nerved, clothed with adpressed hairs on both surfaces; thyrse panicled, terminal, with opposite branches bearing heads of sessile bracteate flowers at the apex; calyx densely clothed with silky villi. ♄. S. Native of Guiana, in shady woods. Melástoma mutábilis, Rich. herb. Very nearly allied to *C. bracteàtum*, but differs in the calyxes being silky, not hairy, and in changing to a greenish-glaucous colour on drying.

Changeable-coloured Clidemia. Shrub 1 to 2 feet.

57 C. LAPPA'CEA (D. C. l. c.) branches terete, and are as well as the petioles covered with somewhat adpressed, thick, strigose hairs; leaves oval, somewhat acuminated, 5-nerved, crenated, ciliated, beset with scattered bristles on both surfaces, but hairy on the nerves beneath; thyrse panicled, terminal, short, with opposite branches, bearing heads of sessile bracteate flowers at the apex; fruit very hispid. ♄. S. Native of Guiana, in woods. Melástoma lappàcea, Rich. herb. This species is nearly allied to the two preceding, but differs in the leaves being broadly crenated or somewhat bicrenate, and purple beneath.

Burdock Clidemia. Shrub 1 to 2 feet.

58 C. VIOLA'CEA (D. C. l. c.) branches terete, and are as well as the petioles, nerves of leaves, and calyxes, clothed with adpressed silky villi; leaves on short petioles, ovate, acuminated, obtuse at the base, crenated, somewhat ciliated, quintuple-nerved, beset with scattered hairs between the nerves; thyrse racemose, terminal, much shorter than the leaves, with crowded, 3-flowered branchlets: calyx densely clothed with hairs; petals oblong, obtuse. ♄. S. Native of Cayenne, in shady woods. Melástoma violàcea, Rich. herb. Fruit globose, ribless, pilose, crowned by the limb of the calyx, which is very short and somewhat 5-toothed. Ovarium pilose at the apex. Leaves purplish.

Violaceous-leaved Clidemia. Shrub 1 to 3 feet.

59 C. COCCI'NEA (D. C. l. c.) branches terete, and are as well as the petioles clothed with adpressed bristles; leaves ovate-oblong, acuminated, toothed, triple-nerved, besides the 2 marginal nervules, beset with scattered bristles, but with silky villi on the nerves; thyrse terminal, panicled, beset with short hairs, with its branchlets opposite, and bearing 3 flowers each at the apex; calyx covered with short adpressed villi. ♄. S. Native of Guiana, in shady woods. Melástoma coccínea, Rich. herb. but not of Rich. in act. soc. hist. nat. par. Very like *C. violàcea*, but the leaves are only purple beneath.

Scarlet Clidemia. Sh. 1 to 2 feet.

60 C. LANA'TA (D. C. l. c.) branches, petioles, both surfaces of leaves as well as the branches and calyxes densely clothed with woolly down; hairs some of them sessile and stellate, others bristle-like and stellate at the apex; leaves petiolate, ovate, terminating in short taper points, 3-nerved, besides the [illegible] nervules, denticulated; panicle terminal, crowded with flowers, having its branches opposite; teeth of calyx 5, obtuse. ♄. S. Native of Guiana, Cuba, about the Havannah, and the Island of Trinidad. Melástoma lanàtum, Lamb. herb. Flowers white, very fragrant. Petals obovate. Anthers linear, opening by 1 pore, bluntly biauriculated at the base. Ovarium girded by a ring of bristles at the apex. Stigma somewhat capitate. A very distinct species.

Woolly Clidemia. Shrub 1 to 2 feet.

61 C. OBSCU'RA (D. C. l. c.) branchlets as well as the petioles, panicles, and under side of leaves densely clothed with rusty woolly down and small hairs; leaves petiolate, broadly ovate, acute, 5-7-nerved, quite entire, beset with pili above, which are bullate at the base; panicle terminal, with its branches opposite and crowded with flowers at the apex. ♄. S. Native of Peru, in frigid places. Melástoma obscùra, Bonpl. mel. t. 52. Limb of calyx campanulate, bluntly 5-toothed. Petals obovate-roundish. Ovarium half free from the calyx, furnished with 10 bristles at the apex. Stigma peltate. Berry 3-4-celled. Flowers white.

Obscure Clidemia. Shrub 2 to 3 feet.

62 C. INVOLUCRA'TA (D. C. prod. 3. p. 163.) branches terete, and are as well as the petioles hairy; leaves petiolate, oval, attenuated at the base, acuminated at the apex, toothed, ciliated, triple-nerved, besides the marginal nervules, pilose on both surfaces; thyrse sessile, capitate, terminating the branchlets, bracteated or involucrated by 2 leaves, hairy, very short. ♄. S. Native of Guiana, in woods. Melástoma involucràtum, Rich. herb. Leaves thin, soft. Branches spreading. Heads of flowers a violaceous purple colour.

Involucrated Clidemia. Shrub 2 feet.

* * * *Panicles terminal, very hispid from purplish hairs.*

63 C. RHODO'POGON (D. C. prod. 3. p. 163.) branchlets terete, and are as well as the petioles and nerves of leaves densely clothed with bristles; leaves beset with scattered bristles on both surfaces, petiolate, oblong, acuminated, serrated, ciliated, 3-nerved besides the marginal nervules; panicle terminal, much branched, divaricate, and are as well as the calyxes very hispid

from long purplish bristles. ♄. S. Native of Brazil, in the province of Para, in woods. Melástoma rhodópogon, Schrank et Mart. mss. This is a very showy species. Petals purplish or white. Stamens not seen. Style filiform. Lobes of calyx 5, narrow, acute, confused with the bristles.

Red-bearded Clidemia. Shrub 2 to 3 feet.

* * * * *Panicles terminal. Petals lanceolate. Bristles on the stems spreading, and very stiff.*

64 C. XANTHOLA'SIA (D. C. l. c.) branches terete, and are as well as the panicles and petioles hispid from long, spreading, stiff bristles; leaves petiolate, oblong, acute at the base, long-acuminated at the apex, 5-nerved, somewhat serrately ciliated, glabrous, except some bristles on the nerves beneath; panicle terminal; calyx urceolate, very hispid, bearing a few stellate soft hairs among the bristles. ♄. S. Native of Brazil, in the province of Rio Janeiro, on the mountains in shady places of woods. Melástoma xantholàsia, Schrank et Mart. mss. Hairs on the panicles and calyx yellow.

Yellow-haired Clidemia. Shrub 2 to 3 feet.

65 C. LONGIBA'RBIS (D. C. l. c.) branches nearly terete, and are as well as the panicles, petioles, and leaves, hispid from scattered, stiff, long bristles, intermixed with rufous down on the panicle; leaves oblong, petiolate, serrately ciliated, acuminated, obtuse at the base, 5-nerved; panicle terminal; bracteas linear, each ending in a bristle. ♄. S. Native of Brazil, in woods. Melástoma longibárbe, Schrank et Mart. mss Petals lanceolate, acuminated. Anthers oblong-linear

Long-bearded Clidemia. Shrub 2 to 3 feet.

66 C. STENOPE'TALA (D. C. l. c.) shrubby; branches somewhat tetragonal, densely clothed with retrograde bristles; leaves petiolate, ovate, acuminated, serrated, 5-nerved, villous on both surfaces as well as on the margins; panicle terminal; calyx clothed with spreading stiff hairs or bristles; petals 5, linear-lanceolate, very acute. ♄. S. Native of the interior of Brazil. Melástoma stenopétalum, Mart. et Schrank, mss. Lobes of calyx 5, narrow, acute. Flower-bud conical. Style filiform, not dilated at the apex, longer than the stamens. Anthers oblong, somewhat tuberculate at the base, obtuse at the apex, either opening by 1 or 2 pores. Fruit unknown.

Narrow-petalled Clidemia. Shrub 2 to 3 feet.

67 C. GLOMERA'TA (D. C. l. c.) branches, panicles, petioles, and under surface of leaves hispid from long stiff bristles, intermixed with small, stellate down; leaves petiolate, ovate, short-acuminated, obtuse at the base, 5-nerved, ciliated, somewhat crenulated, bristly above; panicle terminal, capitate, few-flowered. ♄. S. Native of Brazil, in woods. Melástoma conglomeràtum, Schrank et Mart. mss. Calyx and peduncles beset with black bristles; upper surface of leaves with yellowish ones, and the branches with retrograde ones.

Glomerate-flowered Clidemia. Shrub 1 to 2 feet.

68 C.? NIA'NGA (D. C. l. c.) suffruticose; branches tetragonal, and are as well as the petioles, peduncles, and calyxes hispid from deflexed spreading bristles; leaves on long petioles, ovate, hardly cordate at the base, long-acuminated, denticulated, 5-nerved; thyrse panicled, terminal; flowers decandrous; lobes of calyx linear, ciliated with bristles, a little shorter than the tube; anthers beakless. ♄. S. Native of Brazil, in woods on Mount Cercovado near Rio Janeiro. Rhéxia Niánga, Mart. et Schrank, mss. Bristles stiff, purplish, intermixed with down. Petals an inch long. Leaves 4 inches long. Branches of thyrse spreading or deflexed. Petals, according to the msst, white or very pale red. Fruit unknown. Perhaps a species of *Melástoma*. *Nianga* is the native name of the plant.

Nianga Clidemia. Shrub 1 to 3 feet.

69 C. FOVEOLA'TA (D. C. l. c.) branches nearly terete, and are as well as the panicles, petioles, and leaves hispid from thick, spreading, stiff bristles; leaves petiolate, oval-oblong, blunt at the base, and somewhat cordate, acuminated at the apex, serrulated, ciliated, rather blistered above, 5-nerved, but bristly and foveolate beneath; panicle oblong, terminal; calyxes bearing stellate down among the bristles. ♄. S. Native of Brazil, in the province of Minas Geraes, in irrigated places of woods. Melástoma foveolàtum, Schrank et Mart. mss. Hairs on the lower surface of the leaves diverging, disposed in 2 rows at the sides of the nerves. Petals lanceolate, acute.

Foveolate-leaved Clidemia. Shrub 2 to 3 feet.

70 C. BISE'PTENA (D. C. prod. 3. p. 164.) branches from tetragonal to terete, and are as well as the panicles and petioles clothed with crowded, spreading, somewhat deflexed bristles; leaves on long petioles, ovate, blunt at the base, acute at the apex, toothed, ciliated, clothed with stiff villi on both surfaces, 7-nerved; panicles axillary and terminal, with opposite spreading branches; petals 7, linear-lanceolate, acute. ♄. S. Native of Brazil. Melástoma biseptenàtum, Schrank et Mart. mss. Bristles long, rufous. Calyx hispid, 5-cleft. Style filiform. Anthers oblong, obtuse, said to be allied to *M. agréstis*.

Bisceptenate-flowered Clidemia. Shrub 1 to 2 feet.

* * * * * *Panicles terminal, with the branches spreading, and bearing the flowers on one side only.*

71 C. HETEROBA'SIS (D. C. l. c.) branchlets somewhat tetragonal, and are as well as the panicles, petioles, and leaves, especially on the under surface, clothed with soft hairs or down; leaves on long petioles, ovate, unequally cordate at the base, acuminated [illegible] 7-nerved, acutely and unequally toothed, [illegible]ated; panicle terminal; calyx rather glandular, hispid, with 5 short, acuminated lobes. ♄. S. Native of Brazil, in the province of Para. Melástoma heterobàsis, Mart. herb. Melast. soleníferum, Schrank, descr. Petioles 12-15 lines long. Flowers small. Anthers violaceous, obtuse. Allied to *C. secúnda*, but truly distinct from it in the leaves being somewhat cordate at the base, in being toothed, not serrated, and in the hairs being soft, not bristly, &c.

Unequal-based-leaved Clidemia. Shrub.

72 C. INTERME'DIA (D. C. l. c.) branches terete, and are as well as the panicles, calyxes, petioles, and leaves clothed with adpressed bristles; leaves on long petioles, ovate, acuminated, obtuse at the base and somewhat cordate, ciliately serrated, 5-nerved; panicle terminal, with its branches spreading and bifid; flowers sessile, secund. ♄. S. Native of Brazil, in woods at Rio Negro. Melástoma hispidum, Mart. herb. Very like *C. secúnda*, but differs in the leaves being of the form of those of *C. heterobàsis*.

Intermediate Clidemia. Shrub.

73 C. SECUNDIFLÒRA (D. C. l. c.) branchlets terete, and are as well as the calyxes, panicles, petioles, and leaves clothed with adpressed stiff villi; leaves petiolate, oval, acuminated, ciliately serrated, 5-nerved, or almost quintuple-nerved; panicle terminal, with its branches spreading and bifid; flowers sessile, secund. ♄. S. Native of Brazil, in woods, at Para, and Rio Negro. Melástoma secúndum, Mart. et Schrank, mss. The habit of the plant and the inflorescence agrees with *C. làcerum*, but differs in the hairs being adpressed, not spreading, in the lobes of the calyx being entire, not ciliately jagged, and in the bracteas being linear-subulate, not almost wanting. Anthers obtuse.

Secund-flowered Clidemia. Shrub 4 to 5 feet.

74 C. INÆQUALIFÒLIA (D. C. l. c.) branches from tetragonal to terete, and are as well as the petioles and panicles clothed with spreading hairs; leaves petiolate, oval, obtuse at the base, ending each in a long, narrow acumen at the apex, serrulated,

5-nerved, bristly above, but clothed with villi beneath, those opposite each other usually of a different size; panicles terminal. ♄. S. Native of Brazil, in woods, in the province of Para. Melástoma inæqualifòlium, Schrank et Mart. mss. Leaves sometimes equal in size, sometimes very unequal, the larger ones 6-7 inches long, and the smaller ones 1-2 inches. Flowers small, 5-cleft. Style filiform, exserted. Anthers not auricled at the base.

Unequal-leaved Clidemia. Shrub 2 to 4 feet.

75 C. LA'CERA (D. C. l. c.) branches terete, and are as well as the petioles and peduncles hispid from long, scattered, spreading bristles; leaves petiolate, oval-lanceolate, acuminated, 5-nerved, denticulated, ciliated, hairy on both surfaces; branches of terminal panicle dichotomous; flowers sessile, secund; calyx with a globose tube: and 5 lobes, which are furnished with palmately disposed bristles at the apex. ♄. S. Native of New Granada, on Mount Quindiu, and at the town of Mariquita. Melástoma lácera, Bonpl. mel. t. 5. Petals oval, white. Berry 3-celled.

Jagged-calyxed Clidemia. Shrub 3 to 6 feet.

76 C. SECU'NDA (D. Don, in mem. wern. soc. 4. p. 308.) leaves oval, acuminated, 5-nerved, crenulated, rounded at the base, very pilose on both surfaces as well as the stems; panicle terminal, divaricate, with bifid, many-flowered bracteas; flowers secund. ♄. S. Native of Peru. Melástoma secúnda, Pav. in herb. Lamb.

Side-flowered Clidemia. Shrub 3 to 4 ft.

77 C. LAMBERTIA'NA (D. C. prod. 3. p. 164.) leaves [illegible] cordate, acute, 3-nerved, crenulated, very pilose [illegible] both surfaces as well as on the stems; pa[illegible]ers sessile; calyx scaly at the base. ♄. S. Native of Peru. Melástoma crenàta, Pav. in herb. Lamb. but not of Vahl. Clidemia crenàta, D. Don, mem. wern. soc. 4. p. 308. Melástoma Lambertiàna. Ser. mss.

Lambert's Clidemia. Shrub.

Cult. The species of *Clidèmia* are by no means showy, and on that account are not very desirable. Their culture and propagation are the same as that for *Melástoma*, see p. 764.

XLIX. MYRIA'SPORA (from μυριας, *myrias*, a myriad, and σπορα, *spora*, a seed; in reference to the innumerable seeds contained in the fruit). D. C. prod. 3. p. 165.

LIN. SYST. *Decándria, Monogýnia.* Calyx very hispid, with an ovate-globose tube; limb closed when in a young state, and therefore constituting an ovate bud, but at length separating into 5 irregular broad lobes. Petals 5. Stamens 10; filaments short; anthers thick, rather obtuse, gibbous at the base. Style filiform. Free part of ovarium beset with bristles. Capsule baccate, ovate-globose, 5-celled. Seeds innumerable, ovate, imbedded in the pulp of the fruit.—Brasilian shrubs. Branches terete, hispid. Leaves petiolate, rather unequal at the base, quintuple-nerved, acuminated, dentately serrated, hispid on the nerves, the rest beset with scattered bristles. Peduncles axillary, 1-3, short. Fruit large, very hispid.

1 M. EGE'NSIS (D. C. prod. 3. p. 165.) leaves oblong; lobes of calyx hispid on both sides. ♄. S. Native of Brazil, in woods, at Ega, in the province of Rio Negro. Melástoma Egénse, Mart. herb. Bláckia Egénsis, Schrank, mss.

Ega Myriaspora. Shrub 3 to 6 feet.

2 M. PAULE'NSIS (D. C. l. c.) leaves oval; lobes of calyx glabrous on the inside. ♄. S. Native of Brazil, in the province of Rio Negro. Melástoma Paulénse, Schrank, mss. Perhaps only a broad-leaved variety of *M. Egénsis.*

St. Paul Myriaspora. Shrub 4 to 6 feet.

Cult. See *Melástoma*, p. 764. for culture and propagation.

L. TOCO'CA (*Tococo* is the name of *T. Guianénsis* by the Indians of Guiana). Aubl. guian. 1. p. 438. D. C. prod. 3. p. 165. Tocòca species, D. Don, in mem. wern. soc. 4. p. 303.—Melástoma species of authors.

LIN. SYST. *Decándria, Monogýnia.* Tube of calyx oblong, glabrous, naked at the base; limb urceolate, permanent, 5-lobed: lobes broad, short, obtuse, usually ciliated. Petals 5, obovate. Stamens 10; anthers equal, furnished each with a very short or hardly evident connective, which is biauriculate at the base. Ovarium crowned by a circular line of bristles. Style cylindrical, crowned by a large, orbicularly peltate stigma. Capsule baccate, 5-celled. Seeds ovate, angular, with a linear hylum.—South American shrubs, hispid from thick hairs or bristles. Branches tetragonal. Leaves opposite, equal, 3-5-nerved. Petioles short, bristly, tumid, or inflated at the apex into 2 bladders, which are open at the apex. Flowers white or rose-coloured, disposed in a thyrse composed of racemes.

1 T. GUIANE'NSIS (Aubl. l. c. t. 174.) branches tetragonal or compressed between the nodes, covered with bristles on the angles; leaves broadly ovate, acuminated, hardly crenulated, 5-nerved, bristly on the nerves and margins, and beset with scattered bristles above; petioles inflated above; panicle terminal; calyx rather pilose. ♄. S. Native of Guiana. Melástoma physóphora, Vahl. ecl. 1. p. 45. Poir. suppl. 3. p. 629. Melast. Tocòca, Desr. in Lam. dict. 4. p. 39. Petiole hardly 3 lines long beneath the bladder, which is subglobose. Limb of calyx campanulate, with the teeth broad at the base and acute at the apex, ciliated. Petals concave, rose-coloured. Berry oval, purple. T. Aublètia, D. Don, l. c.

Guiana Tococa. Fl. Aug. Sept. Clt. 1826. Sh. 3 to 4 ft.

2 T. FORMICA'TA (Mart. herb. ex D. C. prod. 3. p. 165.) branches somewhat tetragonally terete, beset with long, scattered bristles; leaves equal, oval, acuminated, 5-nerved, serrated, beset with bristles on the margins and on the nerves beneath, but with scattered bristles above; petioles inflated at the apex; panicle terminal; calyx glabrous. ♄. S. Native of Brazil, in the province of Goyaz, in woods. Very like the preceding species. Leaves 10 inches long. Petiole almost an inch long, beneath the bladder, which is ovate and erect. Lobes of calyx awned.

Insect Tococa. Shrub 3 to 4 feet.

3 T. BULLI'FERA (Mart. et Schrank, mss. ex D. c. l. c.) branches terete, but tetragonal at the apex as well as the rachis, sparingly pilose; leaves elliptic-oblong, acuminated, ciliated, almost quite entire, 5-nerved, membranous, beset with minute, scattered bristles on both surfaces; petiole inflated into an elongated bladder; calyx rather pilose. ♄. S. Native of Brazil, in the province of Para, in woods. The rachis of the simple raceme nearly tetragonal. Petiole 4 lines long, beneath the bladder, which is nearly an inch long.

Blister-bearing Tococa. Shrub 2 to 3 feet.

4 T. VESICULÒSA (D. C. prod. 3. p. 166.) stem beset with spreading pili; leaves hardly unequal, on long petioles, ovate, 5-nerved, acute, bearing 2 bladders at the apex of the petiole; cyme panicled, axillary, pedunculate. ♄. S. Native of Mexico. Melástoma vesiculòsa, Moc. et Sesse, fl. mex. icon. ined. Flowers small, rose-coloured.

Bladdery-petioled Tococa. Shrub 2 feet.

5 T. SANGUI'NEA (D. Don, in mem. wern. soc. 4. p. 305.) the whole plant clothed with blood-coloured hairs; leaves cordate, oval, acuminated, 5-nerved, crenulated, densely clothed with stiff hairs on both surfaces as well as the stem; calyx furnished with scales at the base; filaments glandular; style short. ♄. S. Native of Peru.

Bloody-haired Tococa. Shrub 2 to 3 feet.

Cult. The plants of this genus are remarkable for bearing bladders on their petioles. Their culture and propagation is the same as that recommended for *Melástoma*, see p. 764.

LI. MAIE'TA (the author does not explain the meaning of this name). Aubl. guian. 1. p. 443. but not of Vent. D. C. prod. 3. p. 166.—Tocòca, spec. D. Don.—Melástoma spec. of authors.

Lin. syst. *Decándria, Monogýnia.* Tube of calyx oblong-ovate, more or less hispid, and usually bracteate; lobes 5, subulate. Petals 5, obovate. Stamens 10. Anthers equal, each furnished with a very short connective, which is biauriculated behind. Ovarium glabrous above, and as if it were truncate. Style filiform; stigma capitate. Capsule baccate, 5-celled. Seeds ovate, angular.—American subshrubs, hispid from thick pili. Branches from compressed to terete. Leaves on short petioles, those opposite each other of unequal size, the largest of the two bladdery at the base of the limb; the bladders usually confluent. Flowers solitary or few in the axils of the leaves.

1 M. Guiane'nsis (Aubl. guian. 1. p. 443. t. 176.) branches and petioles beset with spreading bristles; leaves on short petioles, of unequal size, the larger ones ovate, acuminated, somewhat denticulated, 5-nerved, obtuse at the base, bearing a bladder at the base of the limb, the smaller ones oblong, without any bladder; flowers axillary, solitary, on short pedicels; teeth of calyx subulate, elongated; bracteas 4, acuminated. ♄. S. Native of French Guiana, in woods. Melástoma Maièta, Desr. in Lam. dict. 4. p. 34. Tocòca Maièta, D. Don, in mem. soc. 4. p. 303. Flowers white.

Guiana Maieta. Shrub 2 feet.

2 M. hypophy'sica (D. C. prod. 3. p. 166.) branches and petioles beset with a few spreading bristles; leaves of unequal size, on short petioles, the larger ones oval, acuminated, somewhat serrulated, 5-nerved, obtuse at the base, bearing a bladder at the base of the limb, the smaller ones oval-oblong, acuminated, without any bladder; flowers axillary, numerous, almost sessile; teeth of calyx short, subulate; bracteas 1, broad, each ending in a short acumen. ♄. S. Native of Brazil, in woods. Melástoma Maièta and M. hypophýsicum, Schrank et Mart. mss. Very near *M. Guianénsis*, but differs in the branches being more compressed and less bristly, but the calyxes are more bristly and teeth shorter.

Under-bladder-leaved Maieta. Shrub 2 to 3 feet.

3 M. heterophy'lla (D. C. l. c.) branches and petioles hispid from spreading bristles; leaves of unequal size, the larger ones petiolate, bearing 2 bladders at the top of the petiole, oval-oblong, acuminated, the smaller leaves sessile, cordate, and stem-clasping, nearly orbicular, mucronate, not bladdery; cymes axillary, pedunculate, few-flowered. ♄. S. Native of Peru. Melástoma heterophýlla, Desr. in Lam. dict. 4. p. 43. Tocòca heterophýlla, D. Don, l. c.

Variable-leaved Maieta. Shrub 2 to 3 feet.

Cult. See *Melástoma* for culture and propagation, p. 764.

LII. CALO'PHYSA (καλος, *kalos*, pretty, and φυσα, *physa*, a bladder; in reference to stipular bladders at the base of the petioles). D. C. prod. 3. p. 166.

Lin. syst. *Octándria, Monogýnia.* Tube of calyx oblong, enlarging with the fruit, and roundish, and therefore bottle-shaped; lobes 4, broad, short, plumosely ciliated from bristles. Petals 4, obovate. Stamens 8; filaments flat, tapering to the apex. Anthers oblong, without auricles. Style filiform, not capitate at the apex. Capsule baccate, 4-celled. Seeds ovate, angular?—A Brazilian shrub, allied to *Tocòca*, but differs in the bladders not being at the apex of the petiole but at the base, apparently in place of stipulas, in the parts of the flowers being quaternary, not quinary, in the calyx being at length bottle-shaped, in the anthers being without auricles, and in the stigma not being dilated.

1 C. tococoi'dea (D. C. l. c.). ♄. S. Native of Brazil, in shady places. Branches terete, and are as well as the petioles beset with spreading, stiff bristles. Bladders roundish, one on each side at the base of the petiole. Leaves cordate, acute, 7-nerved, toothed, ciliated, beset with scattered bristles above, and with bristles on the nerves beneath, but glandular between the nerves. Cymes few-flowered, axillary, crowded, short.

Tococa-like Calophysa. Shrub.

Cult. See *Melástoma* for culture and propagation, p. 764.

LIII. SONERI'LA (*Soolli Soneri-ila* is the name of *S. maculáta* in the Khassee language). Roxb. fl. ind. 1. p. 180. Wall. pl. asiat. rar. 2. t. 2. Blume in bot. zeit. 1831. no. 27. p. 489.

Lin. syst. *Triándria, Monogýnia.* Tube of calyx oblong or somewhat trigonal, usually muricated, adhering to the ovarium; limb trifid, with the segments deciduous. Petals 3, ovate-lanceolate, acute. Stamens 3. Anthers linear-oblong, straightish, emarginate at the base, opening by 2 pores at the apex, without any appendages. Ovarium truncate at the apex, glabrous. Style filiform; stigma obtuse. Capsule turbinate, crowned by the margin of the calyx, which is thickened on the inside, 3-celled, 3-valved, valves opening only at the apex. Seeds cuneate, angular, of 2 forms.—Usually small shrubs, rarely annual plants. Branches terete. Leaves opposite, rarely scattered, those opposite each other are for the most part unequal in size, one of which is sometimes almost abortive, quite [illegible] toothed, membranous, hairy. Peduncles axillary and terminal, racemose or fasciculate, few or many-flowered. Flowers rose-colour[illegible]ry number of the parts of the flower is sufficient to distinguish this genus from all others of *Melastomaceæ*.

Sect. I. Soneri'læ (see genus for derivation). Blum. l. c. p. 490. Calyx hairy, hardly angular. Petals ovate, acute, broad at the base. Capsule turbinate, opening by 3 valves, which are bipartite at the apex.

1 S. begoniæfòlia (Blum. l. c.) stem herbaceous, hairy; leaves quintuple or septuple-nerved, obliquely cordate at the base, acute, quite entire, ciliated, scabrous above, but beset with small adpressed bristles beneath, those opposite each other unequal in size, one of them almost sessile and heart-shaped; racemes axillary and terminal, many-flowered; flowers sessile. ⊙. S. Native of Java, at the river Tjarvia, in the province of Bantam. Flowers rose-coloured.

Begonia-leaved Sonerila. Pl. 1 foot.

2 S. Molucca'na (Roxb. fl. ind. 1. p. 182.) leaves in pairs, entire, having one minute and nearly round, the other unequally cordate; racemes umbelled. ⊙. S. Native of the Moluccas. Flowers rose-coloured.

Molucca Sonerila. Pl. 1 foot.

3 S. pauciflòra (Blum. l. c. p. 491.) suffruticose; stems beset with stiff hairs; leaves 3-nerved, besides the marginal nervules, oblong, acuminated, auriculately semi-cordate at the base, denticulated, and rather hairy, those opposite each other unequal in size, one of which is cordate and sessile; peduncles axillary, few-flowered. ♄. S. Native of Java, on the mountains. Flowers rose-coloured.

Few-flowered Sonerila. Shrub 1 to 2 feet.

Sect. II. Trigonoca'psæ (from τρεις, *treis*, three, and γωνια, *gonia*, an angle; in reference to the trigonal capsule and calyx). Blum. l. c. Calyx glabrous, trigonal. Petals ovate-lanceolate, acute at both ends. Capsule turbinate, attenuated at the base, trigonal; valves 3, undivided, dehiscent. Leaves opposite, nearly equal, hardly oblique at the base.

4 S. ERE'CTA (Jacq. mal. misc. 1. no. 5. p. 7.) stem fruticulose, with 2 opposite downy lines; leaves 3-nerved, lanceolate, acute at both ends, serrated, hairy; spikes terminal, few-flowered. ♄. S. Native of Pulo-Penang, in woods. Flowers red.

Erect Sonerila. Shrub 1 to 2 feet.

5 S. SQUARRÒSA (Wall. in Roxb. fl. ind. 1. p. 182. and pl. asiat. rar. 2. p. 1. t. 102.) stem suffruticose, erect, glabrous, almost simple, with numerous stipularly soft prickles; leaves crowded towards the top of the plant, cuneate-lanceolate, cuspidately serrated, smooth, tapering into the petioles, which are very short; racemes terminal and axillary; flowers secund. ♃. S. Native of the East Indies, growing among ferns on the Khassee mountains, where it is called *Tearanga*. Petals oval, acute, contracted at the base, rose-coloured. Anthers bilocular, opening on both sides along their whole length. ex Wall. l. c.

Squarrose Sonerila. Pl. ¼ to ⅓ foot.

6 S. ANGUSTIFÒLIA (Roxb. fl. ind. 1. p. 182. Wall. pl. rar. asiat. 2. p. 1. t. 102.) stem suffruticose; leaves ovate-oblong, acuminated, nearly equal, ciliated, acute at the base, beset with simple hairs on both surfaces, as well as on the branches; racemes terminal and lateral, few-flowered. ♃. S. Native of the mountains, on the north-east border of Bengal. Flowers rose-coloured.

Narrow-leaved Sonerila. Pl. ⅓ to 1 foot.

7 S. MACULA'TA (Roxb. fl. ind. 1. p. 180.) stem short; branches recumbent, rooting at the apex, bristly; leaves on long petioles, unequally broad-ovate-cordate, acuminated, setosely serrulated: beset with small, white, elevated specks, fro[illegible] centre of each rises a bristle; racemes axillary, spiral, [illegible] hairy coloured peduncles. ♃. S. Native among the mountains upon the north-east border of Be[illegible], it is used by the natives as a pot-herb. Its vernacular na[illegible] in the Khassee language is *Sootli-Soneri-ila*. Rheed. mal. 9. p. 127. t. 65. Flowers rose-coloured.

Spotted-leaved Sonerila. Pl. recumbent.

8 S. EMACULA'TA (Roxb. fl. ind. 1. p. 181.) leaves unequally narrow-cordate, acute, bristly, but without spots, serrulated, ciliated. ♃. H. Native among the Khassee mountains, on the north-east border of Bengal. It differs from *S. maculàta*, in the leaves being destitute of little round white dots, from which the bristles rise. It is also less robust than that plant, with longer peduncles to the racemes, but the flowers and capsules are alike.

Spotless-leaved Sonerila. Pl. 1 foot.

9 S. TENUIFÒLIA (Blum. l. c.) stem suffruticose, rough; leaves 3-nerved, opposite, one of which is smaller than the other, ovate-lanceolate, acuminated, obtuse, or rather cordate at the base, serrated, beset with scattered bristles above, rather glaucous beneath; peduncles terminal, 1-3-flowered. ♄. S. Native of Java, in woods. Flowers red.

Fine-leaved Sonerila. Sh. 1 to 2 feet.

Cult. For culture and propagation of the stove species, see *Melástoma*, p. 764.; but see *Centradènia*, p. 766. for that of the annual kinds. Rather pretty plants when in flower.

LIV. MEDINI'LLA (meaning unknown to us). Gaud. ined. ex D. C. prod. 3. p. 167. Blum. in bot. zeit. 1831. no. 29. p. 508.

LIN. SYST. *Octo-Decándria, Monogýnia.* Tube of calyx ovate or obovate, ribless, adhering to the ovarium; limb truncate or obsoletely 4-5-toothed, rarely cleft irregularly, continuous with the tube. Petals 4-5, oval or obovate, obtuse or obliquely truncate, rather fleshy. Stamens 8-10, equal, or the alternate ones are smaller; anthers oblong-linear, arched, beaked, and opening by one pore at the apex; their connectives 2-lobed or bifid in front, but spur-formed behind, and confluent with the anthers. Ovarium glabrous at the apex, rarely downy. Style subulate, tumid at the base, crowned by a small obtuse stigma. Berry ovate-oblong, or ovate-globose, crowned by the limb of the calyx, 4-5-celled. Seeds oval, smoothish.—Smoothish shrubs, rarely covered with stellate down, sometimes sarmentose, and sometimes parasitic; branches terete or tetragonal. Leaves opposite or in whorls, petiolate or sessile (branches sometimes with a circle of tomentum or ramentæ at the insertion of the leaves), quite entire, rarely denticulated, nerved. Cymes or umbels simple and few-flowered, or disposed in many-flowered compound panicles or corymbs, axillary or terminal. Flowers very pale red; pedicels reddish.

SECT. I. CAMPTOPLACU'NTIA (from καμπτω, *campto*, to bend, and πλακους πλακουντος, *placous placountos*, a placenta; in reference to the placenta, which is bent). Blum. l. c. p. 509. Tube of calyx ovate; limb cylindrically tubular, somewhat truncate, rarely cleft. Seminiferous receptacle bent in on both sides between the cells.—Smooth shrubs, with whorled petiolate leaves. Cymes few-flowered, axillary; pedicels bractless, and articulated at the base.

* *Flowers octandrous.*

1 M. QUADRIFÒLIA (Blum. l. c. p. 509.) branchlets terete; leaves usually 4 in a whorl, rarely 3 or 5, cuneate-oblong, acute, triple-nerved. ♄. S. Native of Java, on Mounts Gede and Salak, in woods. Melástoma quadrifòlium. Blum. bijdr. p. 1069.

[illegible]ved Medinilla. Sh. 4 to 6 ft.

2 M. RÒSEA (Gaud. in Freyc. voy. pt. bot. p. 484. t. 106.) branches bluntly tetragonal; leaves 3-4 in a whorl, oval, mucronate, triple-nerved. ♄. S. Native of Marianne Island. Tube of calyx obovate, exactly truncate. Peduncles axillary, 6-8-flowered. Flowers and berries rose-coloured.

Rose-coloured-flowered Medinilla. Sh. 4 to 6 ft.

3 M. RADI'CANS (Blum. l. c.) branches terete, rooting; leaves 3-7-nerved, oblong-lanceolate, acuminated at both ends, rather veiny. ♄. S. Native of Java. Melástoma radicans, Blum. bijdr. p. 1069.

Rooting Medinilla. Sh. 4 to 6 ft.

* * *Flowers decandrous.*

4 M. PTEROCAU'LA (Blum. l. c. p. 509.) branches with membranous wings; leaves 4-8 in a whorl, oblong-lanceolate, acuminated, tapering into the petiole at the base, triple-nerved. ♄. S. Native of Java, in the provinces of Buitenzorg, Tjanjor, and Bantam, in woods on the mountains.

Wing-stemmed Medinilla. Sh. 3 to 6 ft.

5 M. CRASSINE'RVIA (Blum. l. c. p. 510.) branches terete; leaves 4 in a whorl, acute, rather cuneated at the base, triple-nerved, fleshy; peduncles usually 1-flowered. ♄. S. Native of the Island of Banda, on Mount Baudao.—Rumph. amb. 5. p. 67.?

Thick-nerved-leaved Medinilla. Sh. 4 to 6 ft.

6 M. MACROCA'RPA (Blum. l. c.) branches nearly terete; leaves 4 in a whorl, oval, acute, cuneated at the base, triple-nerved; limb of calyx irregularly cleft. ♄. S. Native of the Moluccas.—Rumph. amb. 5. p. 67. t. 35. f. 2.

Long-fruited Medinilla. Sh. 4 to 6 ft.

SECT. II. SARCOPLACU'NTIA (σαρξ σαρκος, *sarx sarcos*, flesh, and πλακους πλακουντος, *placous placountos*, a placenta; in reference to the placenta being fleshy). Blum. in bot. zeit. 1831. no. 29. p. 510. Tube of calyx obovate or nearly globose; limb short, truncate, or denticulated. Seminiferous receptacle thick, fleshy, hence the berries are at length pulpy, with the seeds imbedded in the pulp.—Smooth shrubs, with opposite, rarely whorled, petiolate or sessile leaves. Peduncles axillary and terminal, cymose, few or many flowered; pedicels bibracteate in the middle.

* *Flowers few, cymose or subcorymbose.*

7 M. LAURIFÒLIA (Blum. l. c. p. 511.) branchlets terete, warted; leaves opposite, rarely in threes, ovate, attenuated at both ends, triple-nerved, rather fleshy; peduncles axillary, exceeding the length of the petioles, usually 3-flowered; flowers decandrous or dodecandrous. ♄. S. Native of Java, on trees. Melástoma laurifòlium, Blum. bijdr. p. 1069. M. crassifòlium, Reinwdt. ined. M. cárneum, Zippel. ined.

Laurel-leaved Medinilla. Sh. 4 to 6 ft.

8 M. CRASSIFÒLIA (Blum. l. c.) branchlets terete, warted; leaves ovate-oblong, acuminated, obtuse at the base and emarginate, obsoletely 3, rarely 5-nerved; umbels axillary, in simple or trifid corymbs; flowers decandrous. ♄. S. Native of Java, on Mount Salak on trees. Melástoma crassifòlium, Blum. bijdr. p. 1075.

Var. β, diáphana, (Blum. l. c.) leaves larger, thinner, and somewhat 5-nerved. ♄. S. Native along with the species. Melástoma diáphanum, Blum. bijdr. p. 1075.

Thick-leaved Medinilla. Sh. 4 to 6 ft.

9 M. RUBICU'NDA (Blum. l. c. p. 512.) branchlets? leaves opposite, on short petioles, oblong-ovate, acuminated, obtuse at the base, triple-nerved; cymes dichotomous, axillary; flowers octandrous. ♄. S. Native of Sumatra. Melástoma rubicúnda, Jack, in Lin. trans. 14. p. 18. Pedicels and calyxes red. Corolla white.

Reddish-calyxed Medinilla. Sh. 2 to 3 ft.

10 M. HASSE'LTII (Blum. in bot. zeit. 1831. no. 30. p. 513.) branchlets terete, warted; leaves opposite, on short petioles, lanceolate-oblong, acuminated, somewhat cordate at the base, 3-nerved, fleshy; cymes branched, axillary; flowers octandrous. ♄. S. Native of Java, in the province of Bamtam, about Harriang and Levebonger.

Hasselt's Medinilla. Sh. 4 to 6 ft.

11 M. SUCCULE'NTA (Blum. l. c.) branchlets terete, warted; leaves opposite, sessile, ovate-oblong, acuminated, obtuse at the base, triple-nerved, fleshy; cymes branched, axillary; flowers octandrous. ♄. S. Native of Java, on trees, in humid woods. Melástoma succulénta, Blum. bijdr. p. 1070.

Succulent-leaved Medinilla. Sh. 4 to 6 ft.

12 M. HYPERICIFÒLIA (Blum. l. c.) branchlets terete; leaves opposite, sessile, ovate-lanceolate, acuminated, rather cordate at the base; cymes a little branched; flowers decandrous, rarely octandrous. ♄. S. Native of Java, on trees on Mount Salak. Melástoma hypericifòlium, Blum. bijdr. p. 1070. Flowers small.

St. John's-wort-leaved Medinilla. Sh. 4 to 6 ft.

* * *Flowers in terminal and axillary elongated panicles.*

13 M. VERRUCÒSA (Blum. l. c. p. 514.) branches warted, when young tetragonal, when old terete; leaves opposite, sessile, oblong, subcordate, acuminated, finely denticulated towards the apex, quintuple-nerved; panicles terminal or axillary, drooping; flowers decandrous; calyx somewhat truncate. ♄. S. Native of Java, in shady places on Mount Salak. Melástoma verrucòsum, Blum. bijdr. p. 1078.

Warted-branched Medinilla. Sh. 2 to 3 ft.

14 M. ALPE'STRIS (Blum. l. c.) branchlets? leaves opposite, sessile, half stem-clasping, ovate-oblong, crenated, quintuple-nerved, purplish beneath; panicles terminal; flowers decandrous; calyx 5-toothed. ♄. S. Native of Sumatra, on high mountains. Melástoma alpéstris, Jack, in Lin. trans. 14. p. 20. t. 1. f. 3. a. d. Corolla flesh-coloured. Anthers purple.

Alp Medinilla. Sh. 2 to 3 ft.

15 M. KU'HLII (Blum. l. c.) branchlets when young 4-sided; leaves opposite, on short petioles, elliptic-oblong, acuminated, bluntish at the base, triple-nerved, as well as with 2 marginal obsolete nervules; panicles axillary or terminal, elongated; flowers decandrous; calyx obsoletely 5-toothed. ♄. S. Native of Java, on Mount Pangaranghu.

Kuhl's Medinilla. Sh. 4 to 6 ft.

16 M. JAVANE'NSIS (Blum. l. c. p. 515.) branches all 4-sided; leaves opposite, sessile, somewhat cordate, elliptic, rather acuminated, quintuple-nerved, quite entire; panicles terminal or axillary, divaricate, straight; flowers decandrous. ♄. S. Native of Java, in marshes and woods on the higher mountains. Melástoma Javanénsis, Blum. bijdr. p. 1078. M. Epidéndra, Reinwdt. ined.

Java Medinilla. Sh. 4 to 6 ft.

17 M. EXI'MIA (Blum. l. c.) branches irregularly 4-sided; leaves opposite, on short petioles, elliptic-ovate, acute at both ends, quintuple-nerved, quite entire; panicles terminal; flowers octandrous. ♄. S. Native of Sumatra, on the banks of rivers. Melástoma exímia, Jack, in Lin. trans. 14. p. 17. Leaves large. Flowers flesh-coloured, very beautiful; anthers purple, with the appendages yellow.

Choice Medinilla. Sh. 2 to 3 ft.

18 M. SPECIÒSA (Blum. l. c.) branches 4-sided; angles winged; leaves almost sessile, 4 in a whorl, rarely opposite, ovate-oblong, attenuated at both ends, or obtuse at the base, 7-9-nerved, rarely quintuple-nerved; panicles terminal and axillary, nodding; flowers octandrous or decandrous. ♄. S. Native of the interior of Java, in humid woods, rarely parasitical on trunks of old trees; and of the Moluccas. Melástoma eximium, Blu[illegible]2. but not of Jack.

Showy Medinilla. [illegible] 2 to 3 ft.

19 M. INTERME'DIA (Blum. l. c. p. 516.) branchlets obsoletely tetragonal; leaves almost sessile, opposite, elliptic-oblong, acute or acuminated, obtuse at the base, quintuple-nerved; panicles elongated, terminal; flowers octandrous. ♄. S. Native of Java, on Mount Gede, near Tjichanjavar.

Intermediate Medinilla. Sh. 4 to 6 ft.

20 M. CRISPA'TA (Blum. l. c. p. 517.) branches 4-sided; angles winged; leaves sessile, 4 in a whorl, oblong, narrow at the base, quintuple-nerved; cymes subcorymbose, axillary, and lateral from the falling of the leaves; flowers decandrous, rarely dodecandrous. ♄. S. Native of the Moluccas, in valleys and on the banks of rivers. Melástoma crispàtum, Lin. spec. p. 560.—Rumph. amb. 5. p. 66. t. 35. f. 1. Flowers rather large. Fruit round, red.

Curled Medinilla. Sh. 4 to 6 ft.

SECT. III. HYPENA'NTHE (from ὑπηνη, *hypene*, a beard, and *ανθος, anthos*, a flower; in reference to the flower-buds, which are bearded with stellate down on the outside). Blum. bot. zeit. 1831. no. 30. p. 517. Tube of calyx obovate-oblong; limb short, 4-lobed. Petals trapeziform, alternate ones narrower than the others. Free part of the ovarium clothed with stellate down. Seeds roughish.—A shrub, having its branchlets, peduncles, and leaves clothed with stellate tomentum, and with a different habit from the other species.

21 M. VENÒSA (Blum. l. c. p. 518.) branchlets terete; leaves opposite, oval-oblong, those opposite each other usually of a different size, veiny, clothed with furfuraceous tomentum beneath, as well as on the branches; cymes pedunculate, terminal or lateral, involucrated by fugaceous bracteas. ♄. S. Native of Java, on trees on Mount Ternate. Melástoma venòsum, Blume, bijdr. p. 1675. Flowers middle-sized, octandrous, flesh-coloured; pedicels red.

Veiny-leaved Medinilla. Sh. 4 to 6 ft.

SECT. IV. DACTYLIÒTA (apparently derived from δακτυλος, *dactylos*, and ους ωτος, *ous otos*, an ear; but the application is unknown to us). Blum. in bot. zeit. 1831. no. 30. p. 518. Tube of calyx nearly globose; limb short, nearly quite entire. Style girded by an annular nectary.—A shrub, having its branches, peduncles, and under side of leaves clothed with furfuraceous tomentum.

22 M. BRACTEA'TA (Blume, l. c. p. 519:) branchlets terete; leaves opposite, almost sessile, oblong, decurrent at the base, emarginate, finely denticulated, quintuple-nerved; cymes pedunculate, axillary and terminal, twice trifid, bracteate; flowers decandrous. ♄. S. Native of the Moluccas. Axinæ'a bracteàta, Zippel. ined.

Bracteate Medinilla. Shrub 4 to 6 feet.

Cult. The species of *Medinilla* are very pretty when in flower; their culture and propagation are the same as for *Melástoma*, see p. 764. Vegetable mould is the best soil for them.

LV. PACHYCE'NTRIA (from παχυς, *pachys*, thick, and κεντρον, *kentron*, a spur; in reference to the thick fleshy spur-like appendages of the anthers called connectives). Blum. in bot. zeit. 1831. no. 30. p. 519.

LIN. SYST. *Octándria*, *Monogýnia*. Tube of calyx cup-shaped, constricted beneath the middle; limb obsoletely 4-toothed. Petals 4, ovate, acuminated. Stamens 8, equal. Anthers oblong-linear, straightish, beaked, and opening by one pore at the apex, furnished at the base behind with a thick fleshy spur or connective each. Ovarium half adhering to the calyx, the free part conical and angular. Style filiform, fu[illegible]rowed, crowned by a small obtuse stigma. Berry globose, crowned by the constricted tube of th[illegible] t[illegible]ed. Seeds oval, smooth.—Smooth parasitical shrubs. Branchlets terete, but compressed at the ends, besprinkled with brown or dark purple dots, as well as the peduncles. Leaves opposite, petiolate, oblong, 3-nerved or somewhat triple-nerved, quite entire. Flowers in axillary and terminal corymbs, small, rose-coloured; pedicels bibracteate in the middle.

1 P. CONSTRI'CTA (Blum. l. c. p. 520.) leaves oval-oblong, bluntly acuminated, bluntish and rather cordate at the base; panicles terminal or axillary, corymbosely many-flowered. ♄. S. Native of Java, on the roots of trees at the bottoms of the mountains. Melástoma constríctum, Blum. bijdr. p. 1072. Flowers red.

Constricted-calyxed Pachycentria. Sh.

2 P. VARINGIÆFÒLIA (Blum. l. c.) leaves oval or elliptic-lanceolate, attenuated at both ends; corymbs terminal, few-flowered. ♄. S. Native of Java, on trees. Melástoma varingiæfòlium, Blume, bijdr. p. 1071. Flowers red.

Varingia-leaved Pachycentria. Sh.

Cult. Being parasitical shrubs the species had better be treated in the manner of parasitical orchideous plants. Their propagation is the same as that for *Melástoma*, p. 764. by cuttings.

LVI. POGONANTHE'RA (from πωγων, *pogon*, a beard, and ανθηρα, *anthera*, an anther; in reference to the anthers being bearded behind). Blum. in bot. zeit. 1831. no. 30. p. 520.

LIN. SYST. *Octándria*, *Monogýnia*. Tube of calyx cup-shaped, somewhat quadrangular, adhering to the ovarium at the base; limb 4-toothed. Petals 4, lanceolate, acuminated, tumid on both sides in the middle, or furnished with a tooth. Stamens 8, nearly equal; anthers oblong, acute, straight, opening by one pore at the apex, bearded behind. Free part of ovarium conical and hairy. Style filiform; stigma small, obtuse. Berry globose, crowned by the limb of the calyx, 4-celled, pulpy. Seeds oval, smooth.—Shrubs. Branches terete, and are, as well as the peduncles and petioles, dotted from scales or scurf. Leaves opposite, petiolate, ovate-oblong, somewhat auricled at the base, 3 or somewhat 5-nerved, quite entire, glabrous. Flowers small, red, covered with resinous powder, disposed in terminal panicles.

1 P. PULVERULE'NTA (Blum. l. c. p. 521.) leaves ovate, obtuse, furnished with 2 tubercles at the base, 3-nerved, coriaceous; petals furnished with one tooth on each side. ♄. S. Native of Sumatra, in woods. Melástoma pulveruléntum, Jack in Lin. trans. 14. p. 19. but not of Blume.

Powdery-flowered Pogonanthera. Sh. 1 to 2 feet.

2 P. REFLE'XA (Blum. l. c.) leaves elliptic-oblong, bluntly acuminated, biauriculate at the base, somewhat 5-nerved, membranous; petals tumid on both sides. ♄. S. Native of Java, on trees. Melástoma pulverulέntum, Blum. bijdr. p. 1072. Melast. refléxa, Reinwdt. ined.

Reflexed Pogonanthera. Sh.

Cult. See *Pachycéntria* for culture and propagation.

LVII. ALLOMO'RPHIA (from αλλος, *allos*, various, and μορφη, *morphe*, form; habit in different situations). Blum. in bot. zeit. 1831. no. 30. p. 522.

LIN. SYST. *Octándria*, *Monogýnia*. Tube of calyx oblong, tubular, adhering to the ovarium at the base; limb 4-toothed. Petals 4, ovate, acute. Stamens 8, the alternate ones a little shorter than the others. Anthers linear, acute, straight, emarginate at the base, inappendiculate. Style filiform; stigma simple. Fruit dry, ovate-oblong, 4-celled, clothed by the calyx.—Shrub erect. Branches 4-sided, covered with ferruginous [illegible] leaves opposite, on long petioles, ovate, quite entire, glabrous, 5-nerved. Panicle small, terminal, with divaricate branches. Flowers minute, pale red.

1 A. EXI'GUA (Blum. l. c. p. 525.) ♄. S. Native of Pulo-Penang. Melástoma exíguum, Jack in Lin. trans. 14. p. 10.

Small Allomorphia. Sh. ½ to 1 foot.

Cult. For culture and propagation see *Melástoma*, p. 764.

LVIII. HUBE'RIA (dedicated by De Candolle to Francis Huber, author of mémoires sur l'influence de l'air dans la germination, 1 vol. 8vo. Geneva, 1801, and other works; and Peter Huber his son, author of a history of the Formica, and other insects). D. C. prod. 3. p. 167.

LIN. SYST. *Octo-Decándria*, *Monogýnia*. Tube of calyx oblong, constricted at the apex; limb 4-5-lobed. Petals 4-5, obovate. Stamens 8-10; anthers oblong-linear, with 1 or 2 spur-formed bristles, rising from the back at the base. Ovarium adnate to the calyx, with the free part conical. Style filiform, acutish. Capsule baccate, 4-5-celled. Seeds unknown.—Smooth Brazilian shrubs. Young branches compressed or tetragonal. Leaves petiolate, oval, or oblong, 3-nerved. Cymes terminal.

§ 1. *Anthers furnished with one bristle at the base.*

1 H. SEMISERRA'TA (D. C. prod. 3. p. 167.) branches tetragonal; leaves lanceolate, acuminated, 3-nerved, quite entire at the base, serrated in the upper part; raceme simple, terminal; lobes of calyx lanceolate-linear, acute, hardly shorter than the 4-winged tube. ♄. S. Native of Brazil, in the province of St. Paul, in marshes in woods. Rhéxia semiserràta, Schrank et Mart. mss. Petals white, ovate, acuminated. Anthers yellow, equal in length with the filaments. Flowers an inch in diameter. Fruit unknown.

Half-serrated-leaved Hubertia. Sh. 4 to 6 feet.

2 H. LAU'RINA (D. C. l. c.) branchlets compressed; leaves oblong, quite entire, rather coriaceous, 3-nerved, lateral nerves almost marginal; cymes corymbose, many-flowered; tube of calyx with 8 stripes, rather angular; fruit roundish; calyx permanent. ♄. S. Native of Brazil. D. C. coll. mem. 1. t. 9. Melástoma laúrinum, Ser. mss. Leaves size and form of those

of *Laúrus nóbilis*, and at first sight apparently feather-nerved. The fruit is like that of a clove. Flowers white.

Laurel-like Huberia. Sh. 4 to 6 feet.

3 H. ovalifòlia D. C. l. c.) branchlets rather compressed; leaves petiolate, oval, acute, quite entire, 3-nerved, besides the marginal nervules, which are hardly conspicuous; lateral nerves remote from the margin; cymes terminal, corymbose; calyx urceolate, elongated, canescent from rather flocky down; limb bluntly 4-lobed. ♄. S. Native of Brazil, where it was collected by Prince de Neuwied. Petals oblong-obovate, white, according to the dried specimens. Anthers furnished with a bristle-like spur, a little above the base on the back.

Oval-leaved Huberia. Sh. 3 to 6 feet.

§ 2. *Anthers furnished with 2 bristles at the base, rising from the back.—These species probably do not properly belong to Hubèria.*—Maièta, Vent. choix. p. 32. but not of Aubl.

4 H. annula'ta (Vent. choix. t. 32.) stem and branches terete, and a little striated; leaves lanceolate, cordate at the base, somewhat acuminated at the apex, petiolate, glabrous above, puberulous beneath; flowers disposed in panicled corymbs, axillary, few, octandrous; calyx tubular, rather campanulate, with 4 oblong segments, which are about the length of the tube. ♄. S. Native of Java. Maièta annulàta, Vent. choix. t. 32. Petals obovate. Genitals longer than the corolla. Anthers large, acute, falcate. Style filiform, crowned by a stigma, which is hardly thicker. Berry 4-celled.

Annular Huberia. Sh. 3 to 6 feet.

5 H. arge'ntea (D. C. prod. 3. p. 168.) branches from compressed to terete, clothed with brown furfuraceous scales; leaves oblong, attenuated at the base, obtuse at the apex, quite entire, 3-nerved, coriaceous, shining above, and covered with white furfuraceous scales beneath; panicle terminal, coarctate; flowers small, decandrous; calyx cup-shaped, 5-toothed, scurfy on the outside. ♄. S. Native of South America, near Santa Fe de Bogota. Petals 5, yellow. Berry 5-celled, about the size of a coriander seed. Maièta argéntea, Vent. choix. p. 34. in a note.

Silvery Huberia. Sh.

Cult. For culture and propagation see *Melástoma*, p. 764.

LIX. OCHTHO'CHARIS (from οχθος, *ochthos*, a river side, and χαιρω, *chairo*, to delight in; inhabits river banks). Blum. in bot. zeit. 1831. no. 30. p. 523.

Lin. syst. *Decándria, Monogýnia.* Tube of calyx obovate, adhering to the ovarium; limb continuous, with the tube obsoletely 4-toothed, permanent. Petals 5, ovate, acuminated. Stamens 10, equal. Anthers oblong, obtuse at both ends, straight, opening by a pore at the apex, ending in a spur-formed bristle at the base behind. Ovarium truncate and glabrous at the apex. Style subulate; stigma simple. Capsule globose, broadly umbilicated, dry, 3-celled, opening irregularly. Seeds angular, cuneiform.—A glabrous shrub. Branches terete, extreme ones compressed. Leaves opposite, petiolate, oval-lanceolate, denticulated, triple-nerved. Cymes branched, axillary. Flowers small, of a flesh-colour.

1 O. Java'nica (Blum. l. c. p. 523.) ♄. S. Native of the west of Java, at the river Panimbang.

Java Ochthocharis. Sh. 3 to 6 feet.

Cult. For culture and propagation see *Melástoma*, p. 764.

LX. CALYCOGO'NIUM (from καλυξ, *kalyx*, a calyx, and γωνια, *gonia*, an angle; calyx angular). D. C. prod. 3. p. 168.—Calycópteris, Rich herb. but not of Lam.

Lin. syst. *Octo-Decándria, Monogýnia.* Tube of calyx subglobose, 4-5-gonal; angles acute, continuous with the middle nerve of the lobes, but rather accrete after flowering; lobes 4-5, spreading, oblong-linear, longer than the tube. Petals 4-5, obovate. Stamens 8-10, equal; anthers oblong, opening by one pore at the apex, without any auricles at the base, and with the connectives hardly evident. Stigma dot-formed. Berry roundish, 4-5-angled, crowned by the lobes of the calyx, 4-5-celled. Seeds ovate, angular, with a linear hylum.—Shrubs, natives of St. Domingo. Branches terete, clothed with rufescent soft flocky stellate tomentum, as well as the petioles and under side of the leaves. Leaves 3-5-nerved, on short petioles, ovate-oblong, obtuse and rather cordate at the base, quite entire, glabrous above. Flowers 1-3-together, terminal, white, on short pedicels. Calyx beset with stellate down, appearing as if it were dotted.

1 C. stella'tum (D. C. prod. 3. p. 168.) branches terete, and are, as well as the petioles and under side of the leaves, clothed with crowded white stellate down. ♄. S. Native of St. Domingo. Melástoma calycópteris, Rich. in Bonpl. mel. t. 42. Melast. stellàta, Vahl. ined. Melast. scabròsum, Bert. in herb. Balb. Leaves 3-nerved, rarely somewhat 5-nerved, the 2 inner nerves rising a little above the base, and therefore the leaves are almost triple-nerved. Flowers 4 or 5 cleft in the same specimen.

Stellate-haired Calycogonium. Sh. 1 to 2 feet.

2 C. gla'brum (D. C. l. c.) branches nearly terete, glabrous; leaves petiolate, ovate, acuminated at both ends, somewhat repandly denticulated, triple-nerved, rather coriaceous, glabrous; pedicels terminal, 1-flowered, usually solitary, hardly longer than the petioles; tube of calyx oblong, bluntly tetragonal, scabrous from [illegible]ered down; lobes 4, subulate. ♄. S. Native of the south [illegible] Jamaica, on the high mountains. Melástoma glabràta, Swartz, fl. ind. occ. p. 806. Berry black, 4-celled, crowned by the calyx.

Glabrous Calycogonium. Sh. 1 to 2 feet.

Cult. For culture and propagation see *Melastoma*, p. 764.

LXI. OSSÆ'A (dedicated by De Candolle to Don Antonio de la Ossa, formerly director of the botanic garden at the Havanah, in Cuba). D. C. prod. 3. p. 168.

Lin. syst. *Octándria, Monogýnia.* Tube of calyx ovate, adhering to the ovarium, but not drawn out beyond it; lobes 4, short, acute. Petals 4, lanceolate, acute. Stamens 8, short; anthers hardly auricled at the base. Ovarium smoothish at the apex. Style filiform; stigma simple. Berry 4-celled, crowned by the lobes of the calyx. Seeds ovate, angular.—American shrubs. Leaves 3-5-nerved. Flowers small, rising from the axils of the leaves, or from the old leaves.

* *Flowers axillary, sessile.*

1 O. scа'lpta (D. C. prod. 3. p. 168.) branches terete, and are, as well as the petioles and nerves of leaves, scabrous from powdery branched rufous down; leaves petiolate, oblong, obtuse at the base, acutish at the apex, quite entire, 5-nerved, rather pilose; flowers on short pedicels, few together, axillary; calyx rather globose, covered with powdery grains; petals lanceolate, acuminately awned. ♄. S. Native of St. Domingo. Melástoma acutipétala, Rich. in Bonpl. melast. t. 38. Melast. oxypétalum, Spreng. syst. 3. p. 303. Maièta scálpta, Vent. choix. t. 33. Melast. glomeràta, Vahl. ined. Berry bluish, small, globose, 4-celled. Flowers small. Filaments of stamens broadish.

Scalp Ossæa. Sh. 2 feet.

2 O. scabròsa (D. C. prod. 3. p. 169.) stem hairy; branches terete, hairy; leaves ovate, attenuated, denticulated, 3-nerved, scabrous from papillæ, petiolate; flowers much crowded, sessile, octandrous; calyx hairy, 4-cleft; hind segments subulate

and minute; petals 4, larger than the calyx, lanceolate, acute, white; filaments jointed; stigma blunt; berry minute, roundish, 4-celled, rufous. ♄. S. Native of Jamaica, on the higher mountains. Melástoma scabrósa, Lin. spec. p. 558. Swartz, obs. p. 174.

Scabrous Ossæa. Sh. 1 to 2 feet.

*** Pedicels axillary or lateral, crowded, 1-flowered.*

3 O. lateriflòra (D. C. l. c.) glabrous; branches tetragonal, but at length terete; leaves petiolate, obovate, acuminated, setaceously somewhat serrated, triple-nerved; pedicels aggregate, rising beneath the leaves, short, 1-flowered; calyx truncate, rather strigose; petals 4, ovate, attenuated. ♄. S. Native of Montserrat, on the mountains. Melástoma lateriflòra, Vahl. ecl. Anthers oblong, obtuse. Stigma subcapitate. Berry globose, beset with scattered strigæ.

Side-flowered Ossæa. Sh. 1 to 2 feet.

4 O. sparsiflòra (D. C. l. c.) branches nearly terete, and are, as well as the young leaves, rough from deciduous adpressed strigæ when young, but as the strigæ fall off, the parts soon become glabrous; leaves petiolate, oval-oblong, acuminated at both ends, triple-nerved, with revolute margins; pedicels numerous, 1-flowered, short, rising in fascicles from the axils of the old leaves; calyx truncate; petals 4, lanceolate, acute. ♄. S. Native of Guadaloupe, in woods on the mountains. Melástoma sparsiflòra, Rich. herb. Flowers very small, acute, pale. Calyx dotted from small strigæ.

Scattered-flowered Ossæa. Sh. 3 to 6 feet.

5 O. flave'scens (D. C. l. c.) branches bluntly tetragonal, nearly terete, scabrous from adpressed bristles when young, but at length becoming glabrous; leaves pe[illegible] ovate, acuminated at both ends, quintuple-nerved, crenulated, glabrous, except the nerves, which are bristly beneath; pedicels axillary, 1-flowered, short, quite glabrous, rising in fascicles from the axils of the old leaves; calyxes with repand margins; petals lanceolate, acute, rather velvety on the outside. ♄. S. Native of French Guiana, in woods about Sinemari. Melástoma flavéscens, Aubl. guian. 1. p. 523. t. 164. Leaves yellowish, smooth. Flowers small, white, agreeing in disposition to those of *Lorèya arboréscens.*

Yellowish Ossæa. Sh. 2 to 3 feet.

**** Thyrse axillary. In this section the anthers open by a broad almost 2-celled pore, and therefore nearly agreeing with the genus* Crema'nium.

6 O. multiflòra (D. C. prod. 3. p. 169.) quite glabrous; branches bluntly tetragonal; leaves petiolate, oblong, attenuated, bluntish, triple-nerved, with callous serratures; thyrse axillary, shorter than the leaves; calyx campanulate, hardly 4-toothed; petals 4, oval, acute. ♄. S. Native of St. Domingo. Melástoma multiflòra, Desr. in Lam. dict. 4. p. 35. Rich. in Bonpl. mel. t. 37. Flowers small, white. Anthers obconical, opening in a bilabiate manner by a pore of 2 cells, which has a bicamerated dissepiment. Stigma dilated.

Many-flowered Ossæa. Sh. 3 to 4 feet.

7 O. acumina'ta (D. C. l. c.) quite glabrous; branches tetragonally compressed; leaves petiolate, oblong, tapering to both ends, very acute, with callous serratures, triple-nerved; thyrse axillary, shorter than the leaves; calyx ovate, hardly 4-toothed; petals 4, lanceolate, acute. ♄. S. Native of St. Domingo. Melástoma micránthum, Bert. herb. but not of Swartz. Very like *O. multiflòra*, but is easily distinguished from that plant in the leaves and petals being acuminated.

Acuminated-leaved Ossæa. Sh. 3 to 6 feet.

8 O. purpura'scens (D. C. l. c.) quite glabrous; branches bluntly tetragonal; leaves petiolate, oblong, tapering to the base and apex, triple-nerved, serrated; serratures small, ciliæformed; thyrse axillary and lateral, tripartite; calyx minutely and acutely 4-toothed; petals 4, roundish. ♄. S. Native of Jamaica, on the high mountains. Melástoma purpuráscens, Swartz, fl. ind. occ. p. 804. Anthers obtuse, perforated at the apex. Stigma blunt, angular. Berry 4-celled.

Purplish Ossæa. Sh. 3 to 6 feet.

9 O. amygda'lina (D. C. l. c.) quite glabrous; branches nearly terete; leaves petiolate, lanceolate, attenuated at the base, acuminated at the apex, denticulated, triple-nerved; cymes loosish, few-flowered, rising from the axils of the old leaves beneath the young leaves; calyx rather globose, bluntly 4-toothed; petals roundish. ♄. S. Native of Porto Rico. Melástoma amygdálina, Desr. in Lam. dict. 4. p. 35. Rich. in Bonpl. mel. t. 36. where the description is good, but in the figure the berry is represented falsely as 5-celled. It hardly differs from *O. purpuráscens*, unless in the calycine teeth being very obtuse.

Almond-like Ossæa. Sh. 3 to 6 feet.

Cult. For culture and propagation see *Melástoma*, p. 764.

LXII. SAGRÆ'A (dedicated to Don Ramon de la Sagra, of Havanah, in Cuba, director of the Botanic Garden at Havanah). D. C. prod. 3. p. 170.

Lin. syst. *Octándria, Monogýnia* Tube of calyx adhering to the ovarium, but not drawn out beyond it; lobes 4, short, permanent. Petals 4, oval. Stamens 8; anthers hardly auricled at the base. Ovarium smoothish at the apex. Style filiform; stigma obtuse. Capsule baccate, 4-celled. Seeds small, ovate-angular.—American shrubs. Leaves 3-7-nerved. Flowers rising from the axils of the old leaves after they have fallen, as well as from the axils of those that are standing.

** Flowers crowded in the axils of the leaves, sessile, or on short pedicels.*

1 S. columneæfòlia (D. C. prod. 3. p. 170.) branches terete, and are, as well as both surfaces of leaves and calyxes, very villous; leaves nearly sessile, elliptic, bluntish, crenulated, 5-nerved; flowers axillary, sessile, in crowded whorls; calyx tubular, hairy, 4-toothed; petals oblong, obtuse. ♄. S. Native of Peru. Melástoma columneæfòlium, Schrank, mss. Very like the following species, but the leaves are almost obtuse, not acuminated, very hairy on both surfaces.

Columnea-leaved Sagræa. Sh. 2 to 3 feet.

2 S. sessiliflòra (D. C. l. c.) branches terete, densely clothed with rufous hairs; leaves almost sessile, ovate, acuminated, crenulated, 7-nerved, ciliated, densely clothed with stiff hairs above, and with villi beneath; flowers almost sessile, crowded in the axils of the leaves; calyx cylindrical, tubular, hairy; petals oval, obtuse. ♄. S. Native of Brazil and Guiana, in grassy meadows. The down and hairs on every part of the plant are simple, and somewhat incurved. Petals small, rose-coloured. Berry 4-celled. Seeds ovoid. Melástoma rùbra, Rich. in Bonpl. mel. t. 39. and perhaps the same as *Melástoma rùbra.* Aubl. guian. 1. p. 416. p. 161. but he says the flowers are decandrous, which is most probably wrong. Melast. sessiliflòra, Vahl. ecl. amer. 1. p. 49. icon. amer. t. 18. Clidèmia heteromálla, D. Don, in mem. wern. soc. 4. p. 310.

Sessile-flowered Sagræa. Sh. 1 to 2 ft.

3 S. fascicula'ris (D. C. l. c.) branchlets tetragonal, hispid; petioles scabrous from hairs; leaves ovate, acute both at the base and apex, entire, 3-nerved, besides the 2 marginal nervules, scabrous from hairs, but with the nerves hispid on the under surface; pedicels short, 1-flowered, crowded beneath the leaves; teeth of calyx 4, acute, erect, permanent; petals roundish. ♄. S. Native of the interior of Jamaica, in woods on the mountains. Melástoma fasciculàris, Swartz, fl. ind. occ. p.

801. Flowers white. Anthers acuminated. Stigma obtuse. Berry roundish.

Fascicular-flowered Sagræa. Shrub.

4 S. SCA'BRIDA (D. C. l. c.) branches nearly terete, and are, as well as the petioles, beset with crowded bristles; leaves ovate, acute at both ends, triple-nerved, besides the 2 marginal nervules, ciliated, entire, scabrous from bristles on both surfaces, but especially on the nerves; pedicels short, 1-flowered, rising in bundles from the axils of the fallen leaves, and are, as well as the calyxes, quite glabrous; limb of calyx bluntly and broadly 4-toothed. ♄. S. Native of St. Domingo. Melástoma ramiflòrum, Spreng. syst. 2. p. 295. Allied to *S. fasciculàris.*

Scabrous Sagræa. Shrub 1 to 2 feet.

* * *Flowers disposed in axillary cymes or panicles.*

5 S. GUADALUPE'NSIS (D. C. l. c.) branches tetragonal, and are as well as the petioles smoothish, but when young clothed with rufous velvety down; leaves petiolate, ovate, acuminated, quintuple-nerved, serrately ciliated; racemes axillary, erect, capillary, with short, 1-3-flowered branchlets; berry globose, rather pilose, crowned by the 4 erect teeth of the calyx. ♄. S. Native of Guadaloupe, frequent. Perhaps the *Melástoma acinodéndron* of Lin. spec. 558.? but that is said to be decandrous. Compare Plum. ed. Burm. t. 142. f. 2. Fruit violaceous, hardly the size of a red currant.

Guadaloupe Sagræa. Shrub 1 to 2 feet.

6 S. CAPILLA'RIS (D. C. l. c.) branches tetragonal, and are as well as the petioles glabrous, or rather velvety in the young state when examined by a lens; leaves petiolate, oblong, long-acuminated, 3-nerved, quite glabrous, pale beneath, quite entire; peduncles axillary, capillary, 3-flowered, somewhat reclinate; berry ovate, hispid from scattered, short bristles, crowned by the straight, acute lobes of the calyx. ♄. S. Native of Jamaica. Melástoma capillàris, Swartz, fl. ind. occ. p. 808. Flowers small.

Capillary-peduncled Sagræa. Shrub 1 to 2 feet.

7 S. HIRTE'LLA (D. C. prod. 3. p. 171.) branches nearly terete, hispid from scattered bristles; leaves on short petioles, ovate-lanceolate, acuminated, 3-nerved, entire, pale beneath and pilose on the nerves and margins; peduncles axillary, very short, 3-flowered; calyx very minutely 4-toothed; petals lanceolate, acuminated. ♄. S. Native of Jamaica, on the mountains. Melástoma hirtélla, Swartz, fl. ind. occ. p. 810. Anthers oblong and bifid, according to Swartz. Stigma obtuse. Berry 4-celled, hispid, dark purple. Seeds roundish.

Hairy Sagræa. Shrub 3 to 6 feet.

8 S. UMBRÒSA (D. C. l. c.) branches 4-furrowed, and are as well as the petioles hispid from long spreading bristles; leaves petiolate, broadly ovate, acuminated, serrulated, ciliated, 5-7-nerved, very pilose on the nerves, the rest beset with scattered pili; panicles axillary, loose, trichotomous, rather hispid, length of petioles; calyx globose, hairy, with 4 short teeth; petals obovate. ♄. S. Native of the West Indies, particularly in St. Christopher and Trinidad. Melástoma umbròsa, Swartz, fl. ind. occ. 817. Vahl. dec. amer. 2. t. 29. There are varieties of this with hispid and very hispid branches, and middle-sized and large leaves. Berry globose, hairy, blackish, small, 4-celled. Petioles 1 and 1½ inch long.

Shaded Sagræa. Shrub 3 to 6 feet.

9 S. BERTE'RII (D. C. l. c.) branches terete, and are as well as the petioles, panicles, and calyxes densely clothed with loose spreading bristles; leaves ovate, obtuse at the base, acuminated at the apex, 5-7-nerved, serrulated, villous on both surfaces, but especially on the nerves; panicles axillary, longer than the petioles, having their branches whorled; lobes of calyx 4, setaceous, rather longer than the tube. ♄. S. Native of Jamaica. Melástoma umbròsum, Spreng. syst. 2. p. 304. but not of Swartz.

Bertero's Sagræa. Shrub 3 to 6 feet.

10 S. DOMINGE'NSIS (D. C. l. c.) branchlets terete, and are as well as the petioles and peduncles clothed with short, simple, rufescent rather reflexed hairs; leaves petiolate, ovate, acuminated, serrulated, 5-nerved, most hairy on the nerves; panicles axillary, trichotomous, a little longer than the petioles; tube of calyx rather globose, with 4 very short acute teeth. ♄. S. Native of St. Domingo. Melástoma pilòsum, Spreng. syst. 2. p. 304. Flowers small, white.

St. Domingo Sagræa. Shrub 3 to 6 feet.

11 S. TETRAGÒNA (D. C. l. c.) branches acutely tetragonal, and are as well as the petioles thickly clothed with velvety rufescent spreading hairs; leaves petiolate, oval, acuminated, 5-nerved, or perhaps quintuple-nerved, somewhat denticulated, beset with a few scattered bristles above, rather hairy beneath, but especially on the nerves; panicles axillary, racemose, twice the length of the petioles; calyx rather hairy, with a globose tube and 4 very short, acute teeth. ♄. S. Native of Dominique, in woods. Flowers small.

Tetragonal-branched Sagræa. Shrub 3 to 6 feet.

12 S. PILÒSA (D. C. l. c.) branches terete, and are as well as the peduncles and petioles clothed with rusty hairs; leaves petiolate, oblong, acute, 5-nerved, glabrous above and pilose beneath, but especially on the nerves; panicles axillary, racemose, with trifid branchlets; calycine teeth 4, very minute; petals roundish, reflexed. ♄. S. Native of Jamaica, in woods on the mountains. Melástoma pilòsa, Swartz, fl. ind. occ. p. 819. Petals sp [illegible]tted with red at the base. Berry hairy, roundish, 4-celled.

Pilose Sagræa. Shrub 3 to 6 feet.

13 S. MICROPHY'LLA (D. C. l. c.) branchlets tetragonal, and are as well as the petioles hairy; leaves ovate, on short petioles, obtuse, rather denticulated, hispid above, and clothed with rusty tomentum beneath, 3-nerved; peduncles axillary, trifid; calyx hairy, with 4 very short teeth. ♄. S. Native of the south of Jamaica. Melastoma microphýlla, Swartz, fl. ind. occ. p. 813. but not of Spreng. This species comes very near to *S. hirsùta*, but differs in the leaves being obtuse and smaller, in the flowers being smaller, in the pedicels being usually simple, and lastly in the berries being red, not dark purple.

Small-leaved Sagræa. Shrub 2 feet.

14 S. HIRSU'TA (D. C. l. c.) branches terete, and are as well as the petioles, peduncles, and calyxes beset with purplish, stiff hairs; leaves oblong-lanceolate, acuminated, denticulated, 3-nerved, very hairy on the nerves beneath, the rest beset with scattered pili; peduncles axillary, trifid; calyx ovate, with 4 linear teeth. ♄. S. Native of the south of Jamaica, on the mountains. Melástoma hirsùta, Swartz, fl. ind. occ. p. 811. Petals ovate, acute, white, small. Berry dark purple, globose, hairy, 4-celled.

Hairy Sagræa. Shrub 2 feet.

15 S. RARIFLÒRA (D. C. l. c.) branches terete, pubescent; leaves oval, rather cordate, long-acuminated, petiolate, ciliated, usually 7-nerved; racemes axillary, few-flowered; flowers minute, octandrous: calyx pilose, with 4 very short teeth; petals oval; style longer than the stamens; berry minute, globose, 3-celled. ♄. S. Native of South America, in the province of Cumana, at Mount Caripe. Melástoma rariflòra, Bonpl. mel. t. 50. This is a doubtful species, from the flowers being described as octandrous; but in the figure the calyx is 5-lobed, and therefore the flowers would be decandrous. Flowers white.

Few-flowered Sagræa. Shrub 4 to 6 feet.

Cult. For culture and propagation see *Melástoma*, 764.

LXIII. DISSOCHÆ'TA (from διssος, *dissos*, double, and χαιτη, *chaite*, a bristle; in reference to the connectives of the anthers being furnished with 2 bristles on their back, near the base). Blume, in bot. zeit. 1831. no. 28. p. 492.

LIN. SYST. *Octándria, Monogýnia.* Tube of calyx oblong, obscurely tetragonal, adhering to the ovarium; limb drawn out beyond the ovarium, for the most part obsoletely 4-toothed, permanent. Petals 4. Stamens 4, but sometimes 8; when this last is the case, the alternate ones are sterile. Anthers oblong-linear, opening by 1 pore, usually beaked and arched, rarely blunt and straight, furnished each with a lamellate, 2-awned, rarely undivided connective on the back, near the base. Style filiform, clavate. Stigma a pruinose dot. Berry elliptic-globose, nearly dry, crowned by the calyx, 4-celled, indehiscent. Seeds cuneated, angular.—Sarmentose shrubs, with the branches, peduncles, and under side of leaves clothed with starry down, sometimes thickly and sometimes thinly, according to the species. Leaves petiolate, elliptic-oblong, quite entire, somewhat 5-nerved, glabrous above, for the most part of a different colour beneath. Inflorescence panicled, terminal, or axillary. Flowers pale red, blue, or white. Habit of the genus *Oxýsporum.*

SECT. I. DISSOCHÆ'TÆ (see genus for derivation). Blum. in bot. zeit. 1831. no. 28. p. 493. Limb of calyx cup-shaped, somewhat 4-toothed. Petals ovate-oblong, obtuse, or bluntish. Anthers fixed by the base or by the back. Connectives bifid or entire. Ovarium rather silky from stellate down at the apex.

* *Flowers tetrandrous.*

1 D. FA'LLAX (Blume, l. c.) leaves 5-nerved, ovate-oblong, acuminated, rather cordate, clothed with rusty, scurfy tomentum beneath; panicles terminal; calyx nearly quite entire; anthers fixed beneath the middle, having their connectives undivided. ♄. S. Native of Sumatra and Java, in woods, and among bushes. Melástoma fállax, Jack, in Lin. trans. 11. p. 13. Melast. Reinwardtiánum, Blume, bijdr. p. 1069. Malast. diffùsa, Reinwardt, ined. Flowers white.

Fallacious Dissochæta. Sh. sarmentose.

2 D. INTERME'DIA (Blum. l. c.) leaves 5-nerved, ovate-oblong, acuminated, somewhat cordate at the base, clothed with pale scurfy ochraceous tomentum beneath; panicles terminal and axillary, much branched; calyx almost quite entire; anthers fixed by the base, having their connectives ending in 2 bristles. ♄. S. Native of Java, in woods, on the chains of mountains called Pangaranghu and Gegerbinting. Flowers white? Melástoma fállax, Blum. bijdr. p. 1068.

Var. β; leaves clothed with rusty tomentum beneath; panicles loose. ♄. S. Native of Java, on the mountains of Megamendong and Puluh-sarie.

Intermediate Dissochæta. Shrub sarmentose.

3 D. MONTI'COLA (Blum. l. c. p. 494.) leaves like those of the preceding species; panicles terminal, simple, hardly branched. ♄. S. Native of Java, on the calcareous mountains of Kuripan and Seribu.

Mountain-born Dissochæta. Shrub sarmentose.

4 D. LEPRÒSA (Blum. l. c.) leaves 5-nerved, ovate-oblong, acuminated, somewhat cordate at the base, clothed with scurfy rusty tomentum beneath; panicles loose, axillary, and terminal; calyx 4-toothed; connectives of anthers furnished with 2 bristles each. ♄. S. Native of Java, on mounts Salak and Gede. Melástoma lepròsum, Blum. bijdr. p. 1068. Flowers larger than those of the preceding species.

Leprous Dissochæta. Shrub sarmentose.

* * *Flowers octandrous, with the alternate anthers sterile.*

5 D. BRACTEA'TA (Blum. l. c. p. 495.) leaves 5-nerved, ovate, acuminated, cordate at the base, clothed with stellate down beneath; panicles terminal; bracteas petiolate, ovate, membranous; calyx almost quite entire; connectives of anthers furnished with 2 bristles each. ♄. S. Native of Pulo Penang. Melástoma bracteàtum, Jacq. in Lin. trans. 14. p. 9. Flowers pale rose-coloured.

Bracteate Dissochæta. Shrub sarmentose.

6 D. VA'CILLANS (Blum. l. c.) leaves 3-nerved, as well as with 2 marginal nervules, ovate-oblong, acuminated, rounded at the base, cordate, of the same colour on both surfaces, smoothish above, but with a little scattered, scurfy down beneath; panicles terminal; calyxes quite entire; anthers straight, with their connectives furnished with 2 bristles. ♄. S. Native of Java, in woods on the mountains of Seribu, in the province of Buitenzorg. Flowers rose-coloured, middle-sized.

Var. β; leaves narrower, and with longer taper points; flowers smaller and white. ♄. S. In woods, at the base of Mount Salak.

Vacillating-anthered Dissochæta. Shrub sarmentose.

7 D. FU'SCA (Blum. in bot. zeit. 1831. no. 29. p. 497.) leaves 3 nerved, as well as with 2 marginal nervules, long-acuminated, rounded at the base, clothed with greenish brown, stellate, rather silky down beneath; panicles terminal; calyx nearly quite entire; anthers falcate, having their connectives furnished with 2 bristles each. ♄. S. Native of Java, in woods on mountains of Salak and Gede. Melástoma fúscum var. Blum. bijdr. 1074. var. γ, D. C. prod. 3. p. 150. Flowers small, rose-coloured.

Var. β, ferrugínea (Blum. l. c.) leaves clothed with pale rusty stellate down beneath; panicles axillary and terminal. ♄. S. Native of Java, in the province of Bamtam.

Var. γ, obtùso-acuminàta (Blum. l. c.) leaves terminated by a blunt acumen, clothed with stellate down beneath. ♄. S. Native of Java, in the province of Buitenzorg, about Tjampia.

Fuscous Dissochæta. Shrub sarmentose.

8 D. VELUTI'NA (Blum. l. c.) leaves 3-nerved, as well as with 2 marginal nervules, elliptic-oblong, cuspidate, usually obliquely rounded at the base, clothed with stellate and simple ochraceous rather silky down beneath; panicles axillary and terminal, rather corymbose; calyx almost quite entire; connectives of anthers furnished with 2 bristles each. ♄. S. Native of Java, in the province of Bamtam. Panicle more contracted than in *D. vàcillans.*

Velvety Dissochæta. Shrub sarmentose.

9 D. GRA'CILIS (Blum. l. c. p. 498.) leaves 3-nerved, elliptic-oblong, acuminated, rounded at the base, glabrous; panicles terminal, axillary, loose: bracteas linear, caducous; calyxes obsoletely 4-toothed; anthers straight, blunt at the apex, attenuated at the base, having their connectives furnished with 2 bristles each. ♄. S. Native of Sumatra and of Java, in the low lands. Melástoma gràcilis, Jack, in Lin. trans. 14. p. 14. Melast. vàcillans, var. δ, pállens, Blum. bijdr. p. 1074. Melast. álba, Reinw. ined. Flowers pale blue.

Slender Dissochæta. Shrub sarmentose.

10 D. INAPPENDICULA'TA (Blum. l. c. p. 499.) leaves 3-nerved, besides 2 marginal nervules, ovate-oblong, long-acuminated, rounded at the base, brownish-green beneath, and clothed with stellate scurfy pili; panicles terminal; calyx almost quite entire: anthers fixed by the base, each furnished with a triangular, inappendiculate connective. ♄. S. Native of Java, in the western part. Melástoma vàcillans, var. α, Blum. bijdr. p. 1074. D. C. prod. 3. p. 150. Flowers rose-coloured, middle-sized.

Var. β, purpuráscens (Blum. l. c.) leaves densely beset with ochraceous dots beneath, and purplish wool. ♄. S. Java, on Mount Magamendong.

Var. γ, *tomentòsa* (Blum. l. c.) leaves densely clothed with ochraceous tomentum beneath; panicles axillary and terminal. ♄. S. Java, in the province of Bamtam.

Inappendiculated-anthered Dissochæta. Sh. sarmentose.

11 D. RETICULA'TA (Blum. l. c.) leaves 3-nerved, besides the 2 marginal nervules, ovate-oblong, acuminated, rounded at the base, or somewhat cordate, reticulated beneath and covered with ochraceous dots; panicles terminal; calyx almost quite entire; anthers fixed by the back, furnished with somewhat rhomboid, inappendiculate connectives. ♄. S. Native of Java, in woods, on the mountains in the province of Bamtam.

Reticulated-leaved Dissochæta. Shrub sarmentose.

12 D. SAGITTA'TA (Blum. l. c. p. 500.) leaves 3-nerved, besides the lateral nervules, oblong or oblong-lanceolate, cuspidate, rounded at the base, clothed with rusty tomentum beneath; panicles axillary and terminal; calyx 4-toothed; anthers fixed by the base, having their connectives sagittate or furnished with 2 short bristles each. ♄. S. Native of Java, in shady woods, in the province of Bamtam.

Sagittate-connectived Dissochæta. Sh. sarmentose.

* * * *Flowers octandrous, with all the anthers fertile.*

13 D. PA'LLIDA (Blum. l. c.) leaves 5-nerved, ovate, acuminated, somewhat cordate at the base, beset with scattered stellate scales; panicles axillary and terminal; anthers fixed above the base, with their connectives furnished with 2 bristles each. ♄. S. Native of the Malay islands. Melástoma pállida, Jack, in Lin. trans. 14. p. 12. Flowers white.

Pale Dissochæta. Shrub sarmentose.

14? D. NEMORÒSA; shrub clothed with rusty villi; leaves ovate-lanceolate, 5-nerved; peduncles axillary, usually solitary; stamens unequal; anthers sessile, furnished with 2 bristles at the base, and with fringed appendages in front; fruit 4-celled. ♄. S. Native of Sumatra and Pulo-Nias. Flowers large, flesh-coloured.

Grove Dissochæta. Shrub 2 feet.

SECT. II. DIPLE'CTRIÆ (from δις, *dis*, twice, and πλεκτρον, *plectron*, a spur; in reference to the anthers being furnished with 2 auricles or 2 spurs behind). Blum. in bot. zeit. 1831. no. 29. p. 501. Limb of calyx cylindrical, truncate, continuous with the tube. Anthers fixed by the base, curled in front, and furnished with 2 short auricles behind. Ovarium glabrous at the apex.

15 D. DIVARICA'TA; leaves 3-nerved, ovate, acute, downy beneath, glabrous and shining in front; branches clothed with rusty tomentum: panicles terminal, divaricate; calyx urceolate, truncate, and is as well as the peduncles tomentose; anthers almost sessile. ♄. S. Native of the East Indies. Melástoma divaricàtum, Willd. spec. 2. p. 596. Berry about the size of a grain of pepper.

Divaricate-panicled Dissochæta. Shrub sarmentose.

16 D. GLAU'CA (Blum. in bot. zeit. 1831. no. 29. p. 501.) leaves 3-nerved, besides the 2 marginal nervules, oblong, cordate, bluntly acuminated, clothed with scurfy, stellate down beneath as well as the branchlets, and panicles which are terminal; stamens 6-8, 4 of which are only fertile. ♄. S. Native of Pulo Penang and of Java. Melástoma glaùca, Jack. in Lin. trans. 14. p. 15. Flowers pale blue.

Glaucous Dissochæta. Shrub sarmentose.

17 D. CYANOCA'RPA (Blum. l. c.) branchlets and petioles beset with scattered simple bristles; leaves 3-nerved, besides the 2 marginal nervules, ovate-oblong, acuminated, cordate at the base; stamens 8, the 4 alternate ones barren. ♄. S. Native of Java, in woods, on the higher mountains, where it is called by the natives *Tjalunt-jung-aroy.* Flowers as well as berries blue.

Blue-fruited Dissochæta. Shrub sarmentose.

Cult. For culture and propagation see *Melástoma*, p. 764. The species are all elegant when in flower.

LXIV. APLE'CTRUM (α, priv. and πλεκτρον, *plectron*, a spur; anthers without spurs or connectives). Blum. in bot. zeit. 1831. no. 29. p. 502.

LIN. SYST. *Octándria, Monogýnia.* Tube of calyx ovate-globose, adhering to the ovarium; limb drawn out beyond the ovarium, truncate, or obsoletely 4-toothed. Petals 4, ovate, acute, or bluntish. Stamens 8, the 4 alternate ones sterile. Anthers ovate, obtuse at both ends, opening by 1 pore at the apex, inappendiculate at the base. Ovarium glabrous, crowned by 4 crests. Style filiform; stigma a pruinose dot. Berry nearly globose, crowned by the calyx, 4-celled, many-seeded. Seeds cuneiform.—Sarmentose smoothish shrubs, with the habit of *Dissochæ'ta.* Leaves petiolate, elliptic-oblong, quite entire, 5-nerved. Inflorescence panicled, axillary, and terminal. Flowers small, white.

1 A. VIMINA'LE (Blum. l. c.) leaves 5-nerved, cordate-oblong, or ovate, bluntly acuminated, clothed with stellate down beneath; panicles trichotomous, axillary, and terminal; bracteas oblong, ciliated; petioles furnished with 1 or 2 bristles. ♄. S. Native of Java and Sumatra, in shady places. Melástoma viminàle, Jack. in Lin. trans. 14. p. 16. Blum. bijdr. p. 1073.

Twiggy Aplectrum. Shrub sarmentose.

2 A. ROSTRA'TUM (Blum. l. c.) leaves 3-nerved, besides the 2 marginal nervules, ovate-oblong, each ending in a long blunt acumen, roun[illegible]e base, glabrous; racemes axillary and terminal, almost simple; bracteas oval, ciliated; petioles often bristly. ♄. S. Native of Java, on the mountains of Seribu. Melástoma rostràtum, Blum. bijdr. p. 1074.

Beaked Aplectrum. Shrub sarmentose.

3 A. STIPULA'RE (Blum. l. c. p. 505.) leaves 5-nerved, ovate-oblong, bluntly acuminated, somewhat cordate at the base, glabrous; panicle terminal, corymbose; bracteas linear; petioles bristly. ♄. S. Native of Java, on the mountains of Salak. Melástoma stipulàre, Blum. bijdr. p. 1075.

Stipular Aplectrum. Shrub sarmentose.

Cult. For culture and propagation see *Melástoma*, p. 764.

LXV. TETRAZY'GIA (from τετρα, *tetra*, four, and ζυγος, *zugos*, a yoke; in reference to the quaternary number of the parts of the flower). Rich. herb. D. C. prod. 3. p. 172.

LIN. SYST. *Tetra-Octándria, Monogýnia.* Tube of calyx globose or urceolate; limb drawn out beyond the ovarium, permanent, with 4 short teeth. Petals 4, obovate. Stamens 4-8, equal. Anthers linear, obtuse at the base, opening by a pore at the apex. Ovarium glabrous. Style filiform. Stigma dot-formed. Capsule baccate, 4-celled. Seeds numerous, cuneated, angular, shining, with a linear hylum.—West Indian shrubs, with the branches, petioles, and under side of leaves scurfy or lepidotted. Leaves ovate or oblong, discoloured beneath, 3-nerved, petiolate. Cyme trichotomous, terminal. Flowers white, bractless.

SECT. I. TETRASTE'MON (from τετρα, *tetra*, four, and στημων, *stemon*, a stamen; stamens 4.). D. C. prod. 3. p. 172. Stamens 4. Thyrse panicle-formed. Perhaps this section is sufficient to constitute a new genus.

1 T. TETRA'NDRIA (D. C. prod. 3. p. 172.) branchlets tetragonal, glabrous, and are as well as the petioles rusty; leaves petiolate, oblong, obtuse, somewhat cordate at the base, acute at the apex, with revolute quite entire margins, 3-nerved, clothed

with small, lepidotted down beneath as well as on the peduncles and calyxes; thyrse panicled, many-flowered. ♄. S. Native of Jamaica, on the highest mountains, and of Guadaloupe. Melástoma tetrándra, Swartz, fl. ind. occ. p. 795. but not *M. tetrándrum* of Spreng. syst. Flowers small, white, tetrandrous.

Tetrandrous Tetrazygia. Shrub 3 to 6 feet.

Sect. II. Octoste'mon (from οκτω, *octo*, eight, and στημων, *stemon*, a stamen; stamens 8.). D. C. prod. 3. p. 172. Stamens 8. Thyrse corymb-formed.

2 T. di'scolor (D. C. prod. 3. p. 172.) branches bluntly tetragonal; petioles, panicles, and under side of leaves clothed with flocky, short, white, stellate down; leaves repandly denticulated, oval, acuminated, 5-nerved; glabrous above; cyme paniculately corymbose, trichotomous, terminal; teeth of calyx short, obtuse; petals oval, retuse. ♄. S. Native of the West Indies, Guadaloupe, Martinico, St. Vincent, Mont Serrat, &c. Melástoma díscolor, Lin. spec. p. 560. Jacq. amer. t. 130. t. 84. Rich. in Bonpl. mel. t. 34. Melast. acuminàta, Vahl. ecl. 1. t. 7. Melast. elæagnoìdes, Sieb. fl. trin. no. 61. Flowers cream-coloured.

Two-coloured-leaved Tetrazygia. Shrub 4 to 6 feet.

3 T. elæagnoìdes (D. C. l. c.) branches nearly terete, and are as well as the petioles and under side of leaves clothed with adpressed, rufescent, lepidotted, rather powdery down; leaves oblong, 3-nerved, attenuated at both ends, glabrous above, rather coriaceous; cymes twice trifid, terminal; limb of calyx urceolate, obscurely 4-toothed. ♄. S. Native of the West Indies. Melástoma elæagnoides, Swartz, fl. ind. occ. p. 815. Vahl. icon. pl. amer. 2. t. 28. Rich. in Bonpl. rhex. t. 13. Petals white, obovate. Berries bluish black, bottle-shaped, from being crowned by the permanent neck of the calyx.

Elæagnus-like Tetrazygia. Shrub 3 to 10 feet.

4 T. angustifòlia (D. C. l. c.) branches terete, and are as well as the petioles and under side of leaves clothed with velvety, minute, stellate down; leaves linear-lanceolate, with revolute, quite entire margins, 3-nerved, beset with yellowish dots above; lateral nerves approximating the margin of leaf; cymes paniculately corymbose, trichotomous; calyx rather globose, with the limb slightly 4-toothed. ♄. S. Native of the West Indies, particularly of Montserrat, Trinidad, Guadaloupe, &c. Melástoma angustifòlia, Swartz, fl. ind. occ. p. 799. Rich. in Bonpl. mel. t. 10. Vahl. dec. amer. 3. t. 26. Petals from white to pale red, obovate. Flowers one-half smaller than those of *T. elæagnoìdes*. Fruit nearly globose, not bottle-shaped.

Narrow-leaved Tetrazygia. Shrub 4 to 6 feet.

5 T. crotonifòlia (D. C. l. c.) branches terete, hispid; leaves sessile, cordate, lanceolate, denticulated, 3-5-nerved, glabrous above, and rather muricated, clothed with white down or tomentum beneath; panicles terminal, few-flowered; calyx rather campanulate, 4-toothed. ♄. S. Native of St. Domingo. Melast. crotonifòlia, Desr. in Lam. dict. 4. p. 43. Petals 4, oval, purple. Fruit ovate, glabrous, crowned by the calyx. The habit of the plant is between that of *Heterótrichum* and *Tetrazýgia*.

Croton-leaved Tetrazygia. Sh. 3 to 6 feet.

Cult. See *Melástoma* for culture and propagation, p. 764.

LXVI. HETEROTRICHUM (from ἑτερος, *heteros*, variable, and θριξ τριχος, *thrix trichos*, a hair; the plants are clothed with variable hairs, some stellate and soft, and others simple and bristly intermixed). D. C. prod. 3. p. 173.

Lin. syst. *Deca-Icosándria, Monogýnia.* Tube of calyx ovate-globose; limb 5-8-cleft, with the lobes permanent and broad at the base, and elongated and subulate at the apex. Petals 5-8, oval. Stamens 12-16, equal; filaments glabrous; anthers oblong, hardly gibbous at the base, opening by one pore at the apex. Ovarium glabrous, umbilicate at the apex. Style cylindrical; stigma a pruinose dot. Capsule baccate, 5-6-celled, globose, crowned by the calyx. Seeds unknown.—Shrubs, natives of St. Domingo. Branches terete, and are, as well as the petioles, panicles, and calyxes beset with stiff bristles and stellate down intermixed. Leaves petiolate, bristly above, and hispid on the nerves beneath, but velvety between the nerves. Cymes terminal, trichotomous, umbellate. Flowers white or purple. The torus in *H. octònum* is easily separated from the calyx, forming a tunic around the ovarium, toothed at the apex. Perhaps in all.

1 H. angustifòlium (D. C. prod. 3. p. 173.) branches, petioles, and peduncles, as well as under side of leaves and calyxes, clothed with short stellate white tomentum, intermixed with stiff rufous spreading bristles; leaves oblong, obtuse at the base, acuminated at the apex, rugosely crenulated, beset with bristles on the upper surface, which are tumid at the base, triple-nerved; cymes divaricate, trichotomous, terminal; tube of calyx ovate, having the lobes of the limb dilated and rounded at the base, and ending each in a subulate mucrone. ♄. S. Native of St. Domingo and Martinique. Melástoma hírta, Desr. in Lam. dict. 4. p. 43. but not of others. Melast. Berteroànum, Ser. mss.—Plum. ed. Burm. t. 141. Perhaps the same as Melast. pállens of Spreng. syst. Petals ovate, acutish. Anthers oblong, bluntly subgibbous at the base. Axils of nerves bearded.

Narrow-leaved Heterotrichum. Sh. 3 to 6 feet.

2 H. ni'veum (D. C. l. c.) branches, petioles, pedicels, and under side of leaves, beset with blackish rigid bristles, intermixed with white stellate down; leaves cordate, acuminated, scabrous from bristles above, 7-nerved; panicle loose; flowers 6-cleft. ♄. S. Native of St. Domingo. Melástoma nívea, Desr. in Lam. dict. 4. p. 42. Very nearly allied to the following species, but differs in the down being white, as in the preceding species, and in the flowers being 6-cleft and dodecandrous.

White Heterotrichum. Sh. 6 to 8 feet.

3 H. pa'tens (D. C. l. c.) branches, petioles, peduncles, and calyxes, beset with glandular bristles, intermixed with stellate down; leaves cordate, acuminated, somewhat denticulated, 7-nerved, rather scabrous above, but clothed with white velvety down beneath; cymes terminal, loose; flowers 6-8-cleft; lobes of calyx spreading. ♄. S. Native of St. Domingo. Melástoma pàtens, Swartz, fl. ind. occ. 2. p. 791. Melast. lappàcea, Desr. in Lam. dict. 4. p. 42. Melast. grandiflòrum, Spreng. in herb. Balb. but not of Aubl. Flowers pale red or whitish. Berry sweet, but insipid.

Spreading Heterotrichum. Shrub 6 feet.

4 H. octònum (D. C. l. c.) branches, petioles, and peduncles beset with long, spreading, reflexed bristles, intermixed with short, stellate down; leaves cordate, acuminated, 5-7-nerved, hispid above from simple, toothed bristles, but clothed with stellate down beneath; thyrse panicled, terminal; teeth of calyx 8, subulate, short, permanent, incurved. ♄. S. Native of South America, on Mount Quindiu, near the river Guada. Melástoma octòna, Bonpl. mel. t. 4. Petals 4, white. Torus separable from the calyx, forming an 8-toothed tunic around the ovarium.

Eight-cleft-calyxed Heterotrichum. Sh. 6 to 9 feet.

5 H. novemne'rvium (D. C. l. c.) branches, petioles, and peduncles beset with glandular bristles, intermixed with grey stellate tomentum; leaves ovate, rather cordate at the base, acuminated at the apex, ciliately serrulated, 9-nerved, rough from blisters above, and velvety beneath from white stellate down; thyrse panicled, loose, terminal; calyx clothed with white tomentum, having 5, erectish lobes. ♄. S. Native of Brazil. Petals oblong.

Nine-nerved-leaved Heterotrichum. Sh. 6 feet.

Cult. For culture and propagation see *Melástoma*, p. 764.

LXVII. CONOSTE'GIA (from κονος, *konos*, a cone, and στεγη, *stege*, a covering; in reference to the conical calyptriform calyx falling off in one piece). D. Don, in mem. soc. wern. 4. p. 316. Ser. mss. D. C. prod. 3. p. 173.—Melástoma calyptràta, Bonpl. mel.—Calycótomus and Bruguièra, Rich. ined.

Lin. syst. *Deca-Icosándria, Monogýnia.* Tube of calyx adnate to the ovarium; limb undivided, conical, form of a calyptra, cut round (f. 112. *b.*), or irregularly ruptured at the base through æstivation, and therefore falling off in one piece (f. 112. *a.*). Petals 5-6. Stamens 10-16. Anthers usually biauriculate at the base. Stigma capitate or peltate. Capsule baccate, 3-8-celled. Seeds ovoid, angular.—Trees or shrubs, for the most part natives of South America. Leaves petiolate. Thyrse panicled, terminal. Flowers usually white.

Sect. I. Eriosté'gia (from εριον, *erion*, wool, and στεγη, *stege*, a covering; calyx woolly). Flower-bud globose, hispid, abruptly acuminated.

1 C. Muti'sii (Ser. mss. ex D. C. prod. 3. p. 174.) branches, petioles, peduncles, and calyxes hairy; leaves large, cordate-oval, rather acuminated, denticulated, 7-9-nerved, glabrous above, but rather pilose on the nerves beneath; peduncles terminal, usually 3-flowered; flower-bud ovate-globose, abruptly acuminated, and regularly cut round at the base. ♄. S. Native of South America, on Mount Quindiu, at the altitude of 2300 feet. Melástoma Mutìsii, Bonpl. mel. 1. p. 136. t. 58. Calyx large, hairy. Bracteas linear-subulate. Petals 5, white, oval. The flowers are said to be polyandrous in the character given by Bonpland, and decandrous in the French description. Stigma simple.

Mutis's Conostegia. Tree 20 feet.

Sect. II. Euconosté'gia (this section contains what are supposed to be the true species of the genus). Flower-bud ovate, blunt at the apex or acutish, glabrous or a little velvety.

2 C. extinctòria (D. Don, in mem. wern. soc. 4. p. 316.) branches bluntly tetragonal, rather terete, and are, as well as the petioles, leaves, and panicles, clothed with adpressed rusty down; leaves oval-oblong, long-acuminated, quintuple-nerved, with repandly denticulated margins, glabrous and shining above; panicle terminal; flower-bud conical and acute at the apex, cut round about in the middle. ♄. S. Native of New Granada, in temperate places near Mariquita. Melástoma extinctòrium, Bonpl. mel. t. 57. Petals 6, obovate, white. Stamens 20. Berry 5-celled.

Spoiled Conostegia. Tree 24 feet.

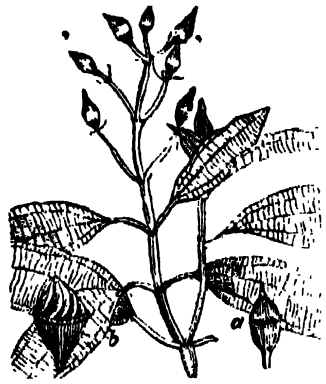
3 C. di'scolor (D. C. prod. 3. p. 174.) branches nearly terete, and are, as well as the petioles, peduncles, and under side of leaves, clothed with short rusty down; leaves oval, attenuated at the base, acuminated at the apex, quite entire, 5-nerved, besides the marginal nervules; thyrse terminal, panicled, loose; calyx glabrous after opening, urceolate, truncate, globose at the base. ♄. S. Native of St. Domingo. Melástoma tetrándrum, Spreng. syst. 2. p. 305. exclusive of the synonymes.

Two-coloured-leaved Conostegia. Tree 12 to 20 feet.

4 C. pro'cera (D. Don, l. c.) glabrous; branches bluntly tetragonal; leaves oval-lanceolate, acuminated, entire, triple-nerved, bearded in the axils of the nerves beneath; thyrse panicled, terminal, loose; flower-bud ovate, acuminated, cut round in the middle. ♄. S. Native of Jamaica, on the mountains. Melast. prócera, Swartz, fl. ind. occ. p. 764. Bonpl. mel. t. 51. Perhaps Swartz's plant under this name is the same as Bonpland's, although Swartz says the leaves of his plant are glabrous, and sometimes rusty beneath, the stigma capitate, and the flowers decandrous; Bonpland says, his plant has dodecandrous flowers, nerves of leaves bearded, and an acute stigma. Flowers white. (f. 112.)

Tall Conostegia. Tree 12 to 30 feet.

FIG. 112.



5 C. Balbisia'na (Ser. mss. ex D. C. prod. 3. p. 174.) quite glabrous; branches bluntly tetragonal; leaves oval, rather oblong, hardly acuminated, quite entire, triple-nerved, besides the marginal nervules; thyrse panicled, terminal, elongated, having its branchlets 3-flowered; flower-bud ovate, acutish, at length cut round about. ♄. S. Native of Jamaica. Flowers twice the size of those of *C. calyptràta.* Perhaps the same as Melástoma prócera, Swartz, but not of Bonpl.? Base of calyx campanulate, rather urceolate, truncate. Stamens 12. Style not thickened at the apex. Berry 8-celled.

Balbis's Conostegia. Tree 20 feet.

6 C. subhirsu'ta (D. C. prod. 3. p. 174.) branchlets tetragonal, and are, as well as the peduncles and nerves of leaves, densely clothed with rusty branched down; leaves oval, somewhat attenuated at the base, abruptly acuminated at the apex, quite entire, 5-nerved, glabrous on both surfaces, except the nerves on the [illegible] surface; thyrse panicled, terminal, few-flowered; calyx ovoid, after separating hemispherical truncate and glabrous at the base. ♄. S. Native of Cuba, about the Havanah, and of Guadaloupe. Bruguièra, Rich. herb. This species is very distinct in the hairiness, form of the leaves and calyxes. Petals 8-10, obovate-oblong. Berry 12-celled. Stigma peltate.

Rather-hairy Conostegia. Tree 20 feet.

7 C. calyptra'ta (D. Don, l. c.) smoothish; branches tetragonal, and are, as well as the petioles, panicles, and nerves of leaves on the under side, clothed with scurfy down; leaves on long petioles, oval-oblong, long-acuminated, glabrous above, somewhat denticulated, 3-nerved, besides the 2 small lateral nervules; thyrse panicled, terminal, loose; flower-bud ovate, obtuse at the base, rather acutish at the apex, cut round about in the middle. ♄. S. Native of mountain woods in Guadaloupe, Martinique, and Montserrat, &c. Melástoma calyptràta, Desr. in Lam. dict. 4. p. 51. Rich. in Bonpl. mel. t. 46. Vahl. ecl. 1. p. 40. Flowers white.

Calyptrate-calyxed Conostegia. Sh. 6 to 8 feet.

8 C. cornifòlia (Ser. mss. ex D. C. prod. 3. p. 175.) quite glabrous; branches nearly terete; leaves petiolate, oval, short-acuminated, quite entire, 3-nerved, besides the marginal nervules; thyrse panicled, terminal, loose; flower-bud ovate, obtuse at the base, rather acutish at the apex, sometimes cut round about in the middle, and sometimes opening irregularly by 2 valves. ♄. S. Native of Martinique. There is a small-leaved variety found on the mountains, and a large-leaved variety in the woods. Melástoma cornifòlia, Desr. in Lam. dict. 4. p. 51. Rich. in Bonpl. mel. t. 41. Melast. pícta, Vahl. ecl. 3. p. 15. ex Ser. Petals 5, white, obtuse. Stamens 10. Berry 4-celled.

Dog-wood-leaved Conostegia. Tree 20 feet.

9 C. semicrena'ta (Ser. mss. ex D. C. prod. 3. p. 175.) glabrous; branches nearly terete; leaves oblong, long-acuminated, repandly crenated in the upper part, 3-nerved, rusty beneath in the adult state; thyrse panicled, terminal, loose; flower-bud oval, attenuated at the base, acutish at the apex; tube of calyx

a little striated, with a circumcised or irregularly ruptured limb. ♄. S. Native of Guadaloupe, and of Cuba about the Havanah. Melástoma semicrenàta, Rich. in Bonpl. mel. t. 31. Melástoma acuminàta, Desr. in Lam. dict. 4. p. 54. Melast. elongàta, Vahl. ecl. 3. p. 16. ex Ser. Petals 5, white. Stamens 10. Ovarium 3-celled.

Half-crenated-leaved Conostegia. Tree 20 to 30 feet.

10 C. TUNICA'TA (Ser. mss. in D. C. l. c.) glabrous; branches terete; leaves oval-lanceolate, acuminated at both ends, quite entire, triple-nerved, besides the marginal nervules; thyrse panicled, terminal, short; flower-bud ovate, irregularly ruptured. ♄. S. Native of Peru, on the Andes. Melástoma tunicàta, Bonpl. mel. t. 60. Petals 5, white, oval. Anthers not auricled at the base. Berry 5-celled.

Tunicated Conostegia. Sh. 4 to 6 feet.

11 C. PARVIFLÒRA (D. C. l. c.) glabrous; branchlets terete; leaves oval, attenuately acuminated, repandly crenated, quintuple nerved; thyrse panicled, terminal, with its branches spreading; calyx circumcised. ♄. S. Native of St. Domingo. Melástoma montànum, Spreng. syst. 2. p. 296. This species differs from *C. montàna* in the leaves being oval, not oblong, crenated, not denticulated, quintuple-nerved, not 3-nerved.

Small-leaved Conostegia. Shrub 6 ft.

12 C. MONTA'NA (D. Don, l. c.) smoothish; branchlets tetragonal, clothed with mealy cinereous down; leaves oblong, somewhat denticulated, 3-nerved, besides the marginal nervules, paler beneath; thyrse panicled, terminal, having its branches spreading; flower-bud obtuse, cut round in the middle. ♄. S. Native of the high mountains in the south of Jamaica. Melástoma montàna, Swartz, fl. ind. occ. p. 766. Flowers small. Limb of calyx truncate after opening, urce[illegible] with an unequal edge. Petals oblong-obovate, white. Stamens 10-16; stigma rather capitate.

Mountain Conostegia. Shrub 6 to 8 feet.

13 C. MEXICA'NA (Ser. mss. ex D. C. l. c.) quite glabrous; branchlets terete; leaves oval-lanceolate, tapering to both ends, denticulated, quintuple-nerved; thyrse terminal, panicled, loose; flower-bud ovate-oblong, obtuse, irregularly ruptured. ♄. S. Native in the temperate parts of Mexico. Melástoma Mexicàna, Bonpl. mel. t. 55. Petals 5, white, oval. Stamens 10; stigma obtuse. Berry 5-celled.

Mexican Conostegia. Shrub 6 feet.

14 C. XALAPE'NSIS (D. Don, l. c.) branchlets terete, and are, as well as the petioles, panicles, and under side of leaves, clothed with rusty down; leaves lanceolate, acute at both ends, quintuple-nerved, toothed; thyrse terminal, panicled, ovate; flower-bud ovate, obtuse at both ends, regularly cut round about in the middle. ♄. S. Native of Mexico, near Xalapa. Melástoma Xalapénsis, Bonpl. mel. t. 54. Petals 5, oval, white. Stamens 10; stigma obtuse.

Xalapa Conostegia. Shrub 5 feet.

15 C. LUTE'SCENS (Ser. mss. ex D. C. l. c) branches quite glabrous, obscurely tetragonal above; leaves ovate-lanceolate, attenuated, glabrous, a little toothed on the outer margin, petiolate, 3-5-nerved; racemes terminal, compound; flowers decandrous; peduncles 3-flowered, the middle flower of the three sessile; calyx ovate, acute, at length truncate; style brownish purple, longer than the corolla and stamens. ♄. S. Native of the Island of Montserrat. Melástoma lutéscens, Vahl. ecl. fasc. 3. p. 17. but not of Humb. et Bonpl.

Yellowish Conostegia. Shrub 2 to 3 feet.

16 C. GLA'BRA (D. Don, l. c.) branches nearly terete; leaves oblong, acuminated, somewhat 3-nerved, quite entire, glabrous; panicle terminal; calyx circumcised. ♄. S. Native of the Society Islands. Melástoma glàbra, Forst. prod. no. 194. Willd. spec. 2. p. 584. The whole shrub quite glabrous, the branches purplish, the leaves almost one-nerved, from the marginal nerves being confluent. Cymes corymbose, terminal, trichotomous. Flower-bud obovate, obtuse.

Glabrous Conostegia. Shrub 4 to 6 ft.

† *Species not described.*

17 C. HOLOSERI'CEA (D. Don, mem. soc. wern. 4. p. 316.) ♄. S. Native of Peru. Melástoma holoserícea, Pav. in herb. Lamb. but not of Lin.

Whole-silky Conostegia. Shrub.

18 C. CUCULLA'TA (D. Don, l. c.) ♄. S. Native of Peru. Melástoma cucullàta, Pav. in herb. Lamb.

Cucullate Conostegia. Shrub.

19 C. SUPE'RBA (D. Don, l. c.) ♄. S. Native of South America. Melástoma supérba, Bonpl. ined.

Superb Conostegia. Shrub.

Cult. For culture and propagation see *Melástoma*, p. 764.

LXVIII. DIPLOGE'NEA (from διπλοος, *diploos*, and γενεα, *genea*, generation). Lindl. in Brande's quart. journ. Oct. 1828. p. 121.

LIN. SYST. *Octándria, Monogýnia.* Calyx with a calyptriform conical deciduous limb. Petals 4, lanceolate, inserted in the fleshy disk which covers the ovarium; anthers ovate, bicalcarate at the base, opening by one pore at the apex. Ovarium adnate to the calyx, 4-celled, many seeded, crowned by the large fleshy disk. Style falcate, clavate. Stigma simple.—A smooth parasitical shrub, almost with the habit of *Viscum*. Branches fleshy, dichotomous, compressed in the young state. Leaves oblong, retuse, fleshy, 3-ribbed, veinless, filled with oily receptacles between the parenchyma. Flowers small, white, disposed in short axillary racemes. Tube of calyx replete with oily receptacles.

1 C. VISCOÌDES (Lindl. l. c.) ♄. S. Native of Madagascar at St. Mary's.

Misseltoe-like Diplogenea. Shrub.

Cult. This plant being parasitical, it should be treated in the same manner as tropical orchideous plants. Cuttings will strike root under a hand-glass.

LXIX. DIPLOCHI'TA (from διπλοος, *diploos*, double, and χιτων, *chiton*, an outer covering; in reference to the calyx, which is involved by 2 bracteas while in a young state). D. C. prod. 3. p. 176.– Chitònia, D. Don, in mem. wern. soc. 4. p. 317. but not of Mocino.—Fothergílla, Aubl. guian. 1. p. 441. but not of Lin.

LIN. SYST. *Deca-Dodecándria, Monogýnia.* Calyx adhering to the ovarium at the base, when young involved by 2 bracteas, cylindrical, with the throat usually ciliated after flowering; limb bluntly 5-6-toothed, permanent, drawn out beyond the ovarium. Petals 5-6, usually oblong. Anthers biauriculate at the base, opening by one pore at the apex. Ovarium ovate-oblong, crowned by a callous glabrous disk. Style filiform; stigma peltate or capitate. Capsule dry, indehiscent, 5-celled. Seeds ovate.—Tall South American showy trees or large shrubs, usually clothed with rusty velvety down on the branches, and under side of the leaves. Leaves petiolate, ovate, usually acuminated, obtuse or cordate at the base, smoothish above, with the margins quite entire or crenated. Thyrse terminal, with opposite branches. Flowers white or rose-coloured, but in one of the species yellow. Bracteas 2, oval, large, involving the calyx when young, but at length falling off altogether.

* *Leaves quite entire.*

1 D. FOTHERGI'LLA (D. C. prod. 3. p. 176.) branches compressed when young, but at length becoming terete, and are, as well as the petioles, rachis, and nerves of leaves on the under side, clothed with rufous down; leaves petiolate, oval, acumi-

nated, quite entire, 5-nerved, hardly clothed with velvety white down between the nerves; thyrse panicled, many-flowered; bracteas velvety; calyx quite glabrous in the adult state; stigma dilated, rather peltate. ♄. S. Native of Guadaloupe and Trinidad, Guiana and Brazil. Melástoma Fothergílla, Rich. in Bonpl. mel. t. 32. Melástoma compréssa, Vahl. ecl. 3. p. 23. dec. amer. 2. t. 17. Fothergílla mirábilis, Aubl. guian. 1. p. 441. t. 174. Flowers white.

Fothergill's Diplochita. Clt. 1815. Tree 10 to 20 feet.

2 D. flórida (D. C. l. c) branches terete, and are, as well as the petioles, rachis, and nerves of leaves on the under side, clothed with almost imperceptible rufous down; leaves petiolate, elliptic-oblong, cuneated at the base, acuminated at the apex, 5-nerved, quite entire, glabrous above, but covered with almost imperceptible white down beneath; thyrse terminal, many-flowered; bracteas coloured under the flower, rather velvety; calyxes quite glabrous, with a truncate, bluntly somewhat 5-toothed border. ♄. S. Native of French Guiana. A shewy tree, called by the natives of Guiana *Bois Yaman*. Trunk tall, usually furrowed. Bracteas rose-coloured, as in *Córnus flórida*. Petals, stamens, and style unknown. Berry 3-5-celled. Seeds angular. Perhaps sufficiently distinct from *D. Fothergilla*, and the synonyme of Aublet is perhaps referrible to this plant.

Florid Diplochita. Tree 20 to 30 feet.

3 D. bractea'ta (D. C. l. c.) branches rather compressed when young, and are, as well as the panicles, petioles, and under side of leaves, clothed with whitish brown, adpressed, flocky, stellate down; leaves petiolate, oval, acuminated, obtuse at the base, with the margins quite entire, glabrous on the upper surface; panicles terminal, and there are also racemose peduncles rising from the axils of the upper leaves; calyx tubular, not striated; petals glabrous. ♄. S. Native of Brazil, near Coari, in marshy fields. Melástoma bracteàtum, Mart. et Schrank, mss. Like *D. Fothergilla*, but differs in the margins of the leaves being quite entire, in the calyxes being tomentose, and in the stigmas not being dilated.

Bracteate-flowered Diplochita. Shrub 10 to 20 feet.

4 D. mucrona'ta (D. C. prod. 3. p. 177.) branchlets somewhat compressed, at length terete, and are, as well as the petioles, panicles, and under side of leaves, densely clothed with rufous stellate down; leaves petiolate, broadly oval, abruptly acuminated, almost entire, quite glabrous above, 5-nerved; thyrse somewhat panicled, rising from the top of the branches in an umbellate manner; bracteas and calyxes tomentose; petals 5-6, oblong; stigma dot-formed. ♄. S. Native of French Guiana. Melástoma mucronàta, Desr. in Lam. dict. 4. p. 47. Rich. in Bonpl. mel. t. 18. Calyx furnished with a ring of hairs under the insertion of the stamens. Ovarium toothed at the apex. Berry 4-celled, black. Anthers bluntly auricled at the base. Flowers white.

Mucronate Diplochita. Shrub 6 to 10 feet.

5 D. Swartzia'na (D. C. l. c.) branchlets rather terete, and are, as well as the petioles, peduncles, and under side of leaves, clothed with short hoary rufescent stellate down; leaves oblong-oval, abruptly acuminated, 5-7-nerved, quite entire; thyrse straight; bracteas deciduous; calyxes tomentose, bluntly toothed, not ciliated inside. ♄. S. Native of Jamaica. Melástoma Tamònea, Swartz, fl. ind. occ. p. 783. Melástoma Swartziàna, Rich. in Bonpl. mel. t. 33. Melast. dodecándra, Desr. in Lam. dict. Petals 5-6, oblong, red. Stigma hardly dilated. This species comes very near to *D. acuminàta*, but differs in the want of the ring of hairs under the stamens, and in the ovarium not being toothed at the apex.

Swartz's Diplochita. Clt. 1815. Shrub 10 to 15 feet.

6. D. cauda'ta (D. C. l. c.) leaves broadly elliptic, quite entire, 5-nerved, terminated in a long tail-like point each; flowers glomerate in panicles. ♄. S. Native of Peru. Chitònia candàta, D. Don, in mem. wern. soc. 4. p. 317. but distinct from Melástoma caudàta, Bonpl.

Tailed-leaved Diplochita. Shrub 6 to 10 ft.

7 D. au'rea (D. C. l. c.) leaves ovate-lanceolate, acuminated, triple-nerved, quite entire, acute at the base, glabrous on both surfaces; panicle pyramidal, smooth. ♄. S. Native of Peru. Chitònia aùrea, D. Don, l. c. Flowers golden yellow.

Golden-flowered Diplochita. Shrub 6 to 10 ft.

8 D. bubali'na (D. C. l. c.) leaves ovate-lanceolate, toothed, acuminated, 5-nerved, clothed with fulvous tomentum beneath, as well as on the branchlets; panicle many-flowered; calyx clothed with hoary tomentum. ♄. S. Native of Peru. Melástoma bubalìna, Pav. in herb. Lamb. Chitònia bubalìna, D. Don, l. c. Leaves often a foot long, and 4 inches broad. Flowers small.

Buffalo Diplochita. Shrub 6 to 10 ft.

9 D. macrophy'lla (D. C. l. c.) leaves cordate-oval, acuminated, crenulated, clothed with fulvous tomentum beneath, as well as on the branches; panicle pyramidal; calyx furrowed. ♄. S. Native of Mexico. Melástoma macrophy'lla, Pav. in herb. Lamb. Chitònia microphy'lla, D. Don, l. c. Leaves a hand or a foot long, and 4-5 inches broad.

Long-leaved Diplochita. Shrub 10 feet.

* * *Leaves crenated.*

10 D. leucoce'phala (D. C. l. c.) branchlets bluntly tetragonal, and are, as well as the petioles, peduncles, and under side of leaves, clothed with adpressed rufous powdery down; leaves petiolate, obtuse at the base and rather cordate, oval, acuminated, crenately toothed, 5-nerved, glabrous and glaucous above; panicle terminal; calyxes urceolate, and are, as well as the bracteas, densely clothed with white stellate down; petals clothed with white velvety down on the outside. ♄. S. Native of Cayenne.

White-headed Diplochita. Tree 10 to 20 feet.

11 D. serrula'ta (D. C. l. c.) branchlets compressed, and are, as well as the panicles, petioles, and under side of leaves, densely clothed with short velvety stellate down; leaves petiolate, rather cordate at the base, ovate, acuminated, toothed, 7-nerved, glabrous above; panicle terminal, elongated; branchlets opposite, distant, many-flowered; bracteas and calyxes densely clothed with velvety down; petals 5-6, velvety on the outside; filaments pilose; stigma hardly dilated at the apex. ♄. S. Native of Brazil, in woods. Melas. lasiopétalum, Mart. et Schrank, mss. Leaves nearly a foot long, obtuse at the base, and tapering gradually to an acumen at the apex. Calyx white, striated lengthwise. Down on the branches and petioles brown.

Var. β, latifòlia (D. C. l. c.) leaves broader, cordate at the base, abruptly acuminated. ♄. S. Native of St. Domingo and Cayenne. Melástoma serrulàta, Rich. herb. Melast. Balbisiànum, Ser. mss. Melast. pàtens, Spreng. in herb. Balb. but not of Swartz.

Serrulated-leaved Diplochita. Shrub 6 to 10 feet.

Cult. All the species are fine broad leaved trees and shrubs. Their culture and propagation are the same as for the species of *Melástoma*. p. 764.

LXX. PHY'LLOPUS (from φυλλον, *phyllon*, a leaf, and πους, *pous*, a foot; the pedicels or footstalks bear two leafy bracteas each). D. C. prod. 3. p. 177.

Lin. syst. *Decándria, Monogýnia*. Tube of calyx adnate to the ovarium, turbinately campanulate; limb campanulate, with 5 very short teeth; the teeth ciliated with bristles. Petals 5, unguiculate, broadly ovate, somewhat cordate, terminating each in a bristle. Stamens 10, equal. Anthers with long beaks at the apex, and opening by a pore. Ovarium adnate to the calyx. Style cylindrical, rather velvety at the base. Stigma a pruinose dot. Fruit probably baccate, 5-celled. Seeds unknown.—Brazilian shrubs, having the younger branchlets and petioles clothed with rufous adpressed bristles, but at length becoming smooth. Leaves oblong, elongated, acuminated, 3-nerved, quite entire, with a few scattered bristles above, but covered with pale rufous stellate down beneath. Pedicels axillary, 1-flowered, a little longer than the petioles, bearing 2 linear foliaceous bracteas above the middle. Calyx very hispid. Petals purple.

1 P. Martiu'sii (D. C. prod. 3. p. 178.) ♄. S. Native of Brazil at Coari, and at Cupati in the province of Rio Negro, in fields. Melástoma phýllopus, Schrank et Mart. mss. Leaves 5-6 inches long, and 1 broad.

Martius's Phyllopus. Shrub.

Cult. For culture and propagation see *Melástoma*, p. 764.

LXXI. HENRIE'TTEA (*Caca-Henriette* is the name given to the tree by the natives of Cayenne). D. C. prod. 3. p. 178.

Lin. syst. *Decándria, Monogýnia.* Calyx campanulate, 5-lobed; lobes broad, obtuse. Petals 5, velvety, ovate. Stamens 10; anthers thick, bifid at the base, and ending in a beak at the apex opening by one pore. Style cylindrical, hairy, crowned by an obtuse capitate stigma. Berry juicy, 5-celled. Seeds unknown.—Shrubs, native of Guiana, with nearly terete branches, clothed with adpressed strigose down. Leaves on short petioles, oval, acuminated by a mucrone, triple-nerved, green above, and clothed with velvety down beneath. Peduncles 1-flowered, rising, 3-4 together, from the axils of the fallen leaves. Calyx clothed with rufous villi.

. 1 H. succòsa (D. C. prod. 3. p. 17[illegible]ches bluntly tetragonal, but at length becoming terete, and are as well as the petioles rough from adpressed strigose down; leaves on short petioles, quintuple-nerved, oval, acuminated by a mucrone, quite entire, green above, hairy on the nerves, but the rest of leaf scabrous from stiff bristles, and clothed with roughish rusty down beneath; pedicels 3-4 together, 1-flowered, in the axils of the fallen leaves, rusty; calyx rusty, villous, bluntly 5-lobed. ♄. S. Native of Cayenne, in woods, where it is called by the inhabitants *Caca-Henriette.* Melástoma succòsa, Aubl. guian. 1. p. 418. t. 162. Calyx obovate-globose. Petals large, ovate, velvety. Anthers large, obtuse and biauriculate at the base, but tapering into a 1-pored beak at the apex. Style thick, hardly capitate at the apex. Berry violaceous, but with the pulp red.

Juicy-berried Henriettea. Shrub 10 to 12 feet.

† *Doubtful species.*

2 H.? Patrisia'na (D. C. l. c.) branches nearly terete, and are as well as the petioles and nerves of leaves scabrous from adpressed, reddish strigæ; leaves petiolate, oval, obtuse at the base, acute at the apex, ciliated with bristles, triple-nerved, besides the 2 marginal nervules, glabrous on both surfaces, except on the nerves; pedicels crowded in the axils of the old or fallen leaves, very short, 1-flowered, and are as well as the calyxes clothed with adpressed, rufous down; limb of calyx bluntly 5-lobed; petals lanceolate. ♄. S. Native of Cayenne. Leaves 3 inches long. Flowers small, almost sessile. Adult branches glabrous. Style filiform. Stamens not seen. Berry glabrous, globose. Limb of calyx permanent, incurved.

Patris's Henriettea. Shrub 6 to 10 ft.

3 H.? ramiflòra (D. C. l. c.) branches bluntly tetragonal, hispid, but at length becoming glabrous; leaves on short petioles, ovate-lanceolate, acuminated at both ends, entire, 3-nerved, besides the 2 marginal nervules, smooth above, but clothed with roughish rather rusty tomentum beneath; pedicels scattered on the branches beneath the leaves, rather crowded, 1-flowered; calyx urceolate, bluntly 5-toothed; petals ovate. ♄. S. Native of Jamaica, in marshes. Melástoma ramiflòra, Swartz, fl. ind. occ. p. 775. Flowers flesh-coloured. Anthers sagittate, acuminated. Stigma blunt. Leaves of a golden yellow hue above.

Branch-flowered Henriettea. Shrub 6 to 10 feet.

Cult. For culture and propagation see *Melástoma*, p. 764.

LXXII. MARU'MIA (in honour of the celebrated vegetable physiologist, Martin Van Marum, author of Dissertationes qua disquiritur quo usque motus fluidorum animalium et plantarum consentiunt, 4to. Groningen, 1773, and other works). Blum. in bot. zeit. 1831. no. 29. p. 503.

Lin. syst. *Octándria, Monogýnia.* Tube of calyx oblong-ovate, adhering at the base to the ovarium, beset with stiff hairs; limb 4-cleft, drawn out beyond the ovarium, with the segments oblong-linear and permanent. Petals 4, unequal-sided. Stamens 8, alternate ones shorter; anthers linear, arched, beaked at the apex, and opening by 1 pore, those of the longer stamens constricted at the base, and furnished with a fascicle of bristles; and those of the shorter ones furnished with fewer bristles at the base. Ovarium conical in the free part and rather villous. Style filiform, thickest at the base. Stigma a clammy dot. Berry ovate, inclosed in the calyx, 4-celled, many-seeded. Seeds linear-cuneiform, angular.—Sarmentose shrubs. Leaves opposite, petiolate, oblong, somewhat 5-nerved, quite entire, discoloured, glabrous above, but clothed with stellate or lepidotted down beneath as well as on the branches and peduncles. Inflorescence axillary, cymose, or subcorymbose, few or many-flowered. Flowers large, rose-coloured, bibracteate.

1 M. muscòsa (Blum. in bot. zeit. 1831. no. 29. p. 504.) leaves somewhat cordate, ovate-oblong, acuminated, clothed with rusty scurfy tomentum beneath; peduncles many-flowered; calyx densely clothed with tomentum, intermixed with soft simple bristles. ♄. S. Native of Java, in mountain woods, where it is called by the natives *Harendong-bulu.* Melástoma muscòsum, Blum. bijdr. p. 1070. Melast. ferruginea, Reinwdt. ined. Flowers large, rose-coloured.

Mossy Marumia. Shrub sarmentose.

2 M. stellula'ta (Blum. l. c. p. 505.) leaves oblong-ovate, rather cordate at the base or roundish, tomentose beneath; peduncles 1-5-flowered; calyx beset with spine-like bristles, which are stellately multifid at the apex. ♄. S. Native of Sumatra and Saloma. Melástoma stellulàtum, Jack, in Lin. trans. 14. p. 6. Flowers large, rose-coloured.

Stellate-spined Marumia. Sh. sarmentose.

3 M. nemoròsa (Blum. l. c.) leaves somewhat lanceolate, cordate, clothed with rusty, leprous down beneath; peduncles 1-3-flowered; calyx covered with simple bristles. ♄. S. Native of Sumatra and Pulo-Nias. Melástoma nemoròsa, Jack, in Lin. trans. 14. p. 149. Flowers large, pale red.

Grove Marumia. Shrub sarmentose.

4 M. Zeyla'nica (Blum. l. c.) leaves ovate-oblong, rather cordate, bluntly acuminated, scurfy beneath; peduncles usually 3-flowered; calyx clothed with simple bristles. ♄. S. Native of Ceylon.

Ceylon Marumia. Shrub sarmentose.

Cult. For culture and propagation see *Melástoma*, p. 764. All the species bear showy flowers, and are therefore worth cultivating.

LXXIII. CREOCHI'TON (from κρεαρ, *crear*, flesh, and χιτων, *chiton*, an outer coat; in reference to the outer coat, that is, the bracteas, being fleshy and inclosing the flower-bud, in its young state). Blum. in bot. zeit. 1831. no. 29. p. 506.

Lin. syst. *Octándria, Monogýnia.* Tube of calyx globose, adhering to the ovarium; limb short, continuous with the tube, obsoletely and repandly 4-toothed, permanent. Petals 4, ovate-roundish, oblique. Stamens 8, equal. Anthers oblong, thick, arched, each furnished with a very short connective in front at the base, and terminating in a short, uniporose beak at the apex. Ovarium glabrous. Style thick, quadrangular; stigma small, blunt. Berry dry, globose, crowned by the tube of the calyx, 4-celled. Seeds innumerable, cuneate-oblong, with a linear hylum.—Climbing shrubs, with terete branchlets. Leaves opposite, petiolate, ovate or elliptic-oblong, quite entire, somewhat 5-nerved, quite glabrous above, but rather scurfy beneath. Peduncles axillary and terminal, dilated at the apex, and umbellately many-flowered. Each flower inclosed within two fleshy bracteas before expansion. Flowers large, and rose-coloured.

1 C. **pudibu'nda** (Blum. in bot. zeit. 1831. no. 29. p. 506.) leaves ovate, bluntish, or obtuse at both ends, clothed beneath with scurfy dots; umbels simple, rarely branched, many-flowered. ♄ . ◡. S. Native of Java, in woods near Kapangdungang, at the foot of Mount Salak, where it is called by the natives *Tjalant-jung*. Melástoma pudibúndum, Blum. bijdr. p. 1071. Flowers large, red.

Blush Creochiton. Shrub cl.

2 C. **bibractea'ta** (Blum. l. c. p. 507.) leaves ovate, rather cordate, bluntish, densely clothed with fulvous leprous tomentum on the nerves beneath, as well as on the branchlets and peduncles; umbels simple, few-flowered. ♄ . ◡. S. Native along with the preceding species, and where it is called by the natives *Harendong-arog*. Melástoma bibracteàtum, Blum. bijdr. p. 1071. Flowers large, red.

Bibracteate Creochiton. Shrub cl.

Cult. See *Melástoma* for culture and propagation, p. 764. Elegant climbing plants, bearing large showy flowers.

LXXIV. PHYLLAGA'THIS (from *φυλλον*, *phyllon*, a leaf, and *αγαθις*, *agathis*, a round heap; the flowers are disposed in heaps or heads, surrounded by leaves or bracteas). Blum. in bot. zeit. 1831. no. 29. p. 507.

Lin. syst. *Octándria, Monogýnia.* Tube of calyx oblong, glabrous, adhering to the ovarium at the base; limb drawn out beyond the ovarium, 4-cleft. Petals 4. Stamens 8, equal. Anthers arched, inappendiculate at the base, beaked at the apex, the beak opening by 1 pore? Style long. Berry 4-celled.——Shrub. Leaves opposite, large, roundish, 7-nerved, beset with rusty dots beneath, standing on very long ciliated petioles. Flowers purplish, densely crowded in axillary pedunculate heads, each head involucrated, or surrounded by 5-6 broad cordate-nerved bracteas.

1 P. **rotundifòlia** (Blum. l. c.). ♄ . S. Native of Sumatra. Melástoma rotundifòlium, Jack. in Lin. trans. 14. p. 11.

Round-leaved Phyllagathis. Shrub 1 to 2 feet.

Cult. For culture and propagation see *Melástoma*, p. 764.

LXXV. LORE'YA (dedicated to — Lorey, author of a Flora of Burgundy). D. C. prod. 3. p. 178.

Lin. syst. *Decándria, Monogýnia.* Tube of calyx campanulate, adhering to the ovarium at the very base, and truncate at the apex. Petals 5, ovate, obtuse, rather cordate at the base. Stamens 10; anthers thick, ovate, obtuse, rather gibbous at the base. Ovarium glabrous at the apex. Style filiform; stigma capitate, almost pentagonal. Berry 5-celled. Seeds unknown. —A glabrous, Guiana shrub. Leaves petiolate, oval, triple-nerved, besides the 2 marginal nervules, quite entire. Cymes lateral, many-flowered.

1 L. **arbore'scens** (D. C. l. c.) glabrous; branchlets bluntly quadrangular, at length terete; leaves petiolate, oval-orbicular, obtuse, or mucronate, entire, 5-nerved, 2 of the nerves rising from the middle a little above the base; lateral racemules 7-8-flowered, cymose; limb of calyx rather truncate; petals 5, rather cordate at the base. ♄ . S. Native of French Guiana, in woods, where it is called *Mele* by the inhabitants. Melástoma arboréscens, Aubl. guian. 1. p. 420. t. 163. Berry yellow, eatable, very like a medlar.

Arborescent Loreya. Tree 30 feet.

Cult. For culture and propagation see *Melástoma*, p. 764.

LXXVI. MICO'NIA (in honour of D. Micon, a Spanish botanist). Ruiz et Pav. fl. per. syst. 1. p. 104. prod. p. 60. D. Don, in mem. wern. soc. 4. p. 315. D. C. prod. 3. p. 179.

Lin. syst. *Decándria, Monogýnia.* Tube of calyx adhering to the ovarium; limb short, permanent, 5-toothed; teeth obtuse, furnished with a broad membrane on the inside, usually adpressed and connivent above the ovarium after flowering. Petals 5, obovate, obtuse. Stamens 10; anthers oblong-linear, bluntly and shortly auriculated at the base. Ovarium rather umbilicate at the apex, quite glabrous. Style filiform; stigma obtuse. Capsule baccate, 5-celled. Seeds 3-sided, smooth, with a black linear hylum.—American, branched, smooth, or rather hairy or tomentose shrubs, not as in *Clidemia* hispid. Leaves variable. Flowers in terminal panicles. This genus is perhaps divisible into many genera. Numbers of the species are not well known.

Sect. I. Leiosphæ'ra (from *λειος*, *leios*, smooth, and *σφαιρα*, *sphaira*, a sphere; in reference to the globular smooth fruit) D. C. prod. 3. p. 179. Tube of calyx and fruit globose and quite smooth. Flowers crowded, or in 1 series, disposed in a thyrse on the ends of the branches.

1 M. **racemòsa** (D. C. prod. 3. p. 179.) branchlets bluntly tetragonal, but [illegible] becoming terete, glabrous, but ciliated at the knots; leaves petiolate, oval, attenuated at the base, acutish at the apex, serrulated, and ciliated with bristles, 3-nerved, besides the marginal nervules, nearly glabrous on both surfaces; thyrse panicled, terminal; having the flowers disposed along its branches in 1 row. ♄ . S. Native of Guiana, Porto Rico, and Trinidad, in marshy places of woods. Melástoma racemòsa, Aubl. guian. t. 156. Rich. in Bonpl. mel. t. 27. Melast. decussàta, Vahl. ecl. 1. p. 49. Flowers red.

Racemose-flowered Miconia. Shrub 3 to 6 feet.

2 M. **barbi'gera** (D. C. l. c.) branches bluntly tetragonal, at length becoming terete, glabrous, ciliated at the knots; petioles elongated, bristly at the apex; leaves lanceolate, acuminated, ciliated with bristles, 3-nerved, besides the marginal nervules, glabrous on both surfaces in the adult state; thyrse panicled, terminal, having the flowers disposed in 1 series along its branches. ♄ . S. Native of French Guiana. Inflorescence as in *M. racemòsa*. Leaves nearly as in *M. ciliàta*, but the petioles are about 3-times longer. Flowers white.

Bearded-petioled Miconia. Shrub 3 to 6 feet.

3 M. **purpura'scens** (D. C. l. c.) branches bluntly tetragonal, pilose; leaves petiolate, oblong-lanceolate, acute, serrulately ciliated, pilose; thyrse panicled, terminal; having the flowers disposed in 1 series along its branches. ♄ . S. Native of Guiana, on the banks of rivulets. Melástoma purpuráscens, Aubl. guian. t. 154. but not of Swartz. Melast. purpùrea, Willd. spec. 2. p. 590. but not of Pav. Berry purple. Petals white.

Purplish Miconia. Fl. July. Clt. 1817. Sh. 3 to 6 feet.

4 M. **setinòdis** (D. C. l. c.) branches terete, glabrous, ciliated with bristles at the knots; leaves petiolate, ovate-oblong, acuminated, ciliately serrated, 3-nerved, besides the 2 marginal nervules, glabrous except the axils of the nerves, which are bearded; thyrse terminal, panicled; calyx rather campanulate, bluntly 6-8-toothed. ♄ . S. Native of South America, in shady places on Mount Quindiu. Melástoma setinòdis, Bonpl.

mel. t. 2. Flowers white. Petals 6-8, oval. Anthers blunt, opening by 1 pore at the apex, which is common to the 2 cells.

Bristle-knotted Miconia. Shrub 6 feet.

5 M. CILIA'TA (D. C. l. c.) branchlets nearly terete, glabrous; leaves petiolate, oblong-lanceolate, acuminated, serrated, ciliated with bristles, glabrous on both surfaces, 3-nerved, besides the marginal nervules; thyrse terminal, somewhat spicate; flowers crowded in whorls, the whorls distant. ♄. S. Native of French Guiana, in woods. Melástoma ciliàta, Rich. in act. soc. hist. nat. par. 1791. p. 109. and in Bonpl. mel. t. 26. M. purpuráscens, Vahl. ex Rich. Flowers purple.

Ciliated-leaved Miconia. Shrub 3 to 6 feet.

6 M. PILEA'TA (D. C. prod. 3. p. 180.) branches tetragonal, and are as well as the petioles and leaves more or less hispid, and ciliated from long stiff bristles; thyrse somewhat spicate, terminal; flowers almost sessile, disposed in crowded whorls; whorls distant. ♄. S. Native of Brazil, in woods. Melástoma ciliàtum and pileàtum, Schrank et Mart. mss. A very variable species, sometimes nearly glabrous, and sometimes very hispid. Flowers always glabrous. Seeds ovoid. Nearly allied to *M. congestiflòra*. Bracteas in both ciliated, with bristles at the apex.

Cap Miconia. Shrub 6 feet.

7 M. WYDLERIA'NA (D. C. in herb. Wydler. no. 225. mem. mel. p. 77.) branches bluntly tetragonal, but at length becoming terete, glabrous, but when young as well as the panicles somewhat tubercularly scabrous from rufous hairs; leaves almost sessile, oval, acuminated, obtuse at the base, and somewhat cordate, quite glabrous above, but dotted from tubercular rufous down beneath; thyrse panicled, terminal; flowers almost sessile, in crowded whorls. ♄. S. [illegible] Porto Rico, in the woods. Fruit globose, black.

Wydler's Miconia. Shrub 1 to 2 feet.

8 M. CONGESTIFLÒRA (D. C. l. c.) branchlets tetragonal, and are as well as the panicles and petioles quite glabrous; leaves petiolate, oblong, 5-nerved, glabrous on both surfaces, ciliated with long, stiff hairs; thyrse spicate, terminal; flowers crowded, in distant, many-flowered, opposite bundles. ♄. S. Native of Brazil, in the province of Minas Geraes. Melast. sessiliflòrum, Mart. herb. but not of Vahl. Calyx hemispherical, with 5 broad, small, permanent lobes. Petals obovate, emarginate. Anthers oblong, opening by 1 pore. Style filiform. Ovarium many-celled. Seeds angular.

Crowded-flowered Miconia. Shrub 6 feet.

9 M. BRACHY'PODA (D. C. l. c.) branches bluntly quadrangular, glabrous, villous, and bristly at the knots; petioles short, villous at the apex; leaves oval, attenuated at the base, acute, serrately ciliated, 3-nerved, besides the lateral nervules, pilose on the nerves on both surfaces, and beset with scattered dots of stellate down above; thyrse terminal, spicate, rather continuous. ♄. S. Native of St. Domingo. Melástoma cròceum, from Hispaniola, Spreng. syst. 2. p. 302. exclusive of the synonyms, and the country Peru. Leaves yellowish on the under surface.

Short-petioled Miconia. Shrub 6 feet.

10 M. RUFE'SCENS (D. C. l. c.) branchlets bluntly tetragonal, densely clothed with pili; leaves almost sessile, cordate at the base, ovate, crenulated, scabrous, rather tomentose, 5-nerved; thyrse spicate, terminal, densely clothed with pili; flowers crowded in something like whorls; the whorls distant. ♄. S. Native of Guiana, in fields. Melástoma ruféscens, Aubl. guian. t. 157. Perhaps belonging to a different section.

Rufescent Miconia. Shrub 6 to 9 feet.

SECT. II. ERIOSPHÆ'RA (from *εριον*, *erion*, wool, and *σφαιρα*, *sphaira*, a sphere; in reference to the flower-bud being globose, as well as being clothed with tomentum). D. C. prod. 3. p. 180. Hypoxánthus, Rich. herb. Flower-bud globose, tomentose. Tube of calyx nearly globose; limb very short. Berry globose. Leaves discoloured, glabrous above and tomentose beneath. Panicle terminal, hoary, with opposite branches, and having the flowers sessile and disposed in a secund manner along the branches, rarely crowded at the tops of the branches, or along a nearly simple rachis.

11 M. FU'LVA (D. C. l. c.) branches tetragonal, and are as well as the petioles, panicles, and under side of leaves clothed with whitish, rufescent, adpressed, rather stellate, lepidotted down; leaves opposite, or 3-4 in a whorl, elongated, hardly petiolate, attenuated at the base, and terminating in a long slender acumen at the apex, 3-nerved, glabrous above, with the margins bluntly and repandly crenated; panicle terminal, with its branches opposite or in whorls; rachis tetragonal. ♄. S. Native of Cayenne. Melástoma chrysophýlla, Rich. in act. soc. hist. nat. par. 1792. p. 109. but not of Desr. Melástoma fúlva, Rich. in Bonpl. mel. t. 11. Flower-buds small and globose. Leaves 7-8 inches long and an inch broad. Flowers white.

Var. β, *tinctòria* (Mart. herb. ex D. C. l. c.) branchlets somewhat 2-edged, and are as well as the petioles and under side of leaves clothed with whitish, rufescent, rather stellate, lepidotted, adpressed down; leaves opposite or 3 in a whorl, on short petioles, oblong, tapering to the base, and acuminated at the apex, rather repand, glabrous above in the adult state, 3-nerved, besides the 2 marginal nervules. ♄. S. Native of Brazil. Flowers and fruit unknown. Allied to var. α, but differs in the leaves being much less crenated, and in the branchlets being 2-edged, not tetragonal.

Fulvous Miconia. Shrub 4 to 6 feet.

12 M. LEPIDÒTA (D. C. l. c.) branchlets rather compressed, but at length becoming terete, and are as well as the petioles, panicles, and under side of leaves clothed with rather stellate, small, somewhat rufescent, lepidotted down; leaves petiolate, oval, acuminated, quite entire, 3-nerved, quite glabrous above; panicle many-flowered, terminal, rather loose. ♄. S. Native of Brazil, at Para and the Rio Negro, in woods. Melástoma lepidòtum, Schrank et Mart. mss. Leaves not truly lepidotted, but discoloured from almost imperceptible down. Fruit hardly the size of a large mustard-seed. Teeth of calyx obtuse, very short. Seeds angular. Flowers not seen.

Lepidotted Miconia. Shrub 2 to 3 feet.

13 M. ARGYROPHY'LLA (D. C. prod. 3. p. 181.) branches acutely tetragonal, and are as well as the petioles, panicles, and leaves clothed with white stellate down beneath; leaves petiolate, oval, acuminated, quite entire, glabrous above, 3-nerved, besides the marginal nervules; panicle terminal, raceme-formed; fruit globose, somewhat 10-ribbed. ♄. S. Native of Brazil, at the river Amazon. Melástoma argyrophýlla, Schrank et Mart. mss. Teeth of calyx 5, short, acute. Seeds 3-sided, smooth. Flowers unknown.

Silver-leaved Miconia. Shrub 1 to 2 feet.

14 M. FA'LLAX (D. C. l. c.) branches tetragonal, and are as well as the panicles and under side of leaves clothed with white stellate tomentum; leaves hardly petiolate, oblong, acuminated, coriaceous, quite entire, somewhat 5-nerved, obtuse and somewhat cordate at the base, glabrous and shining above; panicle terminal, elongated, having the flowers sessile and crowded on its branches. ♄. S. Native of Brazil, in the province of Bahia, in woods at the river Peruagua. Habit almost of *M. holoscricea*, but differs in the petioles being shorter, and in the leaves being destitute of dots on the upper surface

Fallacious Miconia. Shrub 6 to 8 feet.

15 M. STENOSTA'CHYA (D. C. l. c.) branches tetragonal, and are as well as the petioles and under side of leaves clothed with

white stellate down; leaves petiolate, oval, acuminated, obtuse at the base, glabrous above, quite entire, 7-nerved, and margined with a slender nerve; panicle terminal, rather spike-formed; having the flowers sessile along its branches. ♄. S. Native of the interior of Brazil. Melástoma stenostáchyum, Schrank et Mart. mss. This species comes very near *M. holosericea* in the flower-bud, but differs in the nerves of the leaves being 7, not 5, nor glandular on the upper surface.

Slender-spiked Miconia. Shrub 2 to 3 feet.

16 M. FERRUGINA´TA (D. C. l. c.) shrubby; branchlets thick, angular, and are as well as the panicles, petioles, and under side of leaves, densely clothed with stellate rather rufescent down; leaves petiolate, oblong, bluntish at both ends, coriaceous, quite entire, 5-nerved, glabrous on the upper surface; panicle terminal, elongated; flowers crowded on the short branches of the panicle; bracteas linear. ♄. S. Native of Brazil, in the provinces of Minas Geraes and Pernambucco. Melástoma ferrugíneum, Schrank et Mart. mss. Leaves when young clothed with stellate velvety down. Calyx rather truncate, with an obscurely 10-ribbed tube. Petals small, white. Fruit almost globose. Petioles rather angular.

Var. β, latifòlia (D. C. l. c.) leaves oval-oblong, acutish. ♄. S. Native of Brazil, in the province of Minas Geraes. Melástoma Plukenètii, Schrank et Mart. mss.

Rusty Miconia. Shrub 6 feet.

17 M. HERPE´TICA (D. C. l. c.) branches terete, and are as well as the petioles, panicles, and under side of leaves, as well as on the upper side of young leaves, densely clothed with stellate, rather rufescent, soft down; leaves petiolate, ovate, acuminated, entire, 5-nerved, or almost quintuple-nerved; panicle terminal, spike-formed: having the flowers crowded on its short branches. ♄. S. Native of Brazil, in mountain fields in the provinces of St. Paul and Minas Geraes. Melast. herpéticum, Schrank et Mart. mss. Nearly allied to *M. detergibilis*, but certainly distinct. Style longer than the stamens, not shorter as in *M. holosericea*.

Herpetic Miconia. Shrub 2 to 3 feet.

18 M. DETERGI´BILIS (D. C. l. c.) branches terete, and are as well as the panicles, under side of leaves, and upper side of the young leaves, densely clothed with soft, short, velvety tomentum; leaves petiolate, ovate-oblong, somewhat acuminated, entire, obtuse at the base, 5-nerved, at length glabrous above and minutely dotted; panicle terminal: having the flowers sessile, and crowded along its branchlets, and axillary. ♄. S. Native of Brazil, in the province of St. Paul, in elevated fields and woods. Melástoma detergíbile, Schrank et Mart. mss. Berry violaceous. Perhaps only a variety of *M. holosericea*, but the flowers are crowded on the shorter as well as on the younger branches, not regularly disposed, as in that plant.

Cleansing Miconia. Shrub 4 to 6 feet.

19 M. HOLOSERI´CEA (D. C. l. c.) branches terete, and are as well as the petioles, panicles, calyxes and under side of leaves, as well as the upper side when young, densely clothed with soft, velvety tomentum; leaves petiolate, oval-oblong, acute, obtuse and rather cordate at the base, 5-nerved, glabrous above but covered with very minute white dots; panicle terminal: having the flowers sessile and disposed in a secund manner along its branches. ♄. S. Native of the West Indies, Guiana, and Brazil. Melástoma holoserícea, Lin. spec. 566., but not of Swartz. Bonpl. mel. p. 52. tt. 23, 24. Melast. álbicans, Swartz, fl. ind. occ. 2. p. 786. ex Smith. Flower-buds and fruit globose. Petals white. Anthers oblong, having their connectives thickish and biauriculate at the base. Branches and leaves usually naked through the summer. Berry 3-4-celled, violaceous. Seeds cuneate, 3-sided.

Var. α, obtusiúscula (D. C. l. c. p. 182.) leaves ovate-oblong.

Var. β, acuminàta (D. C. l. c.) leaves elliptic-oblong, short-acuminated.

Var. γ, oblongàta (D. C. l. c.) leaves oblong, long-acuminated, somewhat crenulately repand. Melástoma, Schrank et Mart. mss. In Brazil, in the province of Goyaz.

Whole-silky Miconia. Shrub 3 to 6 feet.

20 M. ARGE´NTEA, (D. C. prod. 3. p. 182.) branches angular, hoary; leaves petiolate, ovate, short-acuminated, somewhat denticulated, 5-nerved, quite glabrous above, but white from tomentum beneath; panicles terminal, spreading; flowers very numerous, on short pedicels; calyx acutely 5-toothed. ♄. S. Native of the West Indies, on the Mosquito shore. Melástoma argéntea, Swartz, fl. ind. occ. 779. but not of Desr.—Sloane, jam. t. 196. f. 1. ex Swartz. Flowers white, decandrous. Berry subglobose.

Silvery Miconia. Shrub 6 feet.

21 M. SERIA´LIS (D. C. l. c.) branches terete, and are as well as the peduncles, outside of calyxes, under side of leaves, petioles and nerves on the upper side clothed with soft, white, velvety tomentum; leaves approximate, on short petioles, oblong, acuminated at both ends, triple-nerved, quite glabrous, and shining above; thyrse terminal, large, with its branches bifid, and bearing 1 flower in the bifurcation, the rest of the flowers sessile, and disposed in 1 series along the branches. ♄. S. Native of Brazil. A showy species. Lobes of calyx very blunt, glabrous inside.

Row-flowered Miconia. Shrub 6 to 8 feet.

22 M. PIPERICA´RPA (D. C. l. c.) branchlets from compressed to terete, and are as well as the petioles, panicles, and under side of leaves clothed with small, white, velvety, stellate down; leaves petiolate, oblong, acuminated, quite entire, triple-nerved, glabrous above; racemes simple, terminal; bracteas setaceous, under the pedicels. ♄. S. Native of Brazil, in woods. Gallàsia pipericárpa, Mart. herb. Fruit globose, hardly so large as a grain of pepper, a little ribbed. Limb of calyx wanting. Seeds 2-3, smooth, large, obtuse at one end and angular at the other, with a black hylum.

Pepper-fruited Miconia. Shrub 2 to 3 feet.

23 M. MELLI´NA (D. C. l. c.) branches nearly terete, and are as well as the rachis and petioles densely clothed with rufous, scaly, branched down; leaves petiolate, oblong, acuminated, attenuated at the base, 3-5-nerved, serrated on the upper part, densely clothed with stellate tomentum beneath, but at length glabrous above; panicles terminal: having the flowers crowded on the branches; lobes of calyx 5, short. ♄. S. Native of Brazil, in the provinces of Minas Geraes and St. Paul, in humid parts of woods. Melástoma mellinum, Schrank et Mart. mss. Petioles 3 lines long. Leaves 3 inches long, and an inch broad. Nearly allied to *M. herpética*.

Honey Miconia. Shrub 6 to 8 feet.

24 M. BRACTEOLA´TA (D. C. l. c.) branches somewhat tetragonal, and are, as well as the petioles, panicles, and young leaves on both surfaces, but in the adult ones only on the under, clothed with rufous stellate down; leaves petiolate, oblong, acuminated, quite entire, 3-nerved, glabrous on the upper surface in the adult state; thyrse spicate, crowded; bracteas linear, much exceeding the flower-bud. ♄. S. Native of South America, between Loxa and Caxamarca. Calyx bluntly 5-toothed. Petals 5, white. Capsule glabrous, 3-celled. Melástoma bracteolàta, Bonpl. mel. t. 62.

Bracteolate Miconia. Shrub 4 to 6 feet.

25 M. LEUCOCA´RPA (D. C. l. c.) branches bluntly tetragonal, and are, as well as the panicles and under side of leaves, clothed with very short granular stellate down; leaves almost sessile, broadly ovate, obtuse, coriaceous, quite entire, 5-nerved, glabrous above; panicle terminal, having the flowers sessile, and

crowded along its branchlets. ♄. S. Native of Brazil, in the elevated plains of Champadada Paranan. Melástoma leucocárpum, Mart. et Schrank, mss. Branches twisted. Berry white, globose. Seeds 3-sided, nearly globose.

White-fruited Miconia. Shrub 6 to 8 feet.

26 M. ELA'TA (D. C. l. c.) branches angularly furrowed, clothed with rusty tomentum; leaves petiolate, oblong, acute, serrulately denticulated, 5-nerved, glabrous above, and of an obscure green, but clothed with rusty tomentum beneath; flowers decandrous, panicled, crowded, sessile, small, white; calyx rather campanulate, minutely toothed; stigma thickened, depressed; berry minute. ♄. S. Native of Jamaica, on the higher mountains, and others of the West India islands. Melástoma elàta, Swartz, fl. ind. occ. 2. p. 781. Leaves from half a foot to a foot long.

Tall Miconia. Tree 30 to 40 ft.

27 M. FERRUGÍNEA (D. C. l. c.) branches terete; branchlets tetragonal, clothed with rusty tomentum; leaves ovate, acute, obsoletely crenated, and somewhat ciliated, 3-nerved, glabrous above, but clothed with rusty tomentum beneath, as well as the petioles; panicles terminal; flowers small, pedicellate. ♄. S. Native of St. Domingo. Melástoma ferrugínea, Desr. in Lam. dict. 4. p. 42. Leaves 3 inches long, and 15 lines broad. Corolla rather rose-coloured. Perhaps a variety of the preceding species.

Ferruginous Miconia. Shrub 8 to 10 ft.

28 M. RUBIGINÒSA (D. C. prod. 3. p. 183.) branchlets terete, and are, as well as the petioles and under side of leaves, densely clothed with rufous down; leaves on short petioles, ovate-lanceolate, somewhat cordate at the base, acuminated at the apex, 5-nerved, or nearly triple-nerved, smoo[illegible]d shining above; thyrse terminal, panicled; calyx globose, with 5 short acutish teeth. ♄. S. Native of South America, on Mount Quindiu. Melástoma rubiginòsa, Bonpl. mel. t. 47. Berry blue, 3-celled. Petals 5, white. Anthers linear, opening by a pore.

Rusty Miconia. Shrub 12 feet.

29 M. CÆLA'TA (D. C. l. c.) branchlets terete, woolly; leaves lanceolate, 3-nerved, and as if they were blistered on the upper surface and glabrous, clothed with rusty wool beneath; flowers crowded, almost sessile; calyx globose, with 5 short teeth, quite glabrous; stamens length of corolla; thyrse straight, longer than the stamens, crowned by a thickish stigma; berry globose, 4-celled. ♄. S. Native of South America, on the cold mountains of Saragura near Loxa. M. cælàta, Bonpl. mel. t. 6. Flowers white.

Engraved-leaved Miconia. Shrub 10 feet.

30 M. BIGLOMERA'TA (D. C. l. c.) branches terete, and are, as well as the petioles, rachis, and nerves of leaves, clothed with small rufous velvety stellate down; leaves lanceolate, acute, 3-nerved, besides the marginal nervules, quite entire, reticulated beneath, and covered with rufous velvety down; thyrse terminal; flowers almost sessile, crowded in whorls; two of the whorls distant. ♄. S. Native of South America, on Mount Duida, at the source of the Orinoco. Melástoma biglomeràta, Bonpl. mel. t. 15. Calyx obovate, velvety, with 5 very blunt teeth. Petals 5, white, small. Berry crowned, 4-celled.

Biglomerate-flowered Miconia. Shrub 6 to 8 feet.

31 M. APLOSTA'CHYA (D. C. l. c.) branches terete; leaves lanceolate, quite entire, 3-nerved, glabrous above, clothed with very fine rufous tomentum beneath; spike terminal, very simple; flowers sessile, decandrous; petals obovate; genitals equal in length to the corolla; anthers rather falcate; berry globose, 3-celled, crowned by the calyx. ♄. S. Native of South America, near the river Orinoco about Atures and Maypures. Leaves like those of *Nèrium Oleánder*. Melástoma aplostàchya, Bonpl. mel. t. 1. Flowers white.

Simple-spiked Miconia. Shrub 4 feet.

SECT. III. EUMICÒNIA (from *eu*, well or good, and *Micònia*; this section contains what are supposed to be the genuine species of the genus). D. C. prod. 3. p. 183. Tube of calyx obovate or turbinate, not globose as in the last section. Flowers not disposed in rows along the branches of the panicle.

* *Leaves sessile, 5-7-nerved.*

32 M. IMPETIOLA'RIS (D. Don, in wern. soc. mem. 4. p. 315.) branches nearly terete, and are, as well as the panicles and under side of leaves, clothed with rufous stellate down; leaves sessile, half stem-clasping, ovate, rather cordate at the base, acuminated at the apex, quite entire, 5-nerved, glabrous above; thyrse panicled, terminal; flowers sessile; calyx globose, with 5 very short teeth. ♄. S. Native of the West Indies, Guadaloupe, St. Domingo, Jamaica, &c. Melástoma impetiolàris, Swartz, fl. ind. occ. p. 788. Rich. in Bonpl. mel. t. 29. Melast. macrophy'lla, Desr. in Lam. dict. 4. p. 44. Berry blue, globose, 3-4-celled. Petals 5, white, orbicular. Anthers biauriculate at the base of the connectives.

Impetiolar-leaved Miconia. Clt. 1822. Shrub 4 to 6 ft.

33 M. IMPETIGINÒSA (D. C. l. c.) branches terete, and are, as well as the rachis, densely clothed with bristles, intermixed with stellate down; leaves sessile, broadly ovate, acuminated, somewhat crenulated, 5-nerved, scabrous from stellate down on both surfaces, netted, the veins elevated beneath, and impressed above; spikes terminal; flowers sessile, bracteate, crowded in distant opposite fascicles. ♄. S. Native of Brazil, at the Rio Negro. Melástoma impetiginòsum, Mart. herb. Calyx very villous, with short lobes. Petals small, oval. Anthers long, opening by one pore, each with a slender biauriculate connective. Style filiform. Inflorescence that of *Leándra*.

Scabby Miconia. Shrub 4 to 6 feet.

** *Leaves cuneated at the base, almost sessile, triple-nerved.*

34 M. TOMENTÒSA (D. Don, l. c.) branches terete, and are, as well as the panicles, calyxes, and under surface of leaves, densely clothed with rufous stellate down; leaves sessile, oval, cuneated at the base, acuminated at the apex, quite entire, glabrous on the upper surface except the nerves, 3-nerved a great way above the base, besides the submarginal nervule; panicle terminal, nearly cylindrical; calyx ovate-urceolate, with 5 erect short permanent ovate lobes. ♄. S. Native of Guiana and Brazil, in woods. Melástoma tomentòsa, Rich. in act. soc. hist. nat. par. p. 109. Bonpl. mel. t. 16. Melast. megalophy'llum, Mart. herb. Flowers white.

Tomentose Miconia. Tree 14 to 15 ft.

35 M. BRU'NNEA (D. C. prod. 3. p. 184.) branches bluntly somewhat tetragonal, and are, as well as the panicles and under surface of leaves, densely clothed with rather bristly short rufous down; leaves almost sessile, ovate, rather cuneated at the base, acutish at the apex, glabrous on the upper surface in the adult state, 3-nerved above the base, besides the submarginal nervule; panicle terminal, with its branches spreading; calyx somewhat urceolate: with its lobes short, obtuse, and cohering. ♄. S. Native of Brazil, in the province of St. Paul, in woods. Melástoma brúnneum, Mart. herb. Flowers sessile, crowded along the branches. Anthers linear, opening by one pore, tapering to the base. Style filiform. The foliage is like that of *M. tomentòsa*.

Brown Miconia. Shrub 6 to 10 ft.

36 M. ALA'TA (D. C. prod. 3. p. 184.) branches tetragonal, having the angles winged, and are, as well as the panicles, under side of leaves, and nerves on the upper surface, clothed with short stellate rather scabrous down; leaves sessile, cuneated at

the base, oval, acute, puberulous above from short scattered simple down, triple-nerved; nerves rising from about the fifth part of the length; panicle terminal, much branched; branches opposite. ♄. S. Native of Guiana; and of Brazil, as in Maranham, provinces of St. Paul and Rio Janeiro. Melástoma alàta, Aubl. guian. 1. p. 410. t. 158. Clidèmia alàta, G. Don, in Loud. hort. brit. p. 174. Leaves large. Lobes of calyx short, blunt. Style long, filiform. Fruit hardly baccate. Flowers white.

Var. β, *Amazónica* (Schrank, mss.) leaves broadly ovate, abruptly cuneated at the base. ♄. S. Native of Brazil, on the banks of the Amazon.

Winged-stemmed Miconia. Shrub 3 to 4 ft.

37 M. CINCHONÆFÒLIA (D. C. l. c.) branches terete, and are, as well as the petioles, nerves of leaves, peduncles, and calyxes, densely clothed with rufous stellate tomentose down; leaves petiolate, oval, quite entire, triple-nerved, glabrous above except on the nerves, but velvety beneath; raceme terminal, simple, spicate: tube of calyx oblong, a little longer than the 5 oblong lobes. ♄. S. Native of Brazil, in dense woods in wet places at the river Tapura. Melástoma cinchonæfòlium, Mart. herb. M. leucándrum, Schrank, mss. Leaves 8-10 inches long, and 2-3 broad. Anthers oblong, with hardly evident connectives. Peduncles usually bearing 3 approximate sessile flowers each. Style filiform, longer than the stamens. Petals linear, white. Seeds small, trigonal, with a linear hylum.

Cinchona-leaved Miconia. Shrub 6 to 10 feet.

38 M. SPONDYLA'NTHA (D. C. l. c.) branches terete, and are, as well as the petioles, covered with adpressed villi; leaves on short petioles, broad-lanceolate, cuneated at the base, acuminated, villous beneath, but only on the nerves on the upper surface, the rest being beset with scattered pili, quite entire, quintuple-nerved, with the nerves distant; thyrse racemose, terminal, nearly simple; peduncles short, very hairy, 3-flowered; tube of calyx globose, bluntly 10-ribbed. ♄. S. Native of Brazil, on the edges of woods, at Ega and Coari; and of French Guiana. Melástoma spondylánthum, Mart. herb. Leaves 9-10 inches long. Flowers unknown. Fruit the size of a coriander seed. Seeds numerous, small, trigonal, with a linear hylum.

Club-flowered Miconia. Shrub 6 to 10 feet.

39 M. DÍSCOLOR (D. C. l. c.) branchlets compressed, at length terete, when young, as well as on the under side of leaves, beset with silvery scale-like dots; leaves oval-oblong, cuneated, sessile, quintuple-nerved, quite entire, glabrous above; thyrse terminal, lepidotted when in a young state, but glabrous in the adult state, as well as the calyxes; fruit ovate, a little striated. ♄. S. Native of Brazil, near Rio Janeiro. This species appears to be intermediate between the second and third sections of the genus, agreeing in the silvery down with *M. argyrophýlla*, and in the form of the leaves with *M. tomentòsa*.

Two-coloured-leaved Miconia. Shrub 4 to 6 ft.

40 M. PUNCTA'TA (D. Don, in soc. wern. mem. 4. p. 315.) branches tetragonal, and are, as well as the peduncles, petioles, and under side of leaves, clothed with small rufous purplish down; leaves on short petioles, oblong-lanceolate, acuminated at both ends, quite entire, triple-nerved, glabrous above, but rusty and dotted beneath; thyrse terminal, panicled; calyx globose, usually 5-toothed. ♄. S. Native of the West Indies, in mountain woods. Melástoma punctàta, Desr. in Lam. dict. 4. p. 50. Rich. in Bonpl. mel. t. 40. Berry 3-celled, few-seeded. Petals 5, white, rather orbicular.

Dotted Miconia. Shrub 4 to 8 ft.

* * * *Leaves on short petioles, disposed in whorls.*

41 M. LONGIFÒLIA (D. C. l. c.) branchlets 8-ribbed, but at length becoming terete, and when young, as well as the petioles and peduncles, covered with rather scabrous stellate down; leaves on short petioles, oblong, attenuated at both ends, almost triple-nerved, glabrous above, but covered with small dot-like down beneath; panicle terminal, branching, immediately above the ultimate whorl of leaves; its branches angular, also disposed in whorls; calyx rather scabrous from stellate down, with 5 very short teeth. ♄. S. Native of Cayenne, on the banks of rivulets; and of Brazil, in woods at the river St. Francisco. Melástoma longifòlia, Aubl. guian. 1. p. 432. t. 170. Flowers white.

Long-leaved Miconia. Clt. 1817. Shrub 4 to 6 ft.

42 M. LAMBERTIA'NA (D. C. prod. 3. p. 185.) branchlets 8-ribbed, and are, as well as the petioles and peduncles, rather scabrous from scattered stellate down, but at length becoming terete and glabrous; leaves on short petioles, oblong, attenuated at both ends, quite entire, 3-nerved, glabrous above, beset with dots of stellate down beneath; panicle terminal, pedunculate, much branched, with its axis tetragonal, and its branchlets angular and in whorls; calyx scabrous from stellate down, with 5 short hardly evident teeth. ♄. S. Native of the Island of St. Vincent. Anthers linear, biauriculate at the base, and opening by one pore at the apex. Style filiform. Fruit unknown. This species differs from *M. longifòlia* in there being an interval between the ultimate whorls of leaves, and the branches of the panicle, and in the flowers being smaller.

Lambert's Miconia. Shrub 4 to 6 ft.

* * * * *Leaves petiolate, opposite, 3-5-nerved.*

43 M. CALVE'SCENS (D. C. l. c.) branches nearly terete, and are, as well as the petioles, panicles, and calyxes, white from short crowded st[illegible] down, which at length falls off; leaves petiolate, oval, abruptly and shortly acuminated, crenated, obtuse at the base, triple-nerved, besides the marginal nervules, having the nerves rising near the base; when young velvety, but glabrous in the adult state except the nerves; panicle terminal, dense, many-flowered, having the flowers crowded on its branchlets. ♄. S. Native of Brazil, in the province of Rio Negro. Melástoma calvéscens, Schrank et Mart. mss. Allied to *M. auriculàta.*

Naked Miconia. Shrub 4 to 6 ft.

44 M. ERIODÓNTA (D. C. l. c.) branchlets bluntly tetragonal, and are, as well as the petioles and panicles, clothed with short rather rufescent hoary tomentose down; leaves petiolate, ovate, obtuse at the base, short-acuminated at the apex, quite entire, 3-nerved, besides the two marginal nervules, quite glabrous above, rather purplish on the nerves beneath; thyrse terminal, rather racemose, with its branchlets bearing 5 or 6 flowers at the apex; fruit globose, 5-furrowed, pubescent; teeth of calyx 5, short, woolly, conniving above the ovarium. ♄. S. Native of Cayenne. Fruit the size of a small pea, probably dry. Seeds angular, with a linear hylum.

Var. β, *oblongifòlia* (D. C. l. c.) leaves oblong. ♄. S. Native of Cayenne.

Hairy-toothed-calyxed Miconia. Shrub 4 to 6 ft.

45 M. AURICULA'TA (D. C. l. c.) branches terete, and are, as well as the panicles, clothed with rufous stellate down, intermixed with bristles; leaves on short petioles, cuneated at the base, curled, oval-oblong, acuminated, ciliately serrated, scabrous on both surfaces from down, which is for the most part simple, quintuple-nerved, besides the submarginal nervules, having the upper nerves rising a little above the base; panicles terminal, having the flowers crowded on the tops of its branches. ♄. S. Native of Brazil, in the province of St. Paul. Melástoma auriculàtum, Mart. herb. Calyx hairy, with 5 short blunt lobes. Petals obovate. Anthers linear, bluntly auricled at the base, opening by one pore at the apex. Style filiform, exserted,

rather dilated at the apex, almost funnel-shaped. Leaves 4 inches long, and 1½ or 2 broad.

Var. β, theæfórmis (D. C. l. c.) leaves paler beneath; branches less hairy. ♄. S. Native of Brazil, in the province of Bahia. Melástoma theæfórme, Schrank et Mart. mss. Leaves a little smaller than those of the species, but similar in form, the branches and panicles less hispid, but more tomentose, without being intermixed by bristles.

Auricled-anthered Miconia. Shrub 4 to 6 ft.

46 M. SEPIA'RIA (D. C. l. c.) branches from compressed to terete, and are, as well as the panicles, whitish from small down, but at length becoming glabrous; leaves hardly petiolate, oval, tapering much to both ends, quintuple-nerved, almost quite entire, glabrous on both surfaces, but with the base of the nerves rather velvety; panicle terminal, oppositely branched; bracteas small; calyx covered with scattered stellate down, with 5 very short teeth. ♄. S. Native of Brazil, in hedges. Melástoma sepiàrium, Mart. herb. Anthers biauriculate at the base, opening by a pore at the apex.

Hedge Miconia. Shrub 4 to 6 ft.

47 M. COLLI'NA (D. C. l. c.) quite glabrous; branchlets rather furrowed, but at length becoming terete; leaves oval, attenuated at the base, acuminated at the apex, triple-nerved, besides the two marginal nervules, with repand margins; panicle terminal, oppositely branched; bracteas small; teeth of calyx 5, obtuse, hardly evident. ♄. S. Native about Porto Rico, in woods on the hills. Petals obovate, small, apparently yellow, spotted with red in the dried state. Anthers linear, opening by one pore, biauriculate at the base. Stigma hardly dilated. Melástoma acuminàta, Balb. herb. Melast. parviflòra, Vahl. herb.

Hill Miconia. Shrub 4 to 6 ft.

48 M. MARTIUSIA'NA (D. C. prod. 3. p. 186.) glabrous; branches from tetragonal to terete; leaves petiolate, ovate-lanceolate, acute, coriaceous, quite entire, 3-nerved, besides the marginal nervules, shining above; panicle terminal: with its branchlets opposite and bearing many flowers at their tops, and knotted at their origin; calycine teeth 5, obtuse, very short. ♄. S. Native of Brazil. Melástoma Martiànum, Schrank, mss. Petals obovate, reflexed. Anthers linear, biauriculate at the base, and opening by one pore at the apex. Style filiform. Stigma hardly dilated. Fruit unknown.

Martius's Miconia. Shrub 4 to 6 ft.

49 M. MAXIMILIA'NA (D. C. l. c.) branches from compressed to terete, and are, as well as the petioles and peduncles, covered with short stellate down, intermixed with a few bristles, but at length becoming glabrous; leaves on short petioles, oval-acuminated, serrulately ciliated, quintuple-nerved, rather bristly on both surfaces, and pale beneath; panicle terminal. ♄. S. Native of Brazil. Melástoma Maximiliànum, Mart. herb. Calyx beset with scattered stellate down, with 5 broad very short teeth. Petals obovate, yellow when dry. Stigma dilated, rather pilose. Anthers linear, biauriculate at the base, and opening by one pore at the apex.

Prince *Maximilian's* Miconia. Shrub 4 to 6 ft.

50 M. LOXE'NSIS (D. C. l. c.) branches nearly terete, and are, as well as the petioles, peduncles, and nerves of leaves on the under surface, clothed with thick flocky curled down; leaves petiolate, oval, hardly obtuse at the base, short-acuminated at the apex, setaceously denticulated, 3-nerved, smoothish beneath except on the nerves; thyrse panicled, terminal, crowded; calyx almost globose, bluntly and shortly 5-toothed. ♄. S. Native of Peru, in temperate places about Loxa. Melástoma Loxénsis, Bonpl. mel. t. 43. Berry blue, 3-celled. Style nearly clavate. Petals 5, roundish, white.

Loxa Miconia. Shrub 5 ft.

51 M. UROPHY'LLA (D. C. l. c.) branches terete, and are, as well as the petioles, clothed with powdery tomentum; leaves petiolate, oblong, quite entire, triple-nerved, clothed with velvety tomentum beneath, but glabrous above, each terminating in a long narrow taper-point; panicle terminal, many-flowered; tube of calyx globose, 10-ribbed; the limb deciduous; fruit dry, 3-celled, few-seeded. ♄. S. Native of Brazil, in the provinces of Minas Geraes and St. Paul. Rhéxia caudàta, Schrank et Mart. mss. Flowers unknown. Pericarp very thin, and perhaps adnate to the calyx. Seeds about 15, shining, triangular, with a long linear black hylum.

Tail-leaved Miconia. Shrub 1 to 2 ft.

52 M. PAU'CIDENS (D. C. l. c.) branchlets terete, and are, as well as the petioles, nerves of leaves on the under side, peduncles, and calyxes, rather velvety, or dotted from scattered small stellate down; leaves oblong, attenuated at the base, acuminated at the apex, with a very few teeth on the margin, smoothish, 3-nerved; thyrse panicled, terminal; fruit globose, bluntly 10-ribbed. ♄. S. Native of Para, in Brazil. Melástoma paúcidens, Schrank et Mart. herb. The serratures are few, and acute at the apex of the leaves.

Few-toothed-leaved Miconia. Shrub 4 to 6 ft.

53 M. CAUDI'GERA (D. C. l. c.) branchlets rather compressed, and are, as well as the petioles, panicles, and under side of leaves, velvety from very minute stellate down; leaves petiolate, oval, 3-nerved, quite entire, glabrous above, each terminating in a long narrow taper-point; panicles terminal, short, having the flowers crowded on its branchlets. ♄. S. Native of Brazil, in shady places in the province of Bahia, near Sincora. Melástoma caudàtum, Schrank et Mart. mss. Petals oval-oblong, white. Nearly allied to *M. caudàtum*, but differs in the leaves being nearly twice the breadth, and in being smooth above.

Tail-bearing-leaved Miconia. Shrub 4 to 6 ft.

54 M. GUAYAQUILE'NSIS (D. Don, in mem. soc. wern. 4. p. 315.) branchlets from tetragonal to terete, and are, as well as the petioles and calyxes, clothed with purplish rather powdery down; leaves on short petioles, oval, bluntly somewhat cordate at the base, acute at the apex, 5-nerved, a little toothed, glabrous; thyrse terminal, panicled; flowers tern, rather aggregate, nearly sessile; calyx bluntly 5-toothed. ♄. S. Native about Guayaquil. Melástoma Guayaquilénsis, Bonpl. mel. t. 49. Petals 5, oval, white. Anthers bluntly biauriculate at the base. Leaves half a foot long. Berry 3-celled, crowned by the limb of the calyx.

Guayaquil Miconia. Shrub 8 to 10 ft.

55 M. ATTENUA'TA (D. C. l. c.) branchlets bluntly tetragonal, and are, as well as the peduncles and petioles, smoothish; leaves on short petioles, oval-oblong, attenuated at both ends, triple-nerved, besides the 2 fine marginal nervules, quite entire, glabrous on both surfaces; thyrse panicled, terminal, with its branchlets spreading; calyx rather velvety; limb with 5 very short teeth. ♄. S. Native of Cayenne. M. parviflòra, Aubl. guian. t. 171. ? but the flowers are one-half smaller in the figure than in the specimen. Flowers white.

Var. β, subquintuplinérvia (D.C. l. c.) leaves almost quintuple-nerved; the nerves are more distinct, especially the 2 marginal ones. ♄. S. Native of Berbice. Berry small, globose, bluntly costate; calyx almost truncate, hardly 5-toothed.

Attenuated-leaved Miconia. Shrub 4 to 6 feet.

56 M. CAUDA'TA (D. C. prod. 3. p. 187.) branches tetragonal, and are, as well as the panicles, hardly velvety, even when examined through a lens; leaves petiolate, ovate, long-acuminated, quite entire, 5-nerved; the outer nerves almost marginal, glabrous above, but clothed with adpressed rusty velvety down beneath; panicle terminal, divaricately and oppositely branched; bractéoles small, deciduous. ♄. S. Native of New Granada, between Mariquita and St. Anna. Melástoma caudàta, Bonpl.

mel. t. 7. Calyx bluntly 5-lobed. Anthers long, falcate. Style hairy at the base; stigma hardly tumid. Flowers rose-coloured. Different from Chitònia caudàta, D. Don.

Tailed-leaved Miconia. Shrub 6 to 12 ft.

57 M. STAMI'NEA (D. C. l. c.) branches compressedly tetragonal, and are, as well as the panicles and young leaves, velvety from short stellate down, but at length becoming glabrous from the down falling off: leaves petiolate, obtuse at the base, oval, acutish, quite entire, 5-nerved, besides the submarginal nervules; branches of the panicle, which is terminal, opposite, 7-9-flowered; bracteas oblong-linear, shorter than the calyx; petals oblong, glabrous; stigma dot-formed. ♄. S. Native of Brazil, in the province of Rio Janeiro, in woods on the mountains. Melástoma staminea, Desr. in Lam. dict. 4. p. 53. Melástoma glabréscens, Schrank et Mart. mss. Calyx tubular, velvety, with a 5-toothed limb; teeth ovate, acutish. Anthers biauriculate at the base.

Var. β, *oblongàta* (D. C. l. c.) leaves oval-oblong. ♄. S. Native of Brazil, in the province of Bahia.

Long-*stamened* Miconia. Shrub 4 to 6 ft.

58 M. AFFÌNIS (D. C. l. c.) branches bluntly tetragonal, and are, as well as the petioles and panicles, rather canescent from almost imperceptible stellate down; leaves oval, obtuse at the base, short-acuminated at the apex, 5-nerved, quite entire, or hardly repand, glabrous above, but beset with scurf on the nerves beneath, and with dot-like down between the nerves; thyrse panicled, terminal, with spreading branches; limb of calyx very short, 5-toothed. ♄. S. Native of Cayenne. This species is difficult to distinguish from *M. staminea*, but differs from it, besides the characters given, in the flowers being one-half smaller, in the limb of the calyx being drawn out less, in the petals being oblong and obtuse, and in the fruit being without ribs, and tapering a little to the apex.

Allied Miconia. Shrub 4 to 6 feet.

59 M. SUBCILIA'TA (D. C. l. c.) branches bluntly tetragonal, and are, as well as the panicles and leaves, glabrous, or when young covered with rather flocky deciduous down; leaves on long petioles, oval, acuminated, obtuse at the base, 5-nerved, with the margins furnished with a few distant crenulæ and ciliæ; panicle oblong, terminal; bracteas oblong, small, shorter than the calyx; calyx somewhat obconical, shortly 5-toothed: petals oblong, rather velvety; stigma dot-formed. ♄. S. Native of Brazil, in woods along the banks of the Rio Negro. Melástoma lævigàtum et M. prócerum, Mart. et Schrank, mss. but not of Willd. Anthers linear. There is a circle of hairs round the peduncles at the base.

Subciliated Miconia. Tr. 12 to 20 ft.

60 M. CORONA'TA (D. C. l. c.) branches acutely tetragonal, and are, as well as the panicles, petioles, and under side of leaves, clothed with powdery down; leaves petiolate, broad-oval, quintuple or septuple-nerved, quite entire, terminating each in a short acumen; panicle terminal, pyramidal; bracteoles small, deciduous; tube of calyx globose, crowned by a 5-toothed limb. ♄. S. Native of South America, on Mount Quindiu. Melástoma coronàta, Bonpl. mel. t. 56. Petals 5, white, oblong. Stigma rather peltate. Berry size of a small pea.

Crowned Miconia. Tree 10 to 20 ft.

61 M. PENDULIFÒLIA (D. C. l. c.) branchlets terete, and are, as well as the petioles, panicles, and under side of leaves, rather velvety from powdery down; leaves petiolate, ovate-lanceolate, acute, 3-nerved, somewhat denticulated, pendulous, glabrous above; panicle terminal, somewhat racemose; bracteoles small, subulate; calyx with 5 very short teeth. ♄. S. Native of Guadaloupe, in woods. Melástoma pendulifòlia, Bonpl. mel. t. 35. Petals 5, white, obovate. Anthers linear. Stigma hardly thicker than the style. Ovarium 3-celled.

Pendulous-leaved Miconia. Shrub 4 to 8 ft.

62 M. HAVANE'NSIS D. C. prod. 3. p. 188.) glabrous; branchlets terete; leaves petiolate, oblong, acuminated, 3-nerved, quite entire, pendulous; panicle terminal, racemose; bracteoles wanting or very small, and deciduous; limb of calyx shortly and bluntly 5-toothed; petals 5, oblong. ♄. S. Native of Cuba, about the Havanah. Very like *M. pendulifòlia*, but differs in the margins of the leaves being quite entire, in the petals being oblong, and in the smoothness of the whole plant. Flowers white. Anthers linear. Stigma hardly dilated.

Havanah Miconia. Shrub 4 to 6 ft.

63 M. PYRAMIDA'LIS (D. C. l. c.) branchlets compressed, and are, as well as the petioles, panicles, and under side of leaves, but especially on the nerves, clothed with flocky scurfy down; leaves oblong-lanceolate, acuminated, 3-nerved, besides the 2 marginal nervules, somewhat denticulated; thyrse panicled, terminal; fruit bluntly ribbed, crowned by the calyx, which is somewhat repand and bluntly 5-toothed. ♄. S. Native of the West India Islands, Guadaloupe, Trinidad, Cuba, &c. Melástoma pyramidàlis, Desr. in Lam. dict. 4. p. 53. Flowers white. Perhaps the same as Melástoma acinodéndron, Lin. spec. 558.? —Pluk. alm. t. 159. f. 1.

Var. β, *ciliolàta* (D. C. l. c.) leaves ciliated at the base, toothed at the apex. ♄. S. Native of Porto Rico, Guadaloupe, and Trinidad. Melástoma Portoricénse, Spreng. neue. entd. 3. p. 61.

Var. γ? *sphærocárpa* (D. C. l. c.) leaves toothed, without ciliæ; fruit globose, crowned by the 5 lobes of the calyx, without any tube. ♄. S. Native on the banks of the Orinoco. Melástoma pyramidàlis, Bonpl. mel. t. 21. Chitònia pyramidàlis, G. Don, i[illegible]. hort. brit. p. 174. Perhaps a proper species.

Pyramidal Miconia. Clt. 1817. Shrub 4 to 8 ft.

64 M. NICOTIANÆFÒLIA (D. C. l. c.) branchlets from compressed to terete, and are, as well as the petioles, panicles, and calyxes, clothed with powdery pruinose small down; leaves petiolate, oval, acuminated, denticulated, 5-nerved, glabrous in the adult state; thyrse panicled, terminal; limb of calyx bluntly 5-toothed, broader than the tube. ♄. S. Native of St. Domingo. Melástoma nicotianæfòlia, Desr. in Lam. dict. 4. p. 53. ex herb. mus. par. Bracteoles 2, small, acute, under each flower. Petals 5, oval, obtuse. Anthers linear, curved, obtuse, opening by a pore at the apex, and bluntly biauriculated at the base. Style filiform. Leaves 6 inches long, with the nerves yellow above. Perhaps the Melástoma acinodéndron of Lin.

Tobacco-leaved Miconia. Shrub.

65 M. FLORIBU'NDA (D. C. l. c.) branches bluntly tetragonal, and are, as well as the petioles, nerves of leaves on the under surface, and calyxes, rather velvety from rusty powdery down; leaves petiolate, oval, acutish at both ends, quite entire, septuple-nerved, glabrous above; panicle terminal, much branched, loose; bracteoles wanting or deciduous; calyx with 5 short teeth. ♄. S. Native of Peru, on the mountains in temperate parts. Melástoma floribúnda, Bonpl. mel. t. 53. Petals rose-coloured, oval, truncate at the base. Filaments beset with glandular hairs at the apex. Anthers thick. Stigma broadly peltate. Berry 5-celled. From the anthers and the form of the stigma, this plant does not well accord with the other species of this genus.

Bundle-flowered Miconia. Tree 20 to 30 ft.

66 M. LÆVIGA'TA (D. C. l. c.) branchlets terete, and are, as well as the petioles and peduncles, rather velvety from short stellate down, but at length becoming glabrous; leaves petiolate, oval, obtuse at the base, acuminated at the apex, ciliately serrated, 5-nerved, glabrous on both surfaces; cyme panicled, trichotomous at the base, terminal; branches of cyme

bifid; flowers sessile, secund along the branches, and with a solitary one in each fork; calyx nearly globose, bluntly 10-ribbed, with 5 short obtuse bent in lobes. ♄. S. Native of the West Indies. Melástoma lævigàta, Desr. in Lam. dict. 4. p. 52. Flower-bud small, nearly globose, velvety. Capsule globose, 5-celled, umbilicate from the calyx, and adhering to it. Seeds ovate, shining, with a basilar black hylum. Ker. bot. reg. t. 363. Flowers whitish.

Smooth Miconia. Clt. 1815. Shrub 6 to 8 ft.

67 M. TRICHÓTOMA (Desr. in Lam. dict. 4. p. 53.) branchlets nearly terete, and are, as well as the petioles and panicles while young, rather velvety from short down, but at length becoming glabrous; leaves petiolate, broadly oval, short-acuminated, 3-5-nerved, glabrous on both surfaces in the adult state; panicle corymbose, trichotomous, many-flowered, much branched; fruit globose, bluntly 10-ribbed. ♄. S. Native of Martinique. Melástoma trichótoma, Desr. in Lam. dict. 4. p. 53. Seeds ovate, angular, with a black hylum. A congener of *M. lævigàta*. Compare it with Melástoma nígricans, Vahl. ecl. 3. p. 26. ex Ser.

Trichotomous-panicled Miconia. Shrub 4 to 6 ft.

68 M. PRA'SINA (D. C. l. c.) glabrous; branchlets somewhat tetragonal; leaves petiolate, broad-lanceolate, quite entire, triple-nerved, glabrous on both surfaces; thyrse panicled, terminal, with spreading filiform branches; teeth of calyx 5, erect, short, permanent. ♄. S. Native of Jamaica and Hispaniola, in woods. Melástoma prásina, Swartz, fl. ind. occ. p. 777. exclusive of the synonyme of Aubl. This plant differs from the figure given by Aublet, now M. microcárpa, in the leaves being triple-nerved, not 5-nerved, quite entire, not somewhat denticulated, in being glabrous on both surfa[illegible]ot velvety on the under surface, and in the teeth of the calyx being permanent, not deciduous, &c.

Leek-green Miconia. Clt. 1817. Shrub 4 to 6 ft.

69 M. MICROCA'RPA (D. C. prod. 3. p. 189.) branchlets bluntly tetragonal, but at length becoming terete, and are, as well as the panicles, petioles, and nerves of leaves on the under surface, velvety from almost imperceptible stellate down; leaves petiolate, ovate-lanceolate, acuminated, somewhat attenuated at the base, 5-nerved, repandly denticulated, glabrous above, but beset with scattered dot-like down between the nerves on the under surface; thyrse panicled, terminal, much branched, loose; fruit globose, bluntly 10-ribbed; limb of calyx deciduous, very short, toothed, truncate. ♄. S. Native of Brazil, in woods in the provinces of Para and Rio Negro; and probably of Guiana, if M. lævigàta, Aubl. guian. 1. p. 412. t. 59. is referrible to this species, which is most likely the case. Flowers white.

Small-fruited Miconia. Shrub 4 to 6 ft.

70 M. AMBÍGUA (D. C. l. c.) branchlets terete, glabrous? leaves petiolate, oblong-oval, acuminated, acute at the base, 5-nerved, somewhat denticulately serrated, membranous, powdery on the nerves beneath; thyrse terminal, panicled, loose-flowered, powdery; limb of calyx 5-toothed, permanent. ♄. S. Native of South America, in Cumana, at Caripe. Melástoma ambígua, Bonpl. mel. t. 25. Petals 5, white, roundish. Berry globose, 3-celled. The teeth of the calyx are connivent above the ovarium after flowering.

Ambiguous Miconia. Shrub 6 ft.

71 M. CEANOTHÌNA (D. C. l. c.) branchlets from compressed to terete, and are, as well as the petioles, panicles, and nerves of leaves, and both surfaces of leaves while young, clothed with small flocky velvety stellate down; leaves petiolate, ovate-lanceolate, acuminated, obtuse at the base, almost quite entire, glabrous above in the adult state, 3-nerved, besides the 2 marginal nervules; thyrse panicled, terminal; berries globose, usually 10-ribbed, crowned by 5 obtuse conniving teeth. ♄. S. Native of Guadaloupe, Trinidad, Cuba, &c. Nearly allied to *M. ambígua*. Flowers white.

Ceanothus-like Miconia. Shrub 4 to 6 ft.

72 M. MINUTIFLÒRA (D. C. l. c.) quite glabrous; branches nearly terete; leaves petiolate, lanceolate, quite entire, 5-nerved, membranous; thyrse terminal, panicled, loose; calyx short, campanulate, hardly 5 crenate. ♄. S. Native of Cumana, near the monument called Guacharo. Melástoma minutiflòra, Bonpl. mel. t. 22. Calyx nearly entire. Flowers minute, white; petals roundish. Ovarium nearly free, 3-celled. According to Bonpland's figure the nerves are rufescent beneath, and probably from down.

Minute-flowered Miconia. Shrub 6 ft.

73 M. CORIA'CEA (D. C. l. c.) branches tetragonal, and are, as well as the petioles and nerves of leaves, beset with simple hairs, which are rather glandular at the apex, intermixed with rough minute fascicles of down; leaves petiolate, oval, callously serrated, coriaceous, terminating in a stiff point, wrinkled, smoothish, with revolute margins; thyrse terminal, panicled, with crowded flowers, having its branches and rachis tetragonal; calyx turbinate, with obtuse permanent lobes, which are furnished with one bristle each on the outside. ♄. S. Native of Guadaloupe, on the top of the Sulphur Mountain. Melástoma coriàcea, Swartz, fl. ind. occ. p. 790. Melast. cymbifòlia, Rich. in Bonpl. mel. t. 26. Flowers yellowish. Stigma obtuse. Berry cinereous, 3-celled. Leaves concave beneath and convex above.

Coriaceous-leaved Miconia. Shrub 3 to 6 ft.

74 M. SIEBE'RI (D. C. l. c.) quite glabrous; branches tetragonal; leaves petiolate, oval, with stiff points, coriaceous, callously serrated, 5-nerved, flattish; thyrse terminal, panicled, crowded with flowers, having its rachis and branches tetragonal; bracteas oblong, membranous, under the branches of the panicle. ♄. S. Native of the island of Trinidad. Sieb. fl. trin. no. 260. Habit of *M. coriàcea*, but is distinguished from that plant in the smoothness.

Sieber's Miconia. Shrub 4 to 6 feet.

75 M. LUTE'SCENS (D. C. l. c.) branchlets bluntly tetragonal, and are as well as the petioles, nerves of leaves on the under surface, and rachis yellowish; leaves petiolate, oblong, acute at the base, and acuminated at the apex, glabrous above, but clothed with white, deciduous, woolly down beneath when young, 3-nerved, toothed; thyrse terminal, panicled, many-flowered; calyx globose, with 5 very short, acute teeth. ♄. S. Native of Peru, near Loxa, on Mount Saraguru. Melástoma lutéscens, Bonpl. mel. t. 17. Petals roundish-obovate, white. Anthers opening by 1 pore. Stigma obtuse. Berry globose, 3-celled, crowned.

Yellowish Miconia. Shrub 4 to 6 feet.

76 M. THOMASIA'NA (D. C. l. c.) glabrous; branchlets terete; leaves petiolate, oval, bluntish, triple-nerved, with quite entire, rather revolute edges, coriaceous; cymes terminal, trifid at the base, with its branches somewhat racemose; tube of calyx turbinate, covered with scurfy stellate down, with 5 broad obtuse lobes; fruit globose, hispid from a few bristles. ♄. S. Native of the Island of St. Thomas. Melástoma coriàcea. Juss. in herb. mus. par. Stamens 10; anthers without auricles. Petals 5, oval. Seeds trigonal, cuneated, shining, with a linear concave hylum. Flowers yellowish.

St. Thomas Miconia. Shrub 2 to 3 feet.

77 M. ASTROLA'SIA (D. C. prod. 3. p. 190.) branches terete, and are as well as the panicles, under side of leaves, and petioles densely clothed with rufous stellate down; leaves on short petioles, ovate, obtuse at the base, and acute at the apex, quite entire, 5-nerved, beset with dots of stellate down above, but at length becoming smoothish; panicle terminal, much branched. ♄. S. Native of St. Domingo. Melástoma astrolàsion, Spreng.

neue. entd. 3. p. 68. and syst. 2. p. 296. Flowers small. Branches of panicle disposed in whorls.

Starry Miconia. Shrub 4 to 6 feet.

78 M. LANCEOLA'TA (D. C. l. c.) branches somewhat tetragonal, and are as well as the petioles, under side of leaves, and panicles velvety from short, rufous, stellate down; leaves petiolate, oblong-lanceolate, denticulated, 3-nerved; panicles terminal; flowers sessile, on the tops of the branches of the panicle. ♄. S. Native of St. Domingo. Melástoma lanceolàta, Desr. in Lam. dict. 4. p. 43. Flowers small.

Lanceolate-leaved Miconia. Shrub 4 to 6 feet.

79 M. MACROSTA'CHYA (D. C. l. c.) branches nearly terete, and are as well as the petioles, tetragonal rachis, and under side of leaves velvety from rufescent, short, soft down; leaves petiolate, oblong-linear, attenuated at the base, bluntish, but mucronate at the apex, 3-nerved, quite entire, quite glabrous above; thyrse spicate, terminal, very long; flowers crowded, in whorls; tube of calyx obovate, scurfy, with 5 short obtuse lobes. ♄. S. Native of Brazil

Long-spiked Miconia. Shrub 4 to 6 feet.

80 M. PULVERULE'NTA (Ruiz et Pav. syst. 1. p. 104.) branches bluntly tetragonal, and are as well as the petioles, panicles, calyxes, and under side of leaves white from soft, scurfy, stellate down; leaves oval, obtuse at the base, 5-nerved, somewhat acuminated at the apex, and rather serrulated, glabrous above in the adult state; thyrse terminal, panicled; flowers with 5-8 petals; tube of calyx turbinate. ♄. S. Native of Peru, in woods. Pomereùla tomentòsa, Domb. herb. Ovarium glabrous at the base. Calyx drawn out beyond the ovarium. Petals 5, obtuse, obovate. Stamens short.

Powdery Miconia. Shrub 4 to 6 feet.

81 M. TRIPLENE'RVIS (Ruiz et Pav. l. c. p. 105.) leaves oblong, triple-nerved, acuminated, quite entire. ♄. S. Native of Peru, on mountains towards Cuchero, and in the tract of Guayabal.

Triple-nerved-leaved Miconia. Tree 20 feet.

82 M. LANUGINÒSA (Ruiz et Pav. l. c.) leaves oblong, 5-nerved, quite entire, bluntly acuminated. ♄. S. Native of Peru, at Cuchero, in groves near Cassape and Cassapillo.

Woolly Miconia. Tree 18 feet.

83 M. EMARGINA'TA (Ruiz et Pav. l. c. p. 106.) leaves cordate, emarginate, 5-nerved. ♄. S. Native of Peru, in groves at Chinchao. Ruiz et Pav. fl. per. ined. 4. t. 394.

Emarginate-leaved Miconia. Shrub 10 to 18 feet.

Cult. For culture and propagation see *Melástoma.* Many of the species are worth cultivating for the sake of their fine foliage, but none of them for their flowers, which are always insignificant.

LXXVII. OXYME'RIS (from ὀξυς, *oxys*, sharp, and μερις, *meris*, a part; in reference to the pointed petals and calycine teeth). D. C. prod. 3. p. 190.

LIN. SYST. *Decándria, Monogýnia.* Calyx quite glabrous, with an obovate, turbinate tube: and 5 very short, callous teeth. Flower-bud conical. Petals lanceolate, acuminated. Stamens 10, equal; anthers oval-oblong, obtuse, opening by 1 pore at the apex, but tapering to the base: each furnished with a short filiform connective, which is rather bigibbous at the base. Style filiform, crowned by a dot-formed stigma. Ovarium quite glabrous. Capsule baccate, 3-4-celled. Seeds unknown.—Quite glabrous, Brazilian shrubs. Leaves petiolate, oblong, quite entire, 3-nerved. Panicle terminal. Bracteas subulate. Flowers whitish or yellowish.

1 O. QUI'NQUE-DENTA'TA (D. C. prod. 3. p. 190.) quite glabrous, branched, between terete and compressed, sulcately subtetragonal at the tops; leaves petiolate, oval-oblong, attenuated at both ends, 3-nerved, quite entire; panicle terminal, beset with small, rather resinous dots; bracteas small, linear; calyx obovate, with 5 short teeth; petals lanceolate, ending in a callous acumen. ♄. S. Native of Brazil; in the province of Minas Geraes. Melástoma oxypétalum, Schrank et Mart. mss. Habit of a species of *Gentiàna*, and of a yellowish hue when dried.

Five-toothed-leaved Oxymeris. Shrub.

2 O. QUINQUE'NODIS (D. C. l. c.) quite glabrous; branches bluntly tetragonal or compressed; leaves petiolate, long-lanceolate, acuminated at both ends, quite entire, 5-nerved; panicle terminal; bracteas linear-subulate; tube of calyx globose, with 5 grain-formed callous lobes. ♄. S. Native of Brazil, in woods in the province of Minas Geraes, at Mount Serra da Carassa. Melástoma quinquénode, Schrank et Mart. mss. Flowers small, white, numerous. Nodes or grain-formed lobes of calyx yellowish.

Five-knotted-calyxed Oxymeris. Shrub.

Cult. For culture and propagation see *Melástoma*, p. 764.

LXXVIII. CREMA'NIUM (κρεμαω, *kremao*, to suspend; because most of the plants contained in this genus climb on trees). D. Don, in mem. soc. wern. 4. p. 310. D. C. prod. 3. p. 191.

LIN. SYST. *Decándria, Monogýnia.* Tube of calyx campanulate or obovate, adhering to the ovarium: limb permanent, 4-5-toothed. Petals 4-5, obovate. Stamens 10, equal. Anthers short, rather cuneated at the base, without auricles; opening by 2 pores at the apex. Style filiform; stigma orbicularly peltate. Capsule baccate, 3-5-celled. Seeds angular or ovate, with a linear hylum.—American, branched shrubs. Leaves petiolate, rather coriaceous, quite entire, or somewhat serrated. Panicle terminal. Bracteas small, at the base of the branchlets. Flowers for the most part white, small, and bractless.—Some of the species of this genus will perhaps, on future investigation, prove to belong to *Micònia.*

* *Flowers octandrous.*

1 C. ROTUNDIFÒLIUM (D. Don, mem. soc. wern. 4. p. 311.) stem creeping; branches tomentose; leaves cordate, orbicular, quite entire, green, hispid on both surfaces; flowers usually 4 together, on short pedicels. ♄. S. Native of Peru. Flowers large, white.

Round-leaved Cremanium. Shrub creeping.

2 C. NI'TIDUM (D. Don, l. c.) stem rooting; branches glabrous, spreading; leaves ovate, acute, glabrous, shining, with rather winged, toothed margins; racemes glabrous, nodding; filaments beset with glandular hairs. ♄. S. Native of Peru. Flowers white.

Shining Cremanium. Shrub creeping.

3 C. THYRSOI'DEUM (D. Don, l. c.) stem rooting; branches tomentose; leaves lanceolate, acute, 3-nerved, quite entire, glabrous, shining, pilose on the nerves beneath; flowers drooping, crowded into a compound thyrse. ♄. S. Native of Peru. Flowers white, not half the size of those of *C. nitidum.*

Thyrsoid-flowered Cremanium. Shrub creeping.

4 C. LATIFÒLIUM (D. Don, l. c.) branchlets pilose; leaves ovate, cordate, acute, serrulated, naked, and shining above, but pilose beneath; panicle terminal, many-flowered. ♄. S. Native of Peru. Flowers small, white.

Broad-leaved Cremanium. Shrub.

5 C. VACCINOÌDES (D. Don, l. c. p. 312.) glabrous; branchlets tetragonal, slender; leaves oval, obtuse, quite entire, hardly 3-nerved, the lateral nerves being so slender as hardly to be discernible; racemules 5-flowered, terminal, drooping a little, simple; pedicels solitary, 1-flowered, lower ones axillary; limb of calyx repand, 4-toothed, obtuse. ♄. S. Native of Peru, on the Andes above Caxamarca. Melástoma vaccinoìdes, Bonpl. mel. t. 8. Leaves pale beneath. Petals white, spotted with

yellow. Filaments short, flat. Anthers opening by 2 pores. Berry 3-celled.

Whortle-berry-like Cremanium. Shrub 3 to 6 feet.

6 C. RU'BENS (D. C. prod. 3. p. 191.) quite glabrous; branchlets tetragonal, furrowed; leaves petiolate, ovate-lanceolate, acuminated, denticulated, 3-nerved; panicle terminal, somewhat racemose; branchlets tetragonal, opposite; flowers dioecious, octandrous, and decandrous, crowded. ♄. S. Native of the south of Jamaica, on the hills. Melástoma rùbens, Swartz, fl. ind. occ. p. 707. Branches blood-red. Berry small, blue. The parts of flowers are quaternary or quinary, but most frequently quaternary. Petals roundish, small, white.

Reddish-stemmed Cremanium. Shrub 3 to 6 feet.

7 C. ELÆODE'NDRUM (D. C. l. c.) quite glabrous; branchlets from compressed to terete; leaves petiolate, oblong, elongated, tapering to both ends, triple-nerved, and as if they were appendiculated beneath at the origin of the lateral nerves; panicle terminal, much branched; lobes of calyx 4, obtuse, short. ♄. S. Native of Brazil. Flowers small; petals oval. Anthers narrowed at the base, and opening by 2 wide pores at the apex. Stigma peltate.

Olive-tree Cremanium. Shrub 2 to 3 feet.

8 C. GLANDULÒSUM (D. C. l. c.) branches bluntly tetragonal, clothed with whitish tomentum while young; leaves ovate, 3-nerved, entire, strigose above, and beset with glandular rough hairs beneath; racemes terminal; flowers crowded, almost sessile, octandrous, minute. ♄. S. Native of Jamaica, on the mountains. Melástoma glandulòsa, Swartz, fl. ind. occ. p. 799.

Glandular Cremanium. Shrub 3 to 6 ft.

* * *Flowers decandr*[illegible]

9 C. ME'DIUM (D. Don, in mem. wern. soc. 4. p. 313.) stem erect; branchlets pilose; leaves elliptic, acute, serrulated, naked, and shining above, but pilose beneath; thyrse compound; flowers drooping. ♄. S. Native of Peru. Flowers small, white.

Intermediate Cremanium. Shrub.

10 C. CALOPHY'LLUM (D. Don, l. c.) stem erect; leaves cuneate-oblong, coriaceous, glabrous, quite entire, marginate, shining above, but feather-nerved, and finely reticulated beneath; panicle terminal, much branched. ♄. S. Native of Peru. Melástoma obovàta, Pav. in herb. Lam. Leaves like those of a myrtle. Flowers very small, white. Style twice the length of the stamens.

Beautiful-leaved Cremanium. Shrub.

11 C. LAU'RINUM (D. Don, l. c.) stem erect; branchlets pilose; leaves lanceolate, obtuse, quite entire, 3-nerved, glabrous above and pilose beneath; panicle racemose; flowers drooping. ♄. S. Native of Peru. Flowers small, white.

Laurel-like Cremanium. Tree.

12 C. CŒRU'LEUM (D. Don, l. c.) stem climbing? branchlets very pilose; leaves lanceolate, acuminated, quite entire, 3-nerved, rough above, but very pilose beneath; panicle brachiate, hispid. ♄. S. Native of Peru. Melástoma cœrùlea, Pav. in herb. Lamb. Flowers small, white. Berry small, globose, blue.

Blue-berried Cremanium. Shrub cl.

13 C. CŒLE'STE (D. Don, l. c.) stem erect; branchlets powdery; leaves ovate-lanceolate, acuminated, crenulated, 3-nerved, powdery on the under surface; panicle brachiate; flowers glomerate. ♄. S. Native of Peru. Melástoma cœlèstis, Pav. in herb. Lamb. Flowers small, white. Style twice the length of the stamens.

Sky-blue-berried Cremanium. Shrub.

14 C. SERRULA'TUM (D. Don, l. c.) stem erect; leaves elliptic-oblong, acute, serrulated, 3-nerved, glabrous; panicle brachiate; flowers glomerate; style about half the length of the stamens. ♄. S. Native of Peru. Melástoma serrulàtum, Pav. in herb. Lamb. Flowers small, milk-coloured.

Serrulated-leaved Cremanium. Shrub.

15 C. HISPIDI'SSIMUM (D. C. prod. 3. p. 192.) branchlets terete, and are as well as the petioles, peduncles, and calyxes hispid from long, stiff, spreading bristles; leaves petiolate, ovate, short-acuminated, 5-nerved, ciliated, pilose on both surfaces; thyrse panicled, terminal; having its branches spreading. ♄. S. Native of Peru. A very showy species. Lobes of calyx feathered by bristles. Petals 5, oval, obtuse, yellow in a dried state. Filaments and style beset with glandular bristles. Anthers arched, obtuse, opening by 2 confluent pores, and ending in 2 short bristles at the base.

Very-hispid Cremanium. Shrub 2 to 3 feet.

16 C. PAPILLÒSUM (D. C. l. c.) branchlets terete, and are as well as the petioles and rachis velvety from rather flocky, short, stellate, crowded down; leaves ovate, bluntish, 7-nerved, ciliately crenulated, beset with bristles above, which are swollen at the base, but reticulated and covered with hairs beneath; panicle terminal, many-flowered; calyx velvety, hardly 5-toothed; stigma peltate; anthers 2-celled? ♄. S. Native of Peru. Melástoma papillòsa, Desr. in Lam. dict. 4. p. 48.

Papillose Cremanium. Shrub 4 to 5 ft.

17 C. RECLINA'TUM (D. C. l. c.) quite glabrous and bushy; branchlets reclinate at the apex; leaves petiolate, oval, 3-5-nerved, quite entire; thyrse terminal, few-flowered; calyx campanulate, hardly 5-toothed. ♄. S. Native of Peru, on Mount Saraguru, in temperate places. Melástoma reclinàtum, Bonpl. mel. t. 48. Petals small, white, obovate. Anthers wedge-shaped, furnished with a simple, membranous appendage behind, and opening by 2 pores at the apex. Stigma capitate, depressed. Berry 3-celled.

Reclinate-branched Cremanium. Shrub 3 to 5 feet.

18 C. QUADRANGULA'RE (D. C. l. c.) branches smoothish, tetragonal; leaves petiolate, ovate-lanceolate, acuminated, entire, 3-nerved, stiff, glabrous above and rusty beneath; thyrse panicled, terminal, straight, with its branches opposite and angular; calyx ovate, cinereous from stellate down, with its lobes ovate, obtuse, and membranous; stigma capitate. ♄. S. Native of Jamaica, on the mountains. Melástoma quadrangulàris, Swartz, fl. ind. occ. p. 770. The branches, and probably the peduncles, are clothed with minute velvety down when young. Leaves yellowish above; nerves thick, the lateral ones almost marginal. Anthers opening by 2 pores, according to Swartz.

Quadrangular-branched Cremanium. Shrub 3 to 6 feet.

19 C.? GRANULÒSUM (D. C. l. c.) branches bluntly tetragonal, and are as well as the petioles, panicles, and under side of leaves densely clothed with rusty, powdery, velvety, flocky down; leaves petiolate, oblong-oval, with somewhat revolute margins, hardly toothed, 3-5-nerved, glabrous above; panicle terminal: having its branchlets opposite, with the flowers crowded at their tops. ♄. S. Native of New Granada, in shady woods near Ybague. Melástoma granulòsum, Bonpl. mel. t. 12. Limb of calyx 5-toothed, drawn out beyond the ovarium; having the teeth spurred on the outside. Petals oval, white. Anthers bearing 2 short auricles at the base, but bluntish and opening by 2 pores at the apex. Stigma capitate. Ovarium a little toothed at the apex. Allied to *C. quadrangulàre.*

Granular Cremanium. Shrub 10 to 15 feet.

20 C.? ASPERGILLA'RE (D. C. prod. 3. p. 193.) branchlets terete, and are as well as the petioles, panicles, and under side of leaves clothed with rufous stellate tomentum; leaves on short petioles, oblong-oval, serrulated, 3-nerved, glabrous above; panicle short, thyrsoid; having its branches opposite, and bearing the flowers in tufts at their tops. ♄. S. Native of Quito,

between Delay and Cuenca. Melástoma aspergillàris, Bonpl. mel. t. 19. Calyx bluntly 5-toothed. Petals roundish, white. Anthers oval, opening by 2 pores? at the apex. Stigma thickish. Berry 3-celled.

Roughish Cremanium. Shrub 3 to 6 feet.

21 C. LEDIFÒLIUM (D. C. l. c.) branchlets terete, and are as well as the petioles, peduncles, and under side of leaves densely clothed with stellate down; leaves hardly petiolate, oblong, with revolute edges, and hence nearly linear, obtuse, coriaceous, 1-nerved, glabrous on the upper surface, except on the nerve; thyrse spike-formed, axillary, and terminal, few-flowered; calyx campanulate, rather velvety, bluntly 5-toothed. ♄. S. Native of Chimboraco. Petals small, obovate. Anthers 2-celled. Stigma hardly dilated.

Ledum-leaved Cremanium. Shrub 2 to 3 feet.

22 C. GLABE′RRIMUM (D. C. l. c.) quite glabrous; branches nearly terete; leaves oval or obovate, triple-nerved, quite entire, beset with glandular dots above, each terminating in a very short acumen; panicle terminal; bracteas small, linear; calyx globose, with 5 short, acute teeth. ♄. S. Native of Brazil, in woods between Lorena and St. Paul. Melástoma dimórphum, Schrank et Mart. mss. Habit of *C. milleflòrum.* Dots on leaves, elongated, yellow, small, and scattered. Flowers small, white. Anthers oblong, obtuse, opening by 2 pores at the apex, each furnished with a slender connective. Style dilated and rather tube-formed at the apex.

Very smooth Cremanium. Shrub 6 to 8 feet.

23 C. MINUTIFLÒRUM (D. C. l. c.) glabrous, except in the young parts, which are furnished with scattered dots of white flocky down; branches obscurely tetragonal; leaves elliptic-oblong, acuminated, rather serrulated, 3-nerved, besides the marginal nervules; panicle terminal. ♄. S. Native of Brazil, in woods at Capoeira. Melastomà minutiflòrum, Schrank et Mart. mss. but not of Bonpl. The leaves are yellowish when in a dry state. Anthers oval, obtuse, opening by 2 pores. Style short, dilated at the apex. Flowers small; petals oval. Habit of the following species.

Minute-flowered Cremanium. Shrub 4 to 6 feet.

24 C. MILLEFLÒRUM (D. C. l. c.) quite glabrous; leaves petiolate, obovate, short-acuminated, 3-nerved, quite entire at the base, but serrulated in the upper part; panicle terminal, much branched. ♄. S. Native of Brazil, in the province of St. Paul, in marshes. Melástoma milleflòrum, Schrank et Mart. mss. Branches tetragonal. Leaves $1\frac{1}{2}$ inch long. Herb yellowish when dried. Flowers hardly the size of those of a *Gàlium*, white or red. Calyx with a hemispherical tube, and 5 small teeth. Petals obovate, obtuse. Genitals exserted a little; articulation of connective hardly evident. Anthers 10, clavate, truncate, beakless, opening by 2 pores.

Thousand-flowered Cremanium. Shrub 2 to 3 feet.

25 C. OLIGÒTRICHUM (D. C. l. c.) branches bluntly somewhat tetragonal; leaves oval, acute, 3-nerved, besides the marginal nervules, glabrous on both surfaces in the adult state, and very bluntly crenated, ciliated from bristles, which rise from the notches; petioles bearing a few bristles at the apex; panicle terminal, many-flowered. ♄. S. Native of Mexico. The leaves, when young, are covered with scattered, stellate down on the under surface. Petals retuse, nearly emarginate. Calyx dotted, when examined by a lens, with the teeth very short.

Few-haired Cremanium. Shrub 4 to 6 feet.

26 C. TINCTÒRIUM (D. C. l. c.) quite glabrous; branches nearly terete, furnished with crowded bristles at the knots; leaves petiolate, oval-oblong, rather acuminated, serrulated, 3-nerved, coriaceous, shining; thyrse panicled, terminal, crowded; petals 6, orbicular. ♄. S. Native of Peru. The leaves are yellowish, and the whole shrub is used for dyeing yellow by the Peruvians. Calyx bluntly 6-toothed. Stamens rather shorter than the petals. Anthers short, cuneated, very blunt, opening by 2 wide pores at the apex. Stigma peltate. Berry or capsule hardly baccate. Seeds ovate, angular, with a linear hylum.

Dyer's Cremanium. Shrub 4 to 6 feet.

27 C. CRÒCEUM (D. C. prod. 3. p. 194.) branches terete, glabrous; leaves petiolate, ovate, a little serrated at the apex, 5-nerved, glabrous, 3 of the nerves are larger than the other two, and bearded at their origin; petioles rather pilose; panicles terminal, trichotomous; calyx turbinate, 5-toothed. ♄. S. Native of Peru. Melástoma cròcea, Desr. in Lam. dict. 4. p. 55. Spreng. syst. 2. p. 302. exclusive of the variety from Hispaniola.

Copper-coloured Cremanium. Shrub.

28 C. THE′EZANS (D. C. l. c.) quite glabrous; branchlets terete; leaves petiolate, lanceolate-oval, a little toothed, 5-nerved; thyrse terminal, having its branchlets crowded with flowers; calyx campanulate, hardly erose. ♄. S. Native of temperate places about Popayan. Melástoma Thèezans, Bonpl. mel. t. 9. Flowers white, scented in the evening. Petals 5, oval. Anthers opening by 2 pores, and minutely appendiculated at the base. At Popayan the leaves of this plant are infused and drank in place of tea by the inhabitants.

Tea Cremanium. Tree 12 to 20 ft.

29 C. LATECRENA′TUM (D. C. l. c.) smoothish; branches nearly terete; leaves petiolate, broad-lanceolate, acuminated, broadly and bluntly crenated, 5-nerved, beset with stellate powdery down on the nerves beneath; panicle terminal, clothed with powdery tomentum; calyx with a globose tube and a 5-toothed deciduous limb. ♄. S. Native of Brazil, in the province of Bahia, in bogs on hills. Very like *Melástoma pyramidàle*, Bonpl. t. 21. but the crenæ of the leaves are broad and beardless, not acute and ciliated. Melástoma pyramidàle, Mart. et Schrank, mss.

Broad-crenated-leaved Cremanium. Shrub 3 to 6 feet.

30 C. INÆQUA′LIS (D. C. l. c.) branchlets from compressed to terete, and are as well as the panicles velvety from short, deciduous, stellate down when young, but at length becoming glabrous; leaves petiolate, oblong, acuminated, sharply and unequally serrated, but entire at the base and apex, 3-nerved; panicle terminal, much branched; branches opposite. ♄. S. Native of Brazil, in dark woods in the province of St. Paul. Melástoma biserràtum, Schrank et Mart. mss. Fruit globose, furrowed, a little larger than a mustard seed. Style short, crowned by an orbicular peltate stigma. Seeds angular.

Unequal-leaved Cremanium. Shrub.

31 C. PUSILLIFLÒRUM (D. C. l. c.) branchlets at first rather compressed, but at length terete, and are as well as the petioles and under side of leaves rather scabrous from distant, deciduous tufts of small, stellate down, the rest glabrous; leaves petiolate, oblong, acuminated, membranous, nearly quite entire, 3-nerved, besides the marginal nervules, glabrous; panicle terminal, divaricate, much branched; lobes of calyx 5, short, acute, deciduous. ♄. S. Native of Brazil, in woods. Melástoma pusilliflòrum, Mart. et Schrank, mss. Flowers small, white. Anthers oblong, obtuse, each with a slender connective. Style filiform. Fruit globose. Seeds smooth, angular.

Small-flowered Cremanium. Shrub 2 to 3 feet.

32 C.? PANICULA′TUM (D. C. l. c.) branchlets compressed, at length terete, and are as well as the petioles and nerves of leaves, when young, rather scabrous from small, distant, stellate tufts of down; the rest glabrous; leaves petiolate, oblong, acuminated, nearly quite entire, almost glabrous, 3-nerved, besides the marginal nervules; panicle terminal, loose, oblong; calyx beset with rather scabrous down: the lobes 5, acute, narrowed, erect, permanent. ♄. S. Native of Brazil, near Villa Ricca. Me-

lástoma paniculàtum, Schrank et Mart. mss. Very like *C. pusilliflòrum*. Petals seen but not the genitals.

Panicled-flowered Cremanium. Shrub 2 to 3 feet.

33 C. ligustroìdes (D. C. l. c.) smoothish, or the parts while young are beset with small, stellate tufts of down; branchlets compressed, but at length becoming terete; leaves on short petioles, rather coriaceous, ovate, hardly acuminated, quite entire, or rather repand at the apex, 3-nerved, besides the marginal nervules; panicle terminal, much branched; lobes of calyx 5, very short, blunt, and deciduous; berry globose. ♄. S. Native of Brazil, in the province of Bahia, among bushes. Melástoma densifróns, nítens, ligústrinum, and repándulum, Schrank et Mart. Limb of calyx very short. Petals obovate. Anthers obtuse, opening widely at the top, with the opening separated by a dissepiment into 2 divisions. Stigma capitately peltate. Seeds few, angular.

Privet-like Cremanium. Shrub 4 to 6 feet.

34 C. cinnamomifòlium (D. C. l. c.) quite glabrous; branches bluntly tetragonal, but at length terete; leaves petiolate, oval, or somewhat ovate, acuminated, 3-nerved, quite entire; thyrse contracted, terminal, with its branches angular and opposite; teeth of calyx 5, very short, or almost wanting. ♄. S. Native of Brazil. Melástoma cinnamomifòlium, Mart. herb. but not of Jacq. This species is very nearly related to *C. rùbens*, but differs in the flowers being 5-cleft, not 4-cleft, and in the leaves being less attenuated at the base. Stamens seen but not the style.

Cinnamon-leaved Cremanium. Shrub.

Cult. For culture and propagation see *Melástoma*, p. 764.

LXXIX. BLA'KEA (dedicated to Ma[illegible]lake, of Antigua, by Dr. Patrick Browne, a great promoter of useful knowledge). Lin. gen. no. 810. Juss. gen. 328. D. Don, in mem. wern. soc. 4. p. 323. D. C. prod. 3. p. 195.—Topòbea, Aubl. guian. 1. p. 476.—Valdèria, Ruiz et Pav. prod. p. 67. t. 11. syst. 1. p. 121.—Bellùcia, Neck. elem. 2. no. 833. Drepanándrum, Neck. elem. no. 793.?

Lin. syst. *Dodecándria, Monogýnia.* Calyx campanulate, girded by 4-6 broad scales, which are either disposed in a cruciate manner or in 3 series; limb permanent, membranous, 6-lobed or 6-toothed. Petals 6. Stamens 12. Anthers large, concatenated into a ring, obtuse at the apex, and opening by a twin pore, each furnished with a short spur-like process at the base. Capsule baccate, crowned by the calyx, 6-celled. Seeds ovate, angular.—Trees or shrubs. Leaves petiolate, 3-5-nerved, coriaceous, glabrous above and shining, but usually densely clothed with rusty tomentum beneath. Peduncles axillary, terete, 1-flowered, naked, opposite, or solitary, shorter than the leaves, usually clothed with brown tomentum. Flowers large, showy, red.

§ 1. *Calyx 6-lobed, girded at the base by 4, rarely by 6 scales.*

1 B. trinervia (Lin. spec. 635.) leaves oval-oblong, 3-nerved, glabrous, and shining on both surfaces in the adult state, and when young serrulated; petioles and branchlets clothed with rusty tomentum; peduncles solitary, longer than the petioles; scales longer than the calyx. ♄. S. Native of Jamaica; very common on the Port Royal mountains, along with various species of *Meriània*. Sims, bot. mag. t. 451.—P. Browne, jam. p. 323. t. 35. Roots issuing from the branches and stems. Flowers large, of a rose colour.

Three-nerved-leaved Blakea. Fl. June, July. Clt. 1789. Shrub 4 to 8 feet.

2 B. Mexica'na (D. Don, in mem. wern. soc. 4. p. 325.) leaves elliptic, acute, 5-nerved, denticulated, pilose beneath; peduncles usually 3 together; scales longer than the calyx. ♄. S. Native of Mexico. Flowers large, rose-coloured.

Mexican Blakea. Shrub 4 to 6 feet.

3 B. ròsea (D. Don, l. c.) leaves oval-lanceolate, acuminated, glabrous; peduncles twin; scales longer than the calyx; petals mucronate. ♄. S. Native of Peru. Valdèsia ròsea, Ruiz et Pav. fl. per. ined. t. 408. Flowers rose-coloured.

Rose-coloured-flowered Blakea. Shrub or tree.

4 B. ova'lis (D. Don, l. c.) leaves oval, acuminated, naked on both surfaces, shining, 3-nerved; peduncles twin; scales longer than the calyx; petals obtuse. ♄. S. Native of Peru. Valdèsia ovàlis, Ruiz et Pav. syst. 121, fl. per. ined. t. 406. Flowers red.

Oval-leaved Blakea. Tree 10 to 20 feet.

5 B. re'pens (D. Don, l. c.) leaves lanceolate, acuminated, 3-nerved, pilose beneath; peduncles twin; scales shorter than the calyx; petals mucronulate. ♄. S. Native of Peru. Valdèsia rèpens, Ruiz et Pav. syst. p. 121. fl. per. ined. t. 405. Roots issuing from the branches. Flowers red.

Creeping Blakea. Shrub.

6 B. latifòlia (D. Don, l. c.) leaves large, oval, 3-nerved, acuminated, glabrous; peduncles solitary; scales longer than the calyx. ♄. S. Native of Peru. Valdèsia latifòlia, Ruiz et Pav. fl. per. ined. t. 407. Flowers red.

Broad-leaved Blakea. Shrub or tree.

§ 2. *Calyx 6-toothed, girded by 4 scales.*

7 B. quinquene'rvis (Aubl. guian. 1. p. 525. t. 210.) leaves elliptic, acuminated, naked, and shining on both surfaces, 5-nerved, the 2 outer nerves near the margin of the leaf, and the other 2 rising above the base of the leaf; peduncles twin, shorter than the petioles; scales longer than the calyx; anthers 16-18; filaments much dilated at the apex; stigma peltate. ♄. S. Native of Guiana and Trinidad, as well as of Brazil, in woods. B. triplenérvia, Lin. fil. suppl. Apatìtia blakeoìdes, Desv. in Hamilt. prod. no. 42. Flowers large, flesh-coloured, with white disks. Petals 8-9, unguiculate. Berry large, round, yellow, eatable.

Five-nerved-leaved Blakea. Clt. 1820. Sh. 10 to 16 ft.

8 B. multiflòra (D. Don, l. c. p. 326.) leaves oval-oblong, short-acuminated, 5-nerved, pilose beneath; peduncles usually 3 together; scales 3-times shorter than the calyx. ♄. S. Native of Peru. Flowers red.

Many-flowered Blakea. Shrub.

9 B. rotundifòlia (D. Don, l. c.) leaves large, roundish, 5-nerved, densely clothed with rusty tomentum beneath, as well as on the branches; peduncles solitary; scales longer than the calyx. ♄. S. Native of Peru. Leaves 4-7 inches long and 4-6 broad. Flowers red.

Round-leaved Blakea. Shrub.

10 B. macrophy'lla (D. Don, l. c.) leaves large, oval, 5-nerved, naked on both surfaces; peduncles solitary; scales longer than the calyx. ♄. S. Native of Mexico. Leaves a foot long and 7 inches broad. Flowers red.

Long-leaved Blakea. Shrub or tree.

11 B. parasi'tica (Don, l. c. p. 327.) leaves roundish, cordate, 5-nerved, mucronate, glabrous and shining above; peduncles short, usually 3 together; scales about equal in length to the calyx. ♄. ◡. S. Native of Guiana and Maranham. Topòbea parasítica, Aubl. guian. 1. p. 476. t. 189. Shrub climbing and rooting on trees. Flowers red.

Parasitic Blakea. Shrub cl.

12 B. lævigа'ta (D. Don, l. c.) leaves oval, quite entire, 3-nerved, and are as well as the branches glabrous; peduncles solitary, shorter than the petioles; scales connate at the base,

shorter than the calyx. ♄. S. Native of Mexico. B. trinérvis, Pav. in herb. Lamb. Flowers red.

Smooth Blakea. Shrub.

† *Species hardly known.*

13 B.? pulverule'nta (Vahl. symb. 3. p. 61.) calyx without scales; leaves elliptic, glabrous, triple-nerved; racemes terminal. ♄. S. Native of South America. See E. Meyer, in act. bonn. 12. p. 797.

Powdery Blakea. Shrub.

14 B.? Ca'catin (D. Don, l. c.) branches bluntly quadrangular; leaves ovate, acuminated, 3-nerved; petioles very long, thick both at the base and apex; flowers and fruit unknown. ♄. S. Native of Guiana, on the banks of rivers. Melástoma Cácatin, Aubl. guian. 1. p. 437. t. 172. *Cacatin* is a name given to the plant by the Indians of Guiana.

Cacatin Blakea. Shrub 8 to 10 ft.

Cult. The species of this genus are all worth cultivating for the sake of the fine broad foliage, and large showy rose-coloured flowers. They thrive well in peat earth, or a mixture of loam and peat, and require to be liberally supplied with water, particularly in spring and summer. Cuttings should be taken from shoots that are quite ripe, otherwise they are apt to rot; and if planted in a pot of sand, and plunged in a moist heat under a hand-glass, they strike root freely.

Suborder II. Charia'nthеæ (plants agreeing with *Charíanthus* in the anthers opening longitudinally by 2 chinks). Ser. mss. ex D. C. prod. 3. p. 196. Anthers 2-celled (f. 113. *e.*), opening longitudinally by a double chink (f. 113. *e.*). Fruit fleshy. Seeds cuneate, angular.

LXXX. KIBE'SSIA

(*Kibessie* is the name given to this plant by the Javanese). D. C. prod. 3. p. 196. Blume, in bot. zeit. 1831. no. 30. p. 524.

Lin. syst. *Octándria, Monogýnia.* Tube of calyx nearly hemispherical, muricated from branched bristles, adnate to the ovarium; limb undivided, calyptriform, cut round about at the base, and falling off in one piece. Petals 4, obovate. Stamens 8, equal. Anthers ovate, opening by a longitudinal double chink, fleshy on the back and without any appendage. Style filiform, tapering to the apex; stigma simple. Fruit nearly globose, depressed at the apex, and hence umbilicate, indehiscent, 4-celled. Seeds cuneated, angular.—A large, glabrous shrub, with terete branchlets, but rather tetragonal towards the apex. Leaves opposite, on short petioles, oval-oblong, tapering to both ends, 3-nerved, quite entire. Peduncles axillary and terminal, solitary, or in few-flowered fascicles; pedicels bibracteate in the middle. Flowers large, blue.

1 K. azu'rea (D. C. prod. 3. p. 196. Blum. l. c.). ♄. S. Native of Java, in woods on the mountains. Melástoma azúreum, Blum. bijdr. p. 1079.

Blue-flowered Kibessia. Shrub 10 feet.

Cult. This shrub is worth cultivating for its showy, large, blue flowers and fine foliage. Its culture and propagation are the same as that recommended for *Blàkea*.

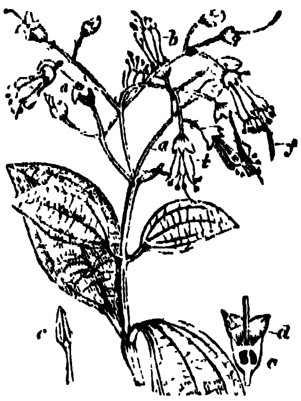
LXXXI. CHARIA'NTHUS

(from χαριεις, *charieis*, beautiful, and ανθος, *anthos*, a flower; flowers very shewy). D. Don, in wern. soc. mem. 4. p. 327. D. C. prod. 3. p. 191.—Chænanthèra, Rich. herb.

Lin. syst. *Octándria, Monogýnia.* Tube of calyx ovate, rather urceolate (f. 113. *a.*); limb spreading, bluntly 4-lobed, permanent. Petals 4, erect, oval. Stamens 8, nearly equal; filaments linear (f. 113. *b.*); anthers continuous with the filaments (f. 113. *e.*), oblongly club-shaped, naked at the base, opening longitudinally by a double chink (f. 113. *e.*). Ovarium adnate to the calyx (f. 113. *c.*). Style filiform, exserted. Capsule baccate, globose, umbilicate, 4-celled, opening a little at the apex by the valves. Placentas lunate. Seeds ovate, with a large lateral hylum. Albumen none. Embryo straight, with thick cotyledons, and a long, inferior radicle.—Erect, West Indian shrubs, with petiolate, 5-nerved leaves, and purple flowers, which are disposed in trichotomous, corymbose cymes.

1 C. cocci'neus (D. Don, l. c.) all parts of shrub rather pubescent when young, but at length becoming quite glabrous; branches nearly terete; leaves oval, acuminated, quite entire, 5-nerved, beset with flocky down beneath or small dots. ♄. S. Native of Guadaloupe and Cayenne, on the higher mountains, in sphagnous places. Melástoma coccínea, Rich. in act. soc. hist. nat. par. 109. and in Bonpl. mel. t. 44. Melast. alpìna, Swartz, fl. ind. occ. 2. p. 800. The dots on the lower surface of leaves are the cicatrices, occasioned by the falling off of the tufts of stellate down. Calyx dotted from flocky down when young, but quite glabrous in the adult state. Flowers scarlet.

FIG. 113.



Scarlet-flowered Charianthus. Shrub 4 to 6 feet.

2 C. glabe'rrimus (D. C. prod. 3. p. 196.) shrubby, quite glabrous in every part; branchlets bluntly tetragonal; leaves oval, acuminated, [illegible] entire, 5-nerved, dotless. ♄. S. Native of Martinique, Trinidad, and Guadaloupe. Melástoma corymbòsa, Vahl. ecl. 3. p. 25. Melast. Berteriànum, Spreng. in herb. Balb. Chenanthèra mucronàta, Rich. herb. Chariánthus Berteroànus, Ser. mss. Perhaps only a smooth variety of the preceding species, but the leaves are longer. Flowers purplish red.

Quite-glabrous Charianthus. Shrub 4 to 6 feet.

3 C. tinifòlius (D. Don, l. c.) leaves ovate, coriaceous, obtuse, short-acuminated, 5-nerved, quite entire, glabrous on both surfaces, as well as on the branches. ♄. S. Native of the West India Islands. Flowers blood-coloured. Lateral nerves of leaves almost obsolete.

Laurestinus-leaved Charianthus. Shrub 4 to 6 feet.

4 C. purpu'reus (D. Don, l. c.) branches and petioles hispid from bristles; leaves oval, short-acuminated, cordate at the base, quite entire, 5-nerved, pilose beneath and on the margins. ♄. S. Native of the Island of Montserrat. Melástoma coccínea, Vahl. ecl. 1. p. 48. icon. amer. t. 16. but not of Rich. Flowers purplish red.

Purple-flowered Charianthus. Shrub 4 to 6 feet.

5 C. cilia'tus (D. C. prod. 3. p. 197.) branches hispid from bristles; leaves ovate, coriaceous, short-acuminated, glabrous on both surfaces, 5-nerved, serrated, with the serratures callous and ciliately toothed. ♄. S. Native of Trinidad. Sieb. pl. trin. no. 279. Tetrazýgos ciliàtus, Rich. herb. Melástoma Dodandiàna, Hamilt. prod. p. 37. Flowers purple.

Ciliated-leaved Charianthus. Shrub 3 to 6 feet.

Cult. All the species of *Chariánthus* are worth cultivating for their showy cymes or corymbs of purple or scarlet flowers. Their culture and propagation are the same as recommended for *Blàkea*, see p. 801.

LXXXII. CHÆNOPLEU'RA

(from χαινω, *chaino*, to open, and πλευρα, *pleura*, a side). Rich. herb. ex D. C. prod. 3. p. 197.

Lin. syst. *Decándria, Monogýnia.* Calyx adnate to the ovarium; limb bluntly 5-toothed. Petals 5, roundish. Stamens 10, hardly longer than the petals. Anthers opening longitudinally by 2 chinks: having their connectives biauriculate at the base. Style clavate, crowned by an orbicular, somewhat umbilicate stigma. Berry? 3-4-celled. Seeds unknown.—Glabrous shrubs, with the habit of the section *Leosphæ'riæ* of *Micònia.* Leaves petiolate, oblong-lanceolate, obtuse at the base, acuminated at the apex, denticulated from hair-formed, distant serratures, 3-nerved or almost triple-nerved. Thyrse terminal, elongated, having its branchlets opposite and almost racemose. Flowers from white to flesh-coloured. Bracteoles and segments of calyx ciliated.

1 C. STENÓBOTRYS (D. C. prod. 3. p. 197.). ♄. S. Native of Hispaniola, on the mountains, and probably of Jamaica. Melástoma stenóbotrys, Rich. in Bonpl. mel. t. 30. exclusive of the synonym of Swartz.

Narrow-racemed Chænopleura. Sh. 4 to 6 feet.

Cult. For culture and propagation see *Melástoma*, p. 764.

LXXXIII. EWY'CKIA (dedicated by Dr. Blume to Van Ewyck, a patron of natural history). Blum. in bot. zeit. 1831. no. 30. p. 524.

LIN. SYST. *Octándria, Monogýnia.* Tube of calyx hemispherical, adhering to the ovarium; limb continuous with the tube, obsoletely 4-toothed. Petals 4, ovate, acute. Stamens 8, equal. Anthers oblong, obtuse at both ends, opening by a double chink, furnished behind at the base with a fleshy connective. Style filiform; stigma acute. Berry globose, crowned by the limb of the calyx, 4-celled. Seeds cuneated, angular. —A smooth shrub or small tree. Bra[illegible] terete, but thickened at the knots. Leaves opposite, on short petioles, elliptic, acuminated at both ends, quite entire, 3-nerved. Racemules axillary, few-flowered; pedicels bibracteate in the middle. Flowers small, blue.

1 E. CYA'NEA (Blume, l. c. p. 524.). ♄. S. Native of Amboyna. Melástoma azùreum. Zippel, ined.

Blume-flowered Ewyckia. Shrub.

Cult. For culture and propagation, see *Blàkea*, p. 801.

LXXXIV. ASTRO'NIA (from *αστρον*, *astron*, a star; flowers and fruit). Blume, bijdr. p. 1080. bot. zeit. 1831. no. 30. p. 256.

LIN. SYST. *Deca-Dodecándria, Monogýnia.* Tube of calyx hemispherical, adnate to the ovarium; limb 5-6-toothed. Petals 5-6, obovate, obtuse. Stamens 10-12, equal. Anthers linear-oblong, opening by a double chink, inappendiculate, adnate to the thick, triangularly-compressed connectives. Style filiform; stigma peltate. Capsule dry, 2-4-celled, crowned by the limb of the calyx, opening irregularly lengthwise. Seeds straight, paleaceous, enwrapped in fine aril.—Glabrous trees. Branches tetragonal, beset with small, brownish scales or dots at the tops as well as on the petioles, peduncles, and calyxes. Leaves opposite, on longish petioles, oblong, acuminated, quite entire, 3-nerved or triple-nerved, discoloured. Inflorescence panicled, terminal, and axillary. Flowers small, purplish, unisexual from abortion.

1 A. SPECTA'BILIS (Blum. l. c.) leaves 3-nerved, oblong, acuminated, obtuse at the base, thickly beset with rust-coloured scales or dots beneath. ♄. S. Native of Java, in woods on the higher mountains, where it is called *Kihariendung.*

Showy Astronia. Tree.

2 A. PAPETA'RIA (Blum. in bot. zeit. l. c.) leaves 3-nerved, oblong, acuminated, attenuated at the base, thickly beset with rufous dots beneath. ♄. S. Native of Amboyna. A. spectábilis, Zippel ined. Pharmàcum papetàrium, Rumph. amb. 4. p. 134. t. 69. *Ocbat papeba* is the Malay name of the tree.

Papetaria Astronia. Shrub.

3 A. MACROPHY'LLA (Blum. l. c.) leaves triple-nerved, beset with fugaceous scattered down beneath. ♄. S. Native of Java and the Moluccas.

Var. β, discolor; leaves 3-nerved or obscurely triple-nerved. Java.

Var. γ, cóncolor (Blum. in bot. zeit. l. c.) leaves nearly of the same colour on both surfaces, beset with very small dots beneath and on the branchlets. ♄. S. A. cóncolor, Zippel, ined.

Long-leaved Astronia. Tree.

Cult. For culture and propagation see *Blàkea*, p. 801.

† *The structure of the following Mèlastomaceous plants is not known, and therefore they are ranged here according to the names they have first received.*

§ 1. *Plants referred by authors to Rhéxia, from the fruit being capsular.*

* *Flowers decandrous.*

1 R. FU'LVA (Spreng. syst. 2. p. 308.) shrubby; branches dichotomous, pubescent; leaves oblong, minute, almost nerveless, beset with hispid bristles; flowers decandrous, terminal, solitary; calycine lobes subulate. ♄. S. Native of Brazil.

Fulvous Rhexia. Shrub.

2 R. FASCICULA'TA (Spreng. neue. entd. 3. p. 62. et syst. 2. p. 308.) racemes rather dichotomous, terminal; leaves linear-oblong, in fascicles, quite glabrous, nerveless, with 1 tooth on each side; corolla blood-coloured; calyx 10-striped, strigose. ♄. S. Native of Brazil. Perhaps a species of *Cambessedèsia.*

Fascicled-leaved Rhexia. Pl.

* * *Flowers octandrous.*

3 R. HE'LVOLA (Spreng. syst. 2. p. 309.) suffruticose; leaves crowded, sessile, oval, quite entire, nerved, beset with pale red, stiff hairs or bristles on both surfaces; peduncles axillary, cymose; flowers octandrous; calyxes very hispid. ♄. S. Native of Brazil.

Pale-red-haired Rhexia. Shrub.

4 R. TRICHÓTOMA (Rottb. diss. pl. rar. 9. t. 5.) shrubby; branches tetragonal; angles hairy; leaves sessile, lanceolate, hairy; flowers sessile, axillary, and terminal. ♄. S. Native of Surinam. Vahl. symb. p. 48.

Trichotomous Rhexia. Shrub.

5 R. STRIGÒSA (Willd. herb. ex Spreng. syst. 2. p. 309.) suffruticose; leaves ovate, 3-nerved, strigose; peduncles axillary, corymbose; flowers octandrous; calyxes hairy. ♄. S. Native of Cayenne.

Strigose Rhexia. Shrub.

§ 2 *Plants referred by authors to Melástoma, from their fruit being fleshy.*

* *Flowers octandrous.*

1 M. MELANOPHY'LLUM (Spreng. neue. entd. 2. p. 171.) branches knotted, nearly terete, glabrous; leaves ovate, acuminated, quite glabrous on both surfaces, 3-nerved, quite entire; shining above; panicles lateral; flowers octandrous; calyx with 4 minute teeth, covered with stellate scales. ♄. S. Native of Brazil.

Black-leaved Melastoma. Shrub.

2 M. SE'SSILE (Spreng. syst. 2. p. 303.) branches twiggy; leaves half stem-clasping, roundish-cordate, acute, quite entire, obsoletely triple-nerved, beset with glandular villi on both surfaces; flowers almost sessile, axillary, octandrous. ♄. S. Native of Brazil. Perhaps a species of *Sagræ'a.*

Sessile-flowered Melastoma. Shrub.

3 M. VIRGA'TUM (Swartz, prod. p. 72. fl. ind. occ. 2. p. 816.)

branches twiggy, tetragonal, glabrous; leaves ovate-lanceolate, acuminated, 3-nerved, entire; flowers white, octandrous; calyx 4-toothed, the teeth subulate; petals oblong, longer than the calyx; filaments jointed under the anthers; stigma acute. ♄. S. Native of Jamaica, in woods on the mountains.

Twiggy Melastoma. Shrub.

4 M. Matu'ba (Spreng. neue. entd. 3. p. 61.) leaves ovate-oblong, 3-nerved, acuminated, glabrous, quite entire; panicle terminal, with trichotomous, erect branches; calyx terete, truncate. ♄. S. Native of Guadaloupe and Antigua.

Matuba Melastoma. Shrub.

5 M. micra'nthum (Swartz, prod. p. 71. fl. ind. occ. 2. p. 803.) branches twiggy, terete, glabrous; leaves oblong, acuminated at both ends, glabrous, 3-nerved, denticulated, petiolate; racemes axillary, reclinate towards the tops of the branches; flowers white, octandrous; calyx 4-toothed; petals 4, acuminated, with a blood-coloured spot at the base of each; berry 8-sided, 4-celled, white and pellucid at maturity. ♄. S. Native of Jamaica, on the mountains. Perhaps a species of *Ossæ'a.*

Small-flowered Melastoma. Shrub.

6 M. triflòrum (Vahl. ecel. fasc. 1. p. 46.) branches, petioles, and calyxes strigose; leaves elliptic-lanceolate, quite entire, 3-nerved: flowers axillary, octandrous, somewhat pedunculate, tern; calyx turbinate, obscurely 4-toothed; petals ovate, exceeding the stamens. ♄. S. Native of the West Indies.

Three-flowered Melastoma. Shrub.

7 M. tripline'rvia (Link, et Otto. icon. pl. rar. hort. berol. t. 24.) stems branched; leaves oval, bluntish, somewhat feather-nerved towards the apex, tapering into the petiole at the base; hairs adpressed; panicles terminal; calyx with 4 acuminated lobes. ♄. S. Native of Mexico, at Xalapa. Flowers white. Leaves, petals, and sepals ciliated.

Triple-nerved-leaved Melastoma. Fl. June, Aug. Clt. 1827. Shrub 2 to 4 feet.

8 M. ecosta'tum (Ait. hort. kew. ed. 3. p. 46.) leaves ovate-lanceolate, acuminated, denticulated, without ribs, triple-nerved, pilose above, but smoothish beneath; corymbs terminal, trichotomous; branchlets, peduncles, and calyxes clothed with powdery tomentum; flowers octandrous. ♄. S. Native of Jamaica.

Ribless Melastoma. Shrub 1 to 2 feet.

9 M. sali'cinum (Ser. mss. in D. C. prod. 3. p. 199.) branches terete, and are as well as the petioles, nerves of leaves, peduncles, and calyxes clothed with long, rufous, rather adpressed bristles; leaves oblong-lanceolate, acuminated at both ends, 3-nerved, with the margins revolute; thyrse terminal; lobes of calyx 4, narrow, acuminated. ♄. S. Native of Brazil. Perhaps a proper genus, belonging to Tribe *Miconieæ.* It is not a *Clidèmia,* from the ovarium being glabrous at the apex: nor a *Micònia,* from the calyx being 4-cleft.

Willowy Melastoma. Shrub 3 to 6 feet.

10 M. pi'ctum (Rudolph, in Schrad. neues. journ. vol. 2. pt. 2. p. 293.) branches nearly terete, smooth; branchlets hoary; leaves ovate, acuminated, obsoletely denticulated, 5-nerved, covered with strigæ above, and reticulately tomentose beneath; panicles terminal, divaricate; flowers octandrous; calyx 4-toothed; petals oblong, purple, with undulated margins; anthers acuminated. ♄. S. Native of Jamaica, on the mountains.

Painted Melastoma. Shrub 3 to 6 feet.

11 M. crini'tum (Vahl. ecl. fasc. 3. p. 28.) branches terete, glabrous below, leafless at the apex, hispid from white pili; leaves oval-oblong, denticulated, hispid on both surfaces; flowers octandrous; tube of calyx short, tetragonal; angles acutish, gibbous at the base; calycine segments 4, awned beneath the apex; genitals length of corolla. ♄. S. Native of Martinico, on the mountains. Perhaps a species of *Clidèmia.*

Hairy Melastoma. Shrub.

* * *Flowers decandrous.*

A. *Species natives of the West Indies.*

12 M. expa'nsum (Vahl. eclog. fasc. 3. p. 21.) branches terete, glabrous below; leaves oblong-ovate, attenuated, setaceously denticulated, glabrous, 5-nerved; racemes compound, powdery; flowers decandrous; pedicels dichotomous; calyx campanulate, obscurely striated, 5-toothed; petals 5, linear-oblong, obtuse; stamens longer than the corolla. ♄. S. Native of the Island of Montserrat. Perhaps a species of *Micònia,* allied to *M. pyramidàle.*

Expanded Melastoma. Shrub.

13 M. capita'tum (Vahl. eclog. amer. fasc. 1. p. 45.) branches tetragonal, compressed towards the apex; leaves broad-lanceolate, quite entire, obtuse at the base, acuminated at the apex, 5-nerved, pilose, petiolate; heads of flowers terminal, involucrated; bracteas membranous, lanceolate, pilose on the back, about the length of the calyx, calyx glabrous, tubular, pilose at the base: having lanceolate, ciliated segments; petals oblong, longer than the calyx; filaments with 2 appendages each: ovarium elongated, beset with setaceous pili at the apex. ♄. S. Native of the West Indies. Perhaps a species of *Chætogástra.*

Capitate-flowered Melastoma. Shrub.

14 M. nervòsum (Smith in Rees' cycl. vol. 23.) stem terete, bristly; leaves elliptic-oblong, acute, crenated at the base and apex, 5-nerved, villous; flowers in glomerated spikes. ♄. S. Native of Jamaica. Allied to *Micònia alàta* according to Smith.

Nerved-leaved [illegible]stoma. Shrub.

15 M. sple'ndens (Swartz, prod. p. 70. fl. ind. occ. p. 789.) branches nearly terete, glabrous; branchlets rusty; leaves oblong, acuminated, glabrous on both surfaces, 5-nerved, entire, shining above; flowers in umbellate panicles, small, almost sessile; calyx 5-toothed; petals 5, ovate, white; stigma capitate, depressed; berry blue, minute. ♄. S. Native of Jamaica, in woods on the mountains. Plum. ed Burm. t. 140. ex Swartz. Perhaps a species of *Micònia.*

Splendent Melastoma. Shrub.

16 M. favòsum (Desr. in Lam. dict. 4. p. 47.) branchlets clothed with rufous rather scurfy tomentum; leaves ovate, rather cordate, denticulated, 5-nerved, large, lacunose beneath, and with many angled tubercles above; flowers corymbose, terminal; calyx rounded at the base, 10-angled, bluntly 5-toothed; petals red, longer than the calyx. ♄. S. Native of St. Domingo. Perhaps a species of *Clidèmia.*

Pitted-leaved Melastoma. Shrub.

17 M. piluli'ferum (Vahl, eclog. fasc. 3. p. 15.) branches obscurely tetragonal, glabrous, spreading; branchlets compressed, clothed with rufous powdery down; leaves lanceolate-elliptic, quite entire, glabrous, petiolate; flowers spicate, decandrous; spikes bipartite, in a somewhat compound raceme; bracteas setaceous; calyx 5-toothed, striated; stamens longer than the corolla; berries globose, twice the size of a mustard seed. ♄. S. Native of Martinico. Perhaps a species of *Micònia.*

Pill-bearing Melastoma. Shrub.

18 M. trine'rvium (Swartz, fl. ind. occ. p. 774.) quite glabrous; branches somewhat tetragonal; leaves petiolate, oblong, attenuated at both ends, 3-nerved, without any marginal nervules; thyrse terminal, loose, panicled; racemules bipartite; flowers crowded, sessile, decandrous. ♄. S. Native of Jamaica, on the mountains. Calyx, petals, fruit, and genitals un described.

Three-nerved-leaved Melastoma. Shrub.

19 M. vire'scens (Vahl, eclog. fasc. 3. p. 18.) branches

terete, greenish, glabrous, rather compressed above, and beset with rather powdery villi; leaves obovate-lanceolate, denticulated, glabrous, smooth, 3-5-nerved; spikes terminal, racemose, bipartite; flowers secund, decandrous; calyx somewhat campanulate, 5-toothed, powdery; anthers linear, curved, furnished at the base on one side with a short brown auricle; style length of stamens, but longer than the corolla; berry globose, about the size of a mustard seed. ♄. S. Native of the Island of Trinidad.

Greenish Melastoma. Shrub small.

20 M. RI'GIDUM (Swartz, prod. p. 69. fl. ind. occ. 2. p. 768.) shrub with very straight tetragonal branches, clothed with rusty scurfy down towards the apex; leaves ovate, cordate, denticulated, petiolate, 3-nerved, stiff, rather membranous, glabrous, brittle; racemes terminal, many-flowered, beset with rusty hairs; flowers decandrous; calyx ovate, hairy, 5-toothed; teeth short, obtuse, stiff; petals ovate, white; stamens longer than the corolla; filaments keeled on the back; style short, thick, striated; stigma obtuse; berries roundish, clothed with rusty farina. ♄. S. Native of Jamaica, on the highest mountains.

Stiff Melastoma. Shrub.

21 M. CHRISTOPHORIA'NUM (Hamilt. prod. fl. ind. occ. p. 37.) stems bushy, glabrous, erect; leaves obovate, acute, quite entire, green above and white beneath, triple-nerved; flowers decandrous, panicled, terminal; peduncles rather trichotomous. ♄. S. Native of the Island of St. Christopher. Flowers small, red.

St. Christopher Melastoma. Shrub.

22 M. SESSILIFLÒRUM (Lin. spec. 558.) leaves oblong-spatulate, sessile, entire, 3-nerved, tomentose beneath; fascicles of flowers scattered. ♄. S. Native of Ja[illegible]a.—Pluk. phyt. t. 249. f. 2.

Sessile-flowered Melastoma. Shrub small.

23 M. BRACHIA'TUM (Vahl, eclog. fasc. 3. p. 24.) branches smooth, terete; branchlets compressed, clothed with rusty powdery down; leaves elliptic, attenuated, denticulated, glabrous, 5-nerved; nerves powdery beneath; spikes bipartite, racemose, secund; calyx about the size of a black pepper, sulcated, globose when the fruit is ripe; petals small, obovate; flowers decandrous. ♄. S. Native of Montserrat.

Armed Melastoma. Shrub 4 to 6 feet.

24 M. STRIA'TUM (Vahl, eclog. fasc. 3. p. 14.) branches glabrous, powdery and compressed towards the top; leaves ovate-oblong, attenuated, glabrous, toothed, 3-5-nerved; racemes terminal, compound; pedicels 3-flowered; calyx glabrous, truncate or 5-lobed; lobes rounded; petals 5, wedge-shaped; stamens length of the petals. ♄. S. Native of Montserrat.

Striated Melastoma. Shrub 4 to 6 feet.

B. *Species natives of Guiana.*

25 M. PLEUROCA'RPUM (E. Meyer, in act. bonn. 12. p. 795.) branches terete, a little striated; leaves oblong, acuminated, serrulated, ciliated, truncate at the base, 5-nerved, rather pilose; panicle terminal; flowers glomerate, decandrous; calyx glabrous, 10-ribbed, 5-toothed; anthers with long beaks, bicallous at the base; berry 3-celled, crowned by an entire margin. ♄. S. Native of Surinam. Petals obovate, concave.

Ribbed-fruited Melastoma. Shrub.

26 M. FRA'GILE (Lin. fil. suppl. 236.) leaves ovate, serrated, rather petiolate, 5-nerved, smooth, ciliated, very brittle; lower peduncles trifid; pedicels usually 2-flowered; flowers decandrous, rather secund; berry pea-formed, glabrous. ♄. S. Native of Brazil, Mexico, and Surinam.

Brittle-leaved Melastoma. Shrub.

27 M. BRU'NNEUM (Vahl, eclog. fasc. 3. p. 19.) shrub with terete branches, and tetragonal branchlets; leaves oval, ciliated, scabrous above, but hoary beneath, petiolate, 3-5-nerved; flowers decandrous, aggregate beneath the leaves, rather pedunculate and strigose; calyx oblong, with rufescent stripes, and with 5 ovate obtuse segments; petals roundish, length of the segments of the calyx; stamens length of corolla; style clavate, crowned by an obtuse stigma. ♄. S. Native of Guiana.

Brown-calyxed Melastoma. Shrub.

28 M. GROSSULARIOÌDES (Lin. spec. 558.) leaves roundish-ovate, acuminated, denticulated, 3-nerved, glabrous on both surfaces; flowers decandrous. ♄. S. Native of Surinam.—Pluk. alm. 40. t. 249. f. 4.

Gooseberry-like Melastoma. Shrub.

29 M. ICOSA'NDRUM (Swartz, herb. ex Wikst. fl. guad. in acad. sc. stockh. 1827.) leaves ovate or lanceolate, acuminated, crenulated, 3-nerved, glabrous; branches of panicle 3-parted; flowers icosandrous. ♄. S. Native of Guadaloupe.

Icosandrous Melastoma. Shrub.

30 M. PUNCTULA'TUM (Swartz, herb. ex Wikst. l. c.) leaves opposite, ovate, acuminated, quite entire, 5-nerved, glabrous, full of elevated dots beneath; cymes terminal, contracted, few-flowered; calyx glabrous, 5-crenated. ♄. S. Native of Guadaloupe.

Dotted-leaved Melastoma. Shrub.

31 M. FARINULE'NTUM (Swartz, herb. ex Wikst. l. c.) leaves scattered, ovate, attenuated, quite entire, 3-nerved, beset with adpressed dots beneath, rather mealy; raceme straight, trifidly 3-parted; flowers pedicellate, decandrous. ♄. S. Native of Guadaloupe.

Mealy Melastoma. Shrub.

C. *Species natives of Brazil.*

32 M. RA'DULUM (Hoffmanns. verz. 1826. p. 159.) stem terete, somewhat articulated, bluntly 4-winged; leaves petiolate, ovate, acuminated, 3-nerved, somewhat denticulated, rough above, and beset with decumbent hairs beneath; flowers cymose; calyx ovate, somewhat pentagonal, beset with somewhat imbricate tubercles and adpressed hairs. ♄. S. Native of Brazil. Perhaps a species of *Lasiándra* or *Macaírea*.

Rasp-leaved Melastoma. Shrub.

33 M. BRASILIE'NSE (Spreng. syst. 2. p. 297.) leaves lanceolate, acuminated, quite entire, hoary beneath, as well as the branches and calyxes from stellate down; branches of panicle divaricate. ♄. S. Native of Brazil.

Brazilian Melastoma. Shrub.

34 M. SERRULA'TUM (Spreng. syst. 2. p. 300. but not of Pav.) leaves oblong, acute, serrulately ciliated, clothed with fulvous hairs on both surfaces, and on the branches; panicle terminal, trichotomous, with divaricate branches. ♄. S. Native of Brazil.

Serrulated-leaved Melastoma. Shrub.

35 M. HETERONEU'RUM (Schrank et Mart. mss.) shrubby, glabrous, rufescent, with terete branches; leaves oval-oblong, tapering much into the petiole, acuminated at the apex, triple-nerved or almost quintuple-nerved; flowers almost sessile, crowded, axillary; fruit globose; calycine lobes 5-6, deciduous. ♄. S. Native of Brazil, in the woods of Tapura. The nerves on the lower leaves are nearly marginal, and those on the upper leaves are as in *Micònia spondylántha*, rising far above the base, and somewhat alternate. Petals and stamens unknown. Perhaps a proper genus.

Variable-nerved Melastoma. Shrub.

D. *Species natives of New Grenada.*

36 M. SQUAMULÒSUM (Smith in Rees' cycl. vol. 23.) leaves elliptic, obtuse, 3-nerved, entire, smooth above, but covered with scale-like hairs beneath; flowers panicled, terminal, dense;

calyx turbinate, 10-ribbed, bluntly 5-toothed, scaly; petals roundish, yellow; berry furrowed, villous. ♄. S. Native of New Granada. Perhaps a species of *Dàvya*.

Scaly Melastoma. Shrub.

37 M. LIGU'STRINUM (Smith in Rees' cycl. vol. 23.) stem and branches glabrous; leaves oval, obtuse, entire, 3-nerved, glabrous, petiolate, shining above, yellowish beneath; flowers terminal, panicled, dense; calyx hemispherical, glabrous, striated, broadly and bluntly toothed; petals obtuse, small, white or reddish; anthers obtuse; style obtuse; stigma hollow; berry small, yellow. ♄. S. Native of New Granada. Allied to M. squamulòsa ex Smith.

Privet-like Melastoma. Shrub.

38 M. GRÓSSUM (Lin. fil. suppl. 236.) branches stiffish, terete, hispid; leaves quite entire, 5-nerved, rather cordate, covered with scabrous tomentum; flowers large, terminal; calyx strigose; petals rather pilose on the outside. ♄. S. Native of New Granada.

Large Melastoma. Shrub.

39 M. IBAGUE'NSE (Humb. et Bonpl. mel. 1. p. 105. t. 45.) stems weak, flexuous; leaves lanceolate, awnless, ciliated, 3-nerved, clothed with scurfy down and rufescent hairs beneath, as well as on the branchlets; raceme terminal, loose, few-flowered; flowers decandrous; calyx rather globose, with 5 little teeth; berry small, globose, 3-celled. ♄. S. Native of New Granada, on Mount Quindiu, near Ibague. Genitals unknown. Perhaps a species of *Clidèmia* or *Tschùdya*.

Ibague Melastoma. Shrub 10 feet.

40 M. GLOBIFLÒRUM (Cham. et Schlecht. in Linnæa. 5. p. 564.) clothed with hairy tomentum; branches terete; leaves petiolate, 5-nerved, ovate-elliptic, acuminated, hairy above, but yellowish beneath; racemes terminal; its branches bearing bundles of flowers at their tops; calyx urceolate, 5-toothed; petals 5, emarginate; stamens 10; anthers opening by one pore, without appendages; ovarium glabrous; style thickish; stigma dot-formed; berry 5-celled, many-seeded, crowned by the teeth of the calyx; seeds yellowish, 3-sided, with a blackish hylum. ♄. S. Native of Mexico, in woods about Jalapa. Tomentum on the stem, tops of branches, and under side of the leaves stellate, and on the upper side simple. Berry hairy.

Globe-flowered Melastoma. Shrub 4 to 6 feet?

41 M. SCORPIOÌDES (Cham. et Schlecht. in Linnæa. 5. p. 564.) leaves on short petioles, membranous, obovate, acuminated, glabrous above, but clothed with scurfy down beneath, 5-nerved or triple-nerved; racemes terminal, elongated, constantly composed of twisted cymes; flowers almost sessile, secund, small, decandrous; anthers opening by one pore, shortly auricled at the base; stigma peltately funnel-shaped. ♄. S. Native of Mexico, at Cuesta Grande de Chiconquiaco. Down on the branches and lower surface of leaves rather scurfy, intermixed with a few fine stellate down.

Scorpion-like Melastoma. Shrub.

42 M. CORNOÌDES (Cham. et Schlecht. Linnæa. 5. p. 563.) glabrous; branches terete; leaves petiolate, oval-lanceolate, acuminated, 5-nerved, puberulous, ciliated, membranous; cymes axillary, or nearly terminal, trichotomous, loose, and few-flowered, having the branches filiform, bibracteolate; berries globose, 5-ribbed; ribs running down from the teeth of the calyx. ♄. S. Native of Mexico, near Jalapa in woods. Habit of *Clidèmia agréstis*. Seeds small, yellowish, with a black nearly linear hylum. Stamens 10; anthers not appendiculated, opening by one pore at the apex. Perhaps a species of *Clidèmia*.

Dogwood-like Melastoma. Shrub 2 to 3 ft.?

43 M. FURFURA'CEUM (Vahl, eclog. fasc. 3. p. 13.) leaves oblong, glabrous, smooth, quite entire, petiolate, 3-nerved, acuminated; branches and peduncles clothed with scurfy tomentum; racemes simple; pedicels 3-flowered; flowers almost sessile, decandrous; calyx 5-toothed; teeth minute; petals 5, oblong; style length of the stamens. ♄. S. Native of South America.

Scurfy Melastoma. Shrub.

* * * *The number of stamens and parts of the flower are unknown in the following species.*

44 M. MYRICOÌDES (Desr. in Lam. dict. 4. p. 51.) smoothish; branches tetragonal, knotted at the joints; leaves ovate, smoothish, somewhat acuminated, denticulated, 3-5-nerved, small, almost sessile, rather villous beneath; flowers trichotomously panicled; fruit globose, glabrous, granular. ♄. S. Native of the Antilles.

Myrica-like Melastoma. Shrub.

45 M. THYRSOI'DEUM (Vahl, eclog. fasc. 3. p. 13.) glabrous; leaves oblong-ovate, attenuated at both ends, glandularly denticulated, 3-nerved; racemes terminal, decompound; peduncles tetragonally compressed; flowers small; bracteas linear; calyx globose, truncate. ♄. S. Native of Montserrat.

Thyrse-like-flowered Melastoma. Shrub.

46 M. CU'PREUM (Smith in Rees' cycl. vol. 23.) leaves oval-elliptic, acute, entire, on short petioles, 3-nerved, smoothish above, but clothed with rufous tomentum beneath, as well as the petioles and peduncles; flowers dichotomously panicled, very numerous, and very minute; calyxes glabrous. ♄. S. Native about the Caraccas?

Copper-coloured Melastoma. Shrub.

47 M. ADSCE'NDENS (Swartz, fl. ind. occ. 2. p. 772.) shrub sarmentose, twining, rooting; branches tetragonal, pubescent; leaves ovate, acute, glabrous, 3-nerved, denticulated; raceme ovate, terminal; racemules bearing the flowers on one side; calyx tubular, with its limb membranous and 4-5-sided, and with 4-5 truncate teeth; petals oblong, obtuse; stamens 8-10; anthers opening by 2 pores at the apex, and sheathed at the base; fruit oblong, 5-celled. ♄. ⌒. S. Native of Jamaica, in mountain woods. M. scándens, Swartz, prod. p. 69. but not of Aubl. Perhaps a proper genus allied to *Meriània*.

Ascending Melastoma. Shrub cl.

48 M. NODÒSUM (Desr. in Lam. dict. 4. p. 55.) blackish; branches somewhat tetragonal, knotted; leaves elliptic, serrulately ciliated, 5-nerved, coriaceous; flowers in trichotomous corymbs, bracteate; peduncles hispid; calyx campanulate, angular at the base, crenated, length of the corolla. ♄. S. Native of the Antilles.

Knotted Melastoma. Shrub.

49 M. PARADÓXUM (Mart. herb. ex D. C. prod. 3. p. 202.) shrubby, quite glabrous; branches much compressed between the knots; leaves petiolate, coriaceous, oval, somewhat cordate at the base, 5-nerved, with the margins nerve-formed, pale beneath; panicle terminal; fruit globose. ♄. S. Native of Brazil, on Mount Arara-coara. Seeds 3-sided, smooth. Habit of *Tocòca*, but the bladders on the petioles are wanting. The calyx is 4-sided.

Paradoxical Melastoma. Shrub.

§ 3. *Alternifòliæ. The leaves being alternate in the following species, it is therefore evident that it should be excluded from the order altogether.*

1 RHE'XIA JUSSIÆOÌDES (Lin. fil. suppl. 215.) pubescent; leaves lanceolate, alternate? ribbed, with the margins scabrous from very minute serratures; flowers solitary, axillary, octandrous; calycine segments 4, lanceolate, acute; petals ovate, exceeding the calyx, yellow; genitals inclinate, shorter than the corolla; filaments short; stigma warted; capsule somewhat

tetragonal, 4-celled. ♄. S. Native of Surinam. This plant most probably belongs to some genus of *Onagràriæ*.

Jussiæa-like Rhexia. Shrub.

† *An additional species of Arthrostémma.*

3 Arthroste'mma nítida (Graham in ed. phil. journ. dec. 1831. Hook. bot. mag. 3142.) stems shrubby, erect, and are, as well as the branches, tetragonally winged, beset with coloured hairs; leaves ovate, acute, serrulated, glabrous on both surfaces, shining above, but glandularly hispid on the nerves beneath; peduncles axillary towards the tops of the branches, 3-flowered, longer than the petioles; petals obovate, retuse; anthers dissimilar, with their connectives short and biauriculate. ♄. S. Native of Buenos Ayres. Flowers lilac.

Shining Arthrostemma. Fl. Ju. Jul. Clt. 1829. Sh. 2 to 3 ft.

Order XCIX. ALANGIE'Æ (see genus for derivation). D. C. prod. 3. p. 103. Tube of calyx egg-shaped, rather constricted at the apex; limb campanulate, 5-10-toothed. Petals 5-10, linear, spreadingly reflexed. Stamens much exserted, double or quadruple the number of the petals; filaments free, filiform, very villous at the base. Anthers adnate, linear, 2-celled, bursting inwards by a longitudinal double chink, often barren. Disk fleshy at the base of the limb of the calyx. Drupe oval, somewhat crowned, fleshy, a little ribbed, and somewhat tomentose, containing a valveless 1-celled nut, the bone or stone having a hole at its apex. Seed one (or 3, ex Rheede), inverted, ovate, with fleshy friable albumen. Embryo straight, with a long ascending radicle, and flat foliaceous ovate-cordate cotyledons.—Shewy Indian trees, with the branches often spinescent. Leaves alternate, exstipulate, ovate-lanceolate, acuminated, feather-nerved, quite entire, dotless, similar to those of *Grèwia*. Flowers few, sessile, in axillary fascicles. Fruit eatable.

This order is only composed of one genus, whose place in the natural system is very doubtful. It differs from *Myrtàceæ* in the greater number of petals, in the adnate anthers, in the one-celled fruit, and in the albuminous pendulous seeds. It agrees with *Combretàceæ* in the tube of the calyx being constricted at the apex, in the one-celled fruit, and the pendulous seed; but differs in the greater number of petals, in the adnate anthers, in the albuminous seeds, and in the flat cotyledons. In the form of the anthers, and in the one-celled fruit, it differs from *Melastomàceæ* and *Onagràriæ*. It agrees in some degree with *Haloràgeæ* in the fabric of the seed, but differs from it in habit, in the one-celled fruit, and single style. The properties are said by the Malays to be purgative and hydrogogue, and their roots aromatic.

1. ALA'NGIUM (*Alangi* is the Malabar name of the first species). Lam. dict. 1. p. 174. Vahl. symb. 1. p. 61. Corr. ann. mus. 10. p. 161. D. C. prod. 3. p. 203.—Angòlam, Adans. fam. 2. p. 85.—Angolàmia, Scop.

Lin. syst. *Icosándria, Monogýnia.* Being no other genus the character is the same as that of the order.

1 A. decape'talum (Lam. dict. 1. p. 174.) flowers of 10 petals; branches glabrous, spinescent; leaves oblong-lanceolate. ♄. S. Native of Malabar, on rocky mountains, where it is called *Alangi* or *Angolam* by the natives. Rheed. mal. 4. t. 17. Grèwia salvifòlia, Lin. fil. suppl. 409. ex Vahl, symb. 1. p. 61. Berry or drupe rather tomentose, 2-3-seeded. Stamens 23, ex Vahl. The petals are either 10 or 12, and the stamens are double that number. Flowers white, with a grateful scent, solitary or 2-3-together in the axils of the leaves. The pulp of the fruit has a grateful sweet taste.

Ten-petalled Alangium. Clt. 1779. Tree 30 ft.

2 A. hexape'talum (Lam. l. c.) flowers of 6-7 petals; branches glabrous, hardly spinescent; leaves ovate-lanceolate, acuminated. ♄. S. Native of Malabar, among rocks, where it is called by the natives *Kara-Angolam* and *Namidou*. Stamens 10-12, but 26 according to Rheed. mal. 4. t. 26. but in the specimen examined by De Candolle, the petals were 7, and the stamens 28, therefore the stamens are thrice the number of the petals. Leaves velvety beneath, and on the petioles. Berry or drupe with a purple tomentose coriaceous rind, and red juicy clammy pulp, which has a rather acid taste; the nut one-seeded.

Six-petalled Alangium. Clt. 1823. Tree 30 ft.

3 A. tomentòsum (Lam. dict. l. c.) flowers unknown; branches unarmed, velvety when young, as well as the petioles and nerves of leaves; leaves oblong, bluntly acuminated, reticulated with little veins beneath. ♄. S. Native of the East Indies. Berry or drupe pubescent, with a woody coriaceous livid-purple rind.

Tomentose Alangium. Tree 20 ft.

Cult. The species of *Alángium* thrive well in a mixture of loam and peat, or any light rich soil; and cuttings root readily if planted in a pot of sand, with a hand-glass placed over them, in heat.

Order C. PHILADE'LPHEÆ (plants agreeing with *Philadélphus* in important characters). D. Don, in edinb. phil. journ. 1826. April. p. 133. D. C. prod. 3. p. 205.—Myrtàceæ, gen. Juss.

Tube of calyx turbinate, adhering to the ovarium; limb 4-10-parted. Petals (f. 114. *d.*) alternating with the lobes of the calyx, and therefore equal to them in number, convolutely imbricate in æstivation. Stamens 20-40, inserted into the throat of the calyx in 1 or 2 series. Styles sometimes nearly distinct and at others more or less joined together in one; stigmas many. Capsule half adhering to the calyx, 4 (f. 114. *b.*) -10-celled, many-seeded. Seeds scobiform, subulate, smooth, heaped together at the angles of the cells on the angular placenta, covered by loose, membranous aril. Albumen fleshy. Embryo inverted, almost the length of the albumen (f. 114. *e.*), with oval, obtuse, flattish cotyledons, and a nearly terete radicle, which is longer than the cotyledons.—This order consists of hardy ornamental shrubs. Leaves opposite, dotless, nerved, toothed, or nearly entire, exstipulate. Peduncles opposite, axillary, or terminal, trichotomously cymose, or somewhat panicled. Flowers white, in most cases fragrant. *Philadélpheæ* is more closely allied to *Saxifrágeæ* than to *Myrtàceæ;* from the former, however, it differs widely in habit, but in the fructification differing chiefly in the numerous cells of the fruit, and in the indefinite stamens. From *Myrtàceæ* it differs in the arillate albuminous seeds, in the styles being more or less distinct, and in the toothed, dotless leaves. De Candolle points out an approach to *Hydrángeæ*, and that it is a link connecting it with *Vibúrnum*, agreeing almost equally with *Philadélpheæ* and *Vibúrneæ* in habit and fructification.

Synopsis of the genera.

1 **Philade′lphus.** Limb of calyx 4-5-parted. Petals 4 (f. 114. *d.*) -5. Stamens 20-40. Styles 4-5, joined or distinct. Capsule 4 (f. 114. *b.*), -5-celled.

2 **Decuma′ria.** Limb of calyx 7-10-toothed. Petals 7-10. Stamens thrice the number of the petals. Style 1, crowned by 7-10 stigmas. Capsule 7-10-celled.

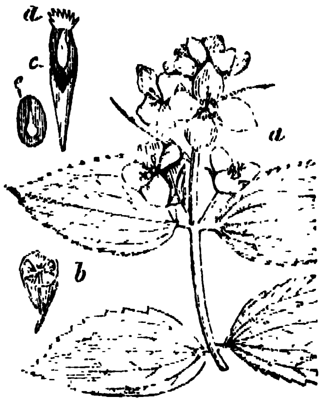
3 **Deu′tzia.** Limb of calyx 5-6-cleft. Petals 5-6. Stamens 10-12; filaments tricuspidate. Styles 3-4. Capsule 3-4-celled.

I. PHILADE′LPHUS (the φιλαδελφος of Aristotle is a tree not now known; it is said to be from Ptolemy Philadelphus, King of Egypt). Lin. gen. no. 614. Gærtn. fruct. 1. p. 173. t. 35. D. C. prod. 3. p. 205. Syringa, Tourn. inst. t. 389. but not of Lin.

Lin. syst. *Icosándria, Tetra-Pentagýnia.* Tube of calyx obovate-turbinate; limb 4-5-parted. Petals 4 (f. 114. *d.*) -5. Stamens 20-40, free, shorter than the petals. Styles 4-5, sometimes connected, and sometimes more or less distinct. Stigmas 4-5, oblong or linear, usually distinct, rarely joined. Capsule 4 (f. 114. *b.*) -5-celled, many-seeded. Seeds scobiform, inclosed in a membranous arillus (f. 114. *c.*), which is fringed at one end (f. 114. *d.*).—Shrubs, with pedicellate, white, usually sweet-scented flowers, disposed in corymbose cymes, or somewhat panicled, rarely axillary and bracteate.

§ 1. *Stems stiff, straight. Flowers in racemes.*

FIG. 114.



1 P. coronа′rius (Lin. spec. 671.) leaves ovate, acuminated, serrately denticulated, triple-nerved, smoothish, but hairy at the veins beneath: flowers racemose; lobes of calyx acuminated; styles almost distinct from the base, not exceeding the stamens. ♄. H. Native of the south of Europe. Curt. bot. mag. 391. The leaves have the taste of cucumbers. The flowers are white, and have a strong scent, which, at a distance, resembles that of orange flowers, but near it is too powerful for most persons. The primary flowers are 5-cleft, but the rest are 4-cleft.

Var. a, vulgàris (D. C. prod. 3. p. 205.) shrub strong; leaves oval-oblong, large, rather distant. ♄. H. Schkuhr. handb. t. 121. Lam. ill. t. 420.

Var. β, nànus (Mill. dict. no. 2.) shrub 1-2 feet high; leaves and branchlets crowded; flower-bearing branches incurved. ♄. H. Native country unknown. This variety is sometimes to be found in gardens with double flowers.

Var. γ, flòre-plènus; flowers double.

Var. δ, variegàtus; leaves edged with white or yellow.

Garland or Common Syringa or Mock-orange. Fl. May, June. Clt. 1596. Shrub 2 to 10 feet.

2 P. **Zeyhe′ri** (Schrad. diss. with a figure, ex D. C. prod. 3. p. 205.) leaves ovate, acuminated, serrately denticulated, rounded at the base, triple-nerved, hairy at the veins beneath; flowers somewhat racemose; lobes of calyx long-acuminated; style profoundly 4-cleft. ♄. H. Native of North America. This species is of more humble habit than *P. coronàrius*, and differs chiefly from it in the leaves being rounded at the base, and in the flowers being fewer, larger, and scentless.

Zeyher's Syringa or Mock-orange. Fl. May, June. Clt.? Shrub 3 to 4 feet.

3 P. floribu′ndus (Schrad. diss. with a figure, ex D. C. l. c.) leaves ovate-oval, long-acuminated, serrate-toothed, triple-nerved, clothed with hairy pubescence beneath; flowers somewhat racemose; lobes of calyx ending in a long acumen each; style 4-cleft at the apex. ♄. H. Native of North America. Flowers white, 5-7, showy, sweet-scented.

Bundle-flowered Syringa or Mock-orange. Fl. May, June. Clt.? Shrub 4 to 8 feet.

4 P verrucòsus (Schrad. diss. with a figure, ex D. C. l. c.) leaves elliptic-ovate, acuminated, denticulated, clothed with hairy pubescence beneath; flowers racemose; lobes of calyx acuminated; style 4-cleft at the apex. ♄. H. Native of North America. Philadélphus grandiflòrus, Lindl. bot. reg. 570. Pursh. fl. sept. amer. but not of Willd. The leaves on the ribs and primary veins beneath, as well as the peduncles, pedicels, and calyxes, are beset with hair-bearing warts. Flowers large, white, scentless.

Warted Syringa or Mock-orange. Fl. May, June. Clt.? Shrub 4 to 6 feet.

5 P. latifòlius (Schrad. diss. ex D. C. prod. 3. p. 506.) leaves broad-ovate, acuminated, toothed, somewhat quintuple-nerved, clothed with hairy pubescence beneath; flowers racemose; lobes of calyx acuminated; style 4-cleft at the very apex. ♄. H. Native of North America. P. latifòlius, Hortul. P. pubéscens, Cels. hort. Lois. herb. amat. t. 208. This species is known by its white bark, and by the leaves being broad ovate, beset with hairs, which are naked at the base, not with warts, as well as the young branches.

Broad-leaved Syringa or Mock-orange. Fl. May, June. Clt.? Shrub 4 to 6 feet.

6 P. tomentòsus (Wall. cat. 3653.) leaves ovate, acuminated, denticulated, tomentose beneath; raceme terminal; pedicels opposite; lobes of calyx ovate, acute. ♄. H. Native of Nipaul and Kamaon. P. Nipaulénsis, Loud. hort. brit. p. 196.

Tomentose Syringa or Mock-orange. Clt. 1822. Shrub 3 to 6 feet.

§ 2. *Stems more slender, twiggy, loose. Flowers solitary or 3 together.*

7 P. grandiflòrus (Willd. enum. 1. p. 511.) leaves ovate, long-acuminated, denticulated, triple-nerved, hairy at the veins beneath, and with fascicles of pili in the axils of the veins; flowers solitary, or by threes; lobes of calyx long-acuminated; styles joined in one, longer than the stamens, crowned by 4 linear stigmas. ♄. H. Native of North America. Guimp. abb. holz. t. 14. Schrad. diss. with a figure. P. inodòrus, Hortul. Branches covered with a castaneous blood-coloured epidermis. Flowers large, scentless.

Great-flowered Syringa or Mock-orange. Fl. June, July. Clt. 1811. Shrub 6 to 8 feet.

8 P. speciòsus (Schrad. diss. with a figure, ex D. C. l. c.) leaves ovate, rarely oval-ovate, long-acuminated, sharply serrate-toothed, clothed with hairy pubescence beneath; flowers solitary, or by threes; lobes of calyx with very long acumens; style deeply 4-cleft, exceeding the stamens. ♄. H. Native of North America. P. grandiflòrus of German gardeners. P. grandiflòrus β, láxus of other gardeners. Tube of calyx nearly terete. Capsule 8-valved, ex Schrad., but more likely 4-valved, with the valves becoming 2-parted at maturity. Flowers large, white, scentless?

Showy Syringa or Mock-orange. Fl. June. Clt.? Shrub 10 to 14 feet.

9 P. la′xus (Schrad. diss. with a figure, ex D. C. l. c.) leaves oval-ovate, long-acuminated, toothed, clothed with hairy pu-

bescence beneath; flowers solitary and by threes; lobes of calyx ending each in a very long acumen; style 4-cleft; stigmas about equal in length to the stamens. ♄. H. Native of North America. P. láxus and P. hùmilis, Hortul. Humbler than the preceding plant.

Loose Syringa or Mock-orange. Fl. Ju. Clt.? Sh. 4 to 6 ft.

10 P. hirsu'tus (Nutt. gen. amer. 1. p. 301.) leaves oblong-ovate, acute, toothed, 5-nerved, hairy on both surfaces, white beneath; flowers solitary and by threes; styles joined to the apex; stigmas undivided. ♄. H. Native of North America, in Tennessee, at French River; frequent among rocks. Flowers white, scentless?

Var. β, gràcilis (Schrad. l. c.) branches more slender; leaves 3-nerved. ♄. H. Native of North America. P. gràcilis, Hortul. Lodd. cat. ex Loud. hort. brit. p. 196.

Hairy Syringa or Mock Orange. Shrub 2 to 3 ft.

11 P. Lewísii (Pursh, fl. amer. sept. 1. p. 329.) leaves ovate, acute, almost entire, with ciliated margins; style length of the stamens, trifid at the apex. ♄. H. Native of North America, at Clark's river, in watery places. Flowers smaller than those of the following species.

Lewis's Syringa or Mock-orange. Fl. June. Clt.? Shrub 6 to 8 ft.

12 P. inodórus (Lin. spec. p. 671.) leaves broad-ovate, acuminated, quite entire, triple-nerved, or nearly feather-nerved; flowers solitary, and by threes; style cleft at the apex into 4 oblong stigmas. ♄. S. Native of South Carolina, very rare, on the banks of rivers.—Pursh, fl. amer. sept. 1. p. 329. Sims, bot. mag. t. 1478. Syrínga inodòra, Mœnch.—Catesb. car. 2. t. 84. Flowers white, scentless, large.

Scentless Syringa or Mock-orange. F[illegible]ne. Clt. 1738. Shrub 4 to 6 ft.

Cult. All the species of *Philadélphus* or *Syringa* are very desirable plants for shrubberies, the flowers being showy, and of many of the species sweet-scented. They grow in any common soil; and are readily increased by laying down the branches.

II. DECUMA'RIA (from δεκυμα, *decuma*, a tenth; in reference to the tenfold structure of some of the flowers). Lin. gen. no. 597. Lam. ill. t. 403. D. C. prod. 3. p. 206.—Forsỳthia, Walt. but not of Vahl.

Lin. syst. *Icosándria, Monogýnia.* Tube of calyx campanulate; limb 7-10-toothed. Petals oblong, equal in number to the teeth of the calyx, and alternating with them. Stamens thrice the number of the petals, disposed in one series, 2 in front of each petal, and one between each. Style one, very thick, expanded at the apex into a disk, bearing 7-10 radiating stigmas. Capsule ovoid, connate with the calyx to above the middle, which is 7-10-nerved, and toothless, crowned by the style and stigmas, valveless, 7-10-celled, opening irregularly near the prominent nerves of the calyx. Seeds numerous, oblong, inclosed in a membranous aril, fixed obliquely by their centre.—Sarmentose shrubs. Leaves opposite, glabrous, entire or toothed at the apex, dotless. Flowers white, sweet-scented, disposed in terminal corymbs, sometimes they are to be found dioecious in gardens. Leaf-buds beset with short rufous pili.

1 D. ba'rbara (Lin. spec. 1668.) leaves ovate-oblong, acute at both ends. ♄. H. Native of Lower Carolina, in shady places. D. radicans, Mœnch. meth. p. 17. D. Forsỳthia, Michx. fl. bor. amer. 1. p. 282. Flowers like those of the lime tree, very sweet-scented.

Var. β, sarmentòsa (Bosc, act. soc. hist. nat. par. 1. p. 76. t. 13.) lower leaves roundish, upper ones ovate-lanceolate. ♄. H. Native of Virginia and Carolina, in humid shady places. Forsỳthia scándens, Walt. car. p. 154. D. prostràta, Lodd. cat. ex Loud. hort. brit. 188.

Barbarous or Climbing Decumaria. Fl. July, Aug. Clt. 1785. Shrub sarmentose or cl.

Cult. *Decumària* is a very proper shrub for training against a wall or on trellis work, to form bowers, for which it is well adapted from its sweet-scented flowers. It thrives well in any common soil, and is easily increased by laying down the branches or by cuttings.

III. DEU'TZIA (in honour of John Deutz, a Dutch naturalist). Thunb. nov. gen. 19. jap. p. 10. Juss. gen. 431.

Lin. syst. *Decándria, Trigýnia.* Tube of calyx campanulate, tomentose; limb 5-6-cleft. Petals 5-6, oblong. Stamens 10; filaments tricuspidate. Styles 3-4, longer than the corolla; stigmas simple, club-shaped. Capsule globular, truncate, perforated, somewhat 3-cornered, scabrous, awned from the permanent bases of the styles, 3-4-valved, 3-4-celled, small, opening at the base. Seeds several in each cell.—Much branched shrubs, with the branches purplish and villous. Leaves opposite, petiolate, ovate, acuminated, serrated, wrinkled, and veined, scabrous from stellate fascicles of down. Flowers in compound panicles. Peduncles and pedicels tomentose and scabrous.

1 D. sca'bra (Lin. syst. p. 425. Thunb. jap. 185. t. 24.) leaves ovate, acuminated, serrated, scabrous from stellate down; flowers in compound panicles; peduncles and pedicels scabrous; calycine lobes short and bluntish. ♄. H. Native of Japan, where the leaves are used by joiners in smoothing and polishing.

Scabrous Deutzia. Fl. May, June. Shrub 4 to 6 ft.

2 D. stami'nea (R. Br. mss. ex Wall. pl. rar. asiat. 2. p. 82. t. 191.) young branches clothed with stellate tomentum, old ones glabrous; leaves quite entire, scabrous, lanceolate, acuminated, cuspidately serrated, white from tomentum beneath; cymes trichotomous; peduncles 3-flowered; pedicels and calyxes beset with stellate tomentum outside. ♄. H. Native of Nipaul, on the high mountains near the Great Valley. Philadélphus or Leptospérmum stamíneum, Wall. Flowers white, sweet-scented. Styles 4-5, length of the stamens; teeth of filaments shorter than the anthers; teeth of calyx lanceolate, acute.

Long-stamened Deutzia. Shrub 3 to 4 ft.

3 D. corymbòsa (R. Br. in Wall. cat. 3652.) glabrous; leaves ovate, acuminated, cuspidately serrated; panicles corymbose, trichotomous; panicle and outside of calyx dotted; teeth of calyx short and rounded; teeth of filaments shorter than the anthers. ♄. H. Native of Kamaon. Philadélphus corymbòsus, Wall. Flowers white.

Corymbose-flowered Deutzia. Shrub 3 to 4 ft.

4 D. Brunonia'na (Wall. cat. 3650.) leaves ovate, acuminated, cuspidately serrated, clothed with hoary tomentum beneath, as well as the peduncles and calyxes; peduncles axillary; lobes of calyx subulate; petals narrow; cusps of filaments longer than the anthers. ♄. H. Native of Kamaon. Leptospérmum scàbrum, Wall. Flowers white. Fruit small.

Brown's Deutzia. Shrub 4 to 5 ft.

Cult. Any common soil will suit these shrubs, and they may easily be increased by laying down the branches or by cuttings.

Order CI. MYRTA'CEÆ (plants agreeing with *Mýrtus* in important characters). R. Brown, gen. rem. p. 14. D. C. dict. class vii. and not. 1826. prod. 3. p. 207.—Mýrti, Juss. gen. p. 323.—Mýrteæ, Juss. dict. sc. nat. 34. p. 79.—Myrtíneæ, D. C. theor.—Myrtoìdea, Vent. tabl. Batsch. p. 13.—Myrteàceæ, Nees, nov. act. bonn. 11. p. 113.—Hesperídeæ, Lin. ord. nat. 19. but not of Vent.

Calyx superior, 4-5-cleft (f. 115. *a.* f. 117. *b.*), rarely 6-cleft, sometimes falling off like the cap, in consequence of the cohesion at the apex; tube adnate to the ovarium (f. 115. *a.* f. 123. *a.*). Petals equal in number to the lobes of the calyx, inserted in the calyx, rarely wanting; but when present with a quincunical æstivation (f. 122. *b.*). Stamens inserted along with the petals (f. 115. *e.* f. 123. *b.*), and are either twice their number or indefinite (f. 119. *e.* f. 123. *b.*), usually disposed in many series; filaments distinct (f. 123. *b.*), or connected into several parcels (f. 117. *e. e.*); curved inwards before flowering; anthers ovate, 2-celled, small, bursting lengthwise (f. 120. *c.*). Ovarium inferior, 2-4-5 or 6-celled; style simple (f. 119. *c.*). Stigma simple. Fruit either dry (f. 119. *d.*) or fleshy (f. 121. *e.*), dehiscent or indehiscent. Seeds usually indefinite, variable in form. Embryo exalbuminous, straight or curved, with its cotyledons and radicle distinguishable, or conferruminated into a solid mass.—Trees or shrubs. Leaves usually opposite (rarely alternate, as in *Barringtònia*,), entire, full of transparent dots, feather-nerved, the nerves usually running into each other towards the margin, and forming a vein running parallel with the margin. Inflorescence variable, sometimes on 1-flowered axillary pedicels, sometimes on axillary 3-flowered trichotomous cymose peduncles, or the peduncles are furnished with many opposite flowers, and terminated by one flower; sometimes the flowers are sessile and spicate; always with 2 opposite bracteas under each flower. Flowers white, red, occasionally yellow, but never blue.

Myrtàceæ is one of the most natural among the tribes of plants, and the most easily recognised. Its opposite exstipulate clothed entire leaves, with a marginal vein, are a certain indication of it, with the exception of a few plants, which probably do not belong to the order, although at present placed in it. It is closely allied to *Rosàceæ*, *Lythrarièæ*, *Onagràriæ*, *Combretàceæ*, and *Melastomàceæ*, but cannot well be confounded with them or any other tribe. It is distinguished from *Lythrarièæ* in the calyx being adnate to the ovarium, from *Combretàceæ* in the many-celled ovarium, in the erect or horizontal seeds, not pendulous, and in the cotyledons not being convolute; from *Melastomàceæ* in the filaments not being bent abruptly, nor received in vacuities below the recesses of the calyx, as in that order, and in the form of the stamens; from *Onagràriæ* in the stamens being usually indefinite. The order offers a curious instance of the facility with which the calyx and corolla can take upon themselves the same functions of transformation. In *Eucalýptus*, as is well known, the sepals are consolidated into a cup-like lid, called the operculum. In *Eudésmia*, a nearly related genus, the calyx remains in its normal state, while the petals are consolidated into the operculum. The pellucid dottings of the leaves, and other parts, indicate the presence of a fragrant aromatic or pungent volatile oil, which gives the principal quality to the products of the order. To this are to be attributed the grateful perfume of the *Guàva* fruit, the powerful scent of the flower-buds of *Caryophýllus aromáticus*, called in England cloves, and the balsamic odour of the eastern fruits called the *Jamsorade* and the *Rose-apple*. The fruit of various *Eugenias* are found by travellers in the forests of Brazil to bear very agreeable fruit. A fruit of Brazil, called *Japoticabieras*, brought from the forests to the towns of St. Paul and Tejuco, belongs to this order; it is said to be delicious. (St. Hil. pl. usual. p. 29.) The young flower-buds of *Calyptránthes aromática* have the flavour and quality of cloves, for which they might be advantageously substituted, according to M. Auguste St. Hilaire, pl. usual. no. 14. The volatile oil of cajeputi, or cajeput oil, is distilled from the leaves of *Melaleùca leucodéndron* and *M. cajepùti*, and is well known as a powerful sudorific; and is a useful external application in chronic rheumatism. (Ainslie, 1. p. 260.). It is considered carminative, cephalic, and emmenagogue, and is no doubt a highly diffusible stimulant, antispasmodic and diaphoretic, and on that account is used in the cure of cholera. It has also the power of dissolving caoutchouc. (Ibid.) The root of *Stravàdium racemòsum* has a slightly bitter, but not unpleasant taste. It is considered by the Hindoo doctors valuable on account of its aperient, deobstruent, and cooling properties; the bark is supposed to possess properties similar to *Cinchòna*. (Ibid. 2. p. 65.). A kind of gum is yielded by *Eucalýptus resinífera*, which is occasionally sold in the medicine bazaars of India. (Ibid. 1. p. 185.) Other species of *Eucalýptus* yield a large quantity of tannin, which has been even extracted from the trees of New Holland, and sent to the English market. The leaves of *Glaphýria nítida*, called by the Malays the *tree of long life*, probably from the other trees of the forest having ceased to exist, afford at Bencoolen a substitute for tea, and it is known by the natives by the name of *tea plant*. (Lin. trans. 14. p. 129.).

[illegible]nopsis of the genera.

TRIBE I.

CHAMÆLAUCIEÆ. *Lobes of calyx* 5 (f. 115. *b.*). *Petals* 5. *Stamens disposed in one series, fertile and sterile mixed* (f. 115. *e. e.*). *Fruit dry,* 1-*celled. Ovula numerous, erect from the base, fixed to the centre or to the somewhat exserted central placenta.*—*Heath-like shrubs, all natives of New Holland. Leaves opposite, dotted. Flowers small, on short pedicels. Bracteas* 2 *under each flower, free or joined.*

1 CA'LYTHRIX. Calyx drawn out into a cylindrical tube (f. 115. *a.*); lobes ending in a long bristle each (f. 115. *g.*). Stamens 10-30, free. Fruit dry, indehiscent, 1-celled.

2 DARWI'NIA. Tube of calyx drawn out into a membranous deciduous limb, with its throat dilated. Lobes roundish, cordate. Stamens 10-15, free. Ovarium 1-celled, 1-ovulate.

3 VERTICO'RDIA. Flowers before expansion girded by 2 free or concrete bracteas; lobes of calyx palmately parted into 5-7-lobules. Stamens 20, of which 10 are sterile and ligulate. Stigma feathered. Fruit 1-seeded, 1-celled when mature.

4 CHAMÆLAU'CIUM. Flowers girded by 2 concrete bracteas, which terminate each in a dorsal mucrone; lobes of calyx undivided, petaloid. Stamens 20, 10 of which are sterile and ligulate. Stigma capitate. Ovarium 1-celled, 5-6-ovulate.

5 GENETY'LLIS. Flowers girded by 2 distinct bracteas; lobes of calyx short, obtuse, entire. Stamens 20, many of which are sterile, all filiform. Stigma bearded. Ovarium 1-celled, 5-6-ovulate.

6 PILEA'NTHUS. Flowers inclosed in a 1-leaved calyptriform involucrum before expansion; limb of calyx 10-parted; lobes rounded. Stamens 20, all fertile, some simple, others bifurcate. Ovarium 1-celled, 5-7-ovulate. Stigma obtuse.

TRIBE II.

LEPTOSPE'RMEÆ. *Calyx 4-6-lobed* (f. 116. *b.* f. 117. *b.*). *Petals* 4 (f. 116. *b.*) -6. *Stamens free* (f. 119. *e.*) *or polyadelphous* (f. 117. *e.*). *Fruit dry, many-celled. Seeds exarillate and exalbuminous.—Shrubs or trees, natives of New Holland. Leaves opposite or alternate, usually full of pellucid dots. Inflorescence variable; sometimes cymose and centrifugal, with pedicellate flowers* (f. 118.); *sometimes spicate and centripetal, with sessile flowers* (f. 116. f. 117.).

SUBTRIBE I. **MELALEU'CEÆ.** *Stamens polyadelphous* (f. 116. *c.* f. 117. *e.*).

7 **ASTA'RTEA.** Limb of calyx 5-parted; lobes orbicular. Bundles of stamens alternating with the petals. Stigma capitate. Capsule 3-celled, 3-valved, many-seeded, half adhering to the calyx. Flowers pedicellate.

8 **TRISTA'NIA.** Calyx 5-cleft. Bundles of stamens opposite the petals. Capsule 3-celled, many-seeded. Flowers pedicellate.

9 **BEAUFÓRTIA.** Limb of calyx 5-parted; lobes acute. Bundles of stamens opposite the petals. Capsule adhering to the tube of the calyx, 3-celled; cells 1-seeded. Flowers sessile.

10 **CALOTHA'MNUS.** Calyx 4-5-toothed (f. 116. *b.*). Bundles of stamens opposite the petals (f. 116. *c.*). Capsule covered by the calyx, 3-celled, many-seeded. Flowers sessile.

11 **MELALEU'CA.** Limb of calyx 5-pa[illegible] (f. 117. *b.*). Bundles of stamens elongated, opposite the petals (f. 117. *c.*). Capsule covered by the calyx (f. 117. *a.*), and adnate to the base of the branches, 3-celled, many-seeded. Flowers sessile.

12 **LAMA'RCHEA.** Limb of calyx 5-parted. Petals campanulately conniving. Stamens monadelphous at the base, but dividing into 5 polyandrous parts at the apex. Capsule covered by the chartaceous calyx, 3-celled, opening by 3 valves at the apex, globose, woody, many-seeded. Flowers axillary, solitary, sessile.

13 **EUDE'SMIA.** Limb of calyx 4-toothed. Petals joined into a deciduous operculum. Bundles of stamens 4, alternating with the teeth of the calyx. Capsule 4-celled, 4-valved. Flowers pedunculate.

SUBTRIBE II. **EULEPTOSPE'RMEÆ.** *Stamens free.* (f. 119. *c.*)

14 **EUCALY'PTUS.** Limb of calyx lid-formed, falling off in one piece (f. 118. *b.*). Petals none. Stamens numerous. Capsule 4-celled (f. 118. *c.*), or from abortion only 3-celled, many-seeded.

15 **ANGÓPHORA.** Limb of calyx 5-toothed. Stamens numerous. Capsule covered by the calyx, 3-celled, 3-valved; cells 1 or few-seeded. Flowers corymbose.

16 **CALLISTE'MON.** Limb of calyx 5-parted; lobes obtuse. Stamens numerous (f. 119. *e.*). Capsule 3-celled (f. 119. *b.*), many-seeded, incrusted by the calyx. Flowers sessile.

17 **METROSIDE'ROS.** Limb of calyx 5-6-cleft (f. 120. *a.*). Stamens 20-30, very long. Capsule 2-3-celled; cells many-seeded. Flowers pedicellate.

18 **LEPTOSPE'RMUM.** Limb of calyx 5-cleft; lobes triangular. Stamens 20-30, shorter than the petals. Capsule 4-5-celled. Flowers solitary, pedicellate.

19 **BILLÓTIA.** Limb of calyx 5-cleft; lobes triangular. Stamens 20-30, shorter than the petals. Berry 3-celled. Flowers sessile, in globose heads.

20 **FABRI'CIA.** Limb of calyx 5-cleft; lobes valvate. Stamens numerous. Capsule many-celled, adnate to the calyx; cells opening at the apex. Seeds winged. Flowers on short pedicels.

21 **BÆ'CKEA.** Limb of calyx 4-cleft. Stamens 5-10, shorter than the petals. Capsule 2-5-celled, many-seeded, inclosed in the calyx. Flowers pedicellate.

TRIBE III.

MY'RTEÆ. *Calyx 4-5-parted* (f. 121. *b.* f. 122. *d. a.*). *Petals* 4-5. *Stamens free* (f. 123. *b.*). *Fruit fleshy, baccate, many-celled* (f. 121. *c.*).—*Trees or shrubs. Leaves opposite, full of pellucid dots, or opaque, quite entire. Peduncles axillary, sometimes 1-flowered, sometimes in trichotomous cymes, and sometimes branched and approximating into a terminal panicle.*

22 **SONNERA'TIA.** Calyx adhering to the ovarium at the base, 4-6-cleft. Stamens numerous. Berry adnate to the calyx at the base, the rest girded by it, 10-15-celled. Seeds curved, imbedded in fleshy pulp. Flowers large, terminal, solitary. Leaves dotless.

23 **NE'LITRIS.** Calyx 4-5-toothed. Stamens numerous. Ovarium 4-10-celled. Berry crowned by the calyx, few or many-seeded. Flowers pedicellate. Leaves dotless.

24 **CAMPOMANE'SIA.** Limb of calyx 5-parted; lobes ovate. Stamens numerous. Berry many-seeded, globose, pulpy, 7-10-celled. Seeds rather reniform. Peduncles 1 or many-flowered. Leaves dotted.

25 **PSI'DIUM.** Tube of calyx rather contracted at the apex, limb at first undivided, but at length cleft into 1-5 parts (f. 121. *b.*). Stamens numerous. Ovarium 5-20-celled. Berry many-seeded (f. 121. *c.*), crowned by the lobes of the calyx. Seeds imbedded in pulp. Leaves dotless.

26 **JOSSI'NIA.** Limb 4-parted even to the base; lobes open in æstivation. Stamens numerous. Fruit fleshy, crowned by the calycine lobes, many-seeded. Peduncles 1-flowered.

27 **MY'RTUS.** Limb of calyx 5-parted, rarely 4-parted. Stamens numerous. Berry 2-3-celled, crowned by the limb of the calyx. Seeds incurved, many in each cell, rarely solitary. Pedicels 1-flowered. Leaves dotted.

28 **MY'RCIA.** Limb of calyx 5-parted (f. 122. *a. d.*). Stamens numerous. Ovarium 2-3-celled; cells many-ovulate. Berry when mature usually 1-2-celled, and 1-3-seeded. Seeds nearly globose. Peduncles axillary and terminal, many-flowered. Leaves dotted.

29 **CALYPTRA'NTHES.** Limb of calyx falling off in one piece. Petals wanting, or 2-3 very small. Stamens numerous. Ovarium 2-3-celled; cells 2-seeded. Berry 1-celled, 1-4-seeded. Peduncles axillary, many-flowered.

30 **SYZY'GIUM.** Limb of calyx almost entire, or repandly lobed. Petals 4-5, concrete, falling off in the shape of a calyptra. Stamens numerous. Ovarium 2-celled; cells few-ovulate. Berry 1-celled, 1 or few-seeded. Seeds globose. Peduncles axillary and terminal, in cymose corymbs.

31 **CARYOPHY'LLUS.** Limb of calyx 4-parted (f. 123. *d.*).

Petals 4, cohering at the apex, as in *Syzygium*. Stamens free (f. 123. *b*.), disposed in 4 bundles, inserted near the teeth of the calyx. Ovarium 2-celled (f. 123. *a*.); cells many-ovulate. Berry 1-2-celled, 1-2-seeded from abortion. Cymes terminal, or in the forks of the branches. Leaves dotted.

32 Acme'na. Limb of calyx truncate, when young involute. Petals 5, small, distant. Stamens numerous. Berry 1-seeded. Cymes 3-flowered, disposed in a terminal panicled thyrse.

33 Euge'nia. Limb of calyx 4-parted even to the ovarium. Stamens numerous. Ovarium 2-3-celled; cells many-ovulate. Berry nearly globose, crowned by the calyx; when mature 1, rarely 2-celled, 1-2-seeded. Seeds large, roundish.

34 Jambòsa. Tube of calyx drawn out beyond the ovarium (f. 124. *a*.); limb 4-parted. Stamens very numerous (f. 124. *c*.). Ovarium many-celled and many-ovulate. Fruit 1-2-seeded, umbilicate at the apex. Seeds angular. Leaves dotted. Cymes lateral and terminal.

Tribe IV.

Barringtonie'æ. *Calyx 4-6-toothed. Petals 4-6. Stamens numerous, disposed in many series; filaments monadelphous a short way at the base. Fruit baccate or dry, many-celled. Cotyledons large, fleshy.—Trees, with dotless, alternate, or nearly opposite leaves, or crowded in whorls, quite entire or serrated. Flowers in racemes or panicles.*

35 Barringtònia. Limb of calyx 2-3-parted. Petals 4. Stamens numerous, long. Ovarium 4-celled; cells 2-ovulate. Berry large, crowned by the limb of the calyx, 1-celled at maturity, and 1-seeded. Trees, with dotless leaves.

36 Strava'dium. Limb of calyx 4-parted. Ovarium semi-bilocular; cells 2-ovulate. The rest as in *Barringtònia*.

37 Gusta'via. Limb of calyx entire, or 4-6-8-lobed (f. 126. *b*.). Petals 4-6-8. Stamens numerous. Ovarium 4-6-celled; cells many-ovulate. Capsule 3-6-celled; cells few-seeded.—Trees, with dotless leaves.

† *Genera belonging to Myrtàceæ, and probably for the most part to tribe Myrteæ, from the fruit being baccate; but from the seeds being unknown it is doubtful what place they should occupy in the order.*

38 Cati'nga. Limb of calyx 4-toothed. Petals? Stamens numerous. Berry crowned by the limb of the calyx, 1 celled, 1-seeded. Leaves dotted.

39 Petalotòma. Limb of calyx 8-cleft; the segments acute. Petals 6-8, unguiculate, with the limbs cut. Stamens 16, inserted in the fleshy crenated disk. Stigma 4-5-cleft. Berry round, crowned by the limb of the calyx, 1-seeded.

40 Fœtídia. Limb of calyx 4-parted; lobes valvate in æstivation. Petals wanting. Stamens numerous, in many series, free. Stigma 4-cleft. Berry dry, indehiscent, bluntly tetragonal, 4-celled; cells 1-2-seeded. Leaves alternate, dotless.

41 Coupou'i. Limb of calyx 5-lobed. Petals, stamens, and style unknown. Berry ovate, 1-celled, 1-seeded, crowned by the calyx. Seed large. Leaves alternate.

42 Care'ya. Limb of calyx 4-parted. Petals 4 (f. 127. *b*.). Stamens numerous (f. 127. *g*.), free, outer ones sterile. Stigma capitate (f. 127. *c*.), obscurely 4-toothed. Berry globose (f. 127. *d*.), crowned by the lobes of the calyx; when young 4-celled (f. 127. *e*.), pulpy, and many-seeded. Seeds compressed. Leaves alternate, dotless.

43 Glaphy'ria. Limb of calyx 5-lobed. Petals 5. Berry 5-celled, many-seeded. Seeds fixed by 2 series in each of the cells. Leaves alternate, minute, stipulate.

44 Crossóstylis. Calyx 4-angled, adnate to the ovarium at the base, permanent, 4-cleft beyond the middle. Petals 4, unguiculate. Stamens about 20; filaments connate into a ring at the base, intermixed with sterile threads. Stigma 4-lobed; lobes trifid at the apex. Berry striated, 1-celled, many-seeded.

45 Grìas. Tube of calyx adhering to the ovarium; limb 4-cleft. Petals 4. Stamens numerous, inserted in a square disk; filaments joined in 5 series, inner ones very short. Style none. Stigma cruciate. Drupe 8-furrowed, crowned by the calyx, containing an oblong nut. Leaves very long. Flowers large.

Tribe I.

CHAMÆLAUCIEÆ (plants agreeing with the genus *Chamælaùcium* in important characters). D. C. dict. class. vol. 11. and not. 1826. prod. 3. p. 208. Lobes of calyx 5 (f. 115. *g*.). Petals 5 (f. 115. *h*.). Stamens disposed in one series, free (f. 115. *e*.), or somew[illegible]polyadelphous, with some sterile ones mixed among the fertile. Fruit dry, 1-celled. Ovula numerous, erect from the base, fixed to the centre, or to the somewhat exserted central placenta.—Heath-like shrubs, all natives of New Holland. Leaves opposite, full of dots. Flowers small, on short pedicels. Bracteoles 2 under each flower; they are either free or joined together at the base, sometimes in the form of an operculum.

I. CA'LYTHRIX (from καλυξ, *kalyx*, a calyx, and θριξ *thrix*, a hair; in reference to the lobes of the calyx, which end in a long hair each). Labill. nov. holl. 2. p. 8. t. 146. R. Br. in bot. reg. no. 409. D. C. prod. 3. p. 208.

Lin. syst. *Deca-Icosándria, Monogýnia*. Tube of calyx adhering to the ovarium at the base, but drawn out at the apex into a long slender cylindrical tube; limb 5-parted (f. 115. *g*.), permanent, lobes ovate at the base, but each ending in a bristle at the apex (f. 115. *g*.), which is longer than the corolla. Petals 5 (f. 115. *h*.), deciduous. Stamens 10-30, free (f. 115. *e*.); anthers roundish. Style filiform, length of the stamens. Fruit dry, indehiscent, 1-celled; when young biovulate, but when mature 1-seeded.—Australian heath-like shrubs. Leaves scattered, crowded, terete, and rather angular, usually on very short petioles, which are furnished with 2 small stiff filiform stipulas. Flowers axillary, solitary, almost sessile, propped by 2 membranous keeled bracteas, which are connate at the base. Petals purple or white, but yellowish when dried.

1 C. gla'bra (R. Br. l. c.) icosandrous; leaves petiolate, stipulate, glabrous in the adult state, as well as the bracteas. ♄. G. Native of New Holland, near Port Jackson. Lodd. bot. cab. t. 586. Leaves when fresh terete, but when dry triangular. Petals pale reddish.

Glabrous Calythrix. Fl. Ap. Ju. Clt. 1818. Sh. 2 to 3 ft.

2 C. pube'scens (Sweet, ex Loud. hort. brit. p. 199.) icosandrous; leaves petiolate, stipulate, pubescent in the adult state, as well as the bracteas. ♄. G. Native of New Holland. Leaves terete.

Pubescent Calythrix. Shrub 2 to 3 ft.

3 C. tetra'ptera (Labill. l. c.) icosandrous; leaves petiolate, stipulate, glabrous in the adult state, as well as the bracteas; branchlets villous. ♄. G. Native of New Holland, in Van Lewin's Land. Petals yellowish according to the dried specimen. (f. 115.)

Four-winged Calythrix. Shrub 2 to 3 ft.

4 C. sca'bra (D. C. prod. 3. p. 208.) icosandrous; leaves petiolate, with 2 very short stipulas, scabrous in the adult state, as well as the bracteas; branchlets villous. ♄. G. Native of New Holland, on the eastern coast. C. glàbra, Sieb. fl. nov. holl. exsic. no. 285. but not of R. Br.

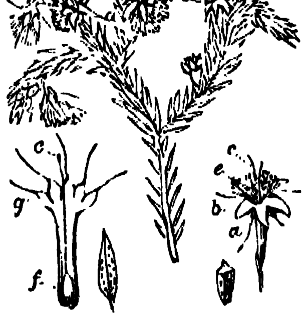
Scabrous Calythrix. Shrub 2 to 3 ft.

5 C. ericoìdes (Cunning. in Fields' new south wales, p. 350.) icosandrous; leaves scattered, petiolate, stipulaceous, glabrous; stipulas deciduous; bracteas one-half shorter than the tube of the calyx. ♄. G. Native of New Holland, in pine ridges, at Bathurst.

Heath-like Calythrix. Clt. 1824. Shrub 4 to 6 ft.

Cult. The species grow well in a mixture of loam, peat, and sand; and young cuttings strike root readily in sand under a hand-glass. All the species are singular.

FIG. 115.



II. DARWI'NIA (in honour of the c[illegible]ated Dr. Darwin, author of the botanic garden, a Poem). Rudge, in Lin. trans. 11. p. 299. t. 22. D. Don, in edinb. phil. journ. July, 1829.

Lin. syst. *Deca-Icosándria, Monogýnia.* Tube of calyx adhering to the ovarium from the middle downwards, the other half membranous and deciduous, with the throat dilated; limb 5-cleft; lobes roundish-cordate, concave, full of pellucid dots, imbricate in æstivation. Petals wanting. Stamens indefinite, from 10-15, inserted in the limb of the calyx, usually approximating by threes; filaments very short, flat, glabrous; anthers inserted by their bases. Ovarium 1-celled, 1-ovulate; ovulum erect. Style tapering to the top, and bearded at the apex; stigma a pruinose dot.—Seed pentagonal, scrobiculate on the outside.—Australian decumbent leafy shrubs. Leaves scattered, narrow, full of pellucid dots, articulated to the branches. Flowers in terminal fascicles, red or white, interspersed with chaffy leaves or bracteas.

1 D. fascicula'ris (Rudge, in Lin. trans. 11. p. 299. t. 22.) leaves acerose; receptacle chaffy; style thrice the length of the flower. ♄. G. Native of New Holland. Calyx red.

Fascicled-flowered Darwinia. Fl. May, July. Clt. 1820. Shrub decumbent.

2 D. taxifòlia (Cunning. in Fields' new south wales, p. 352.) leaves acinaciform; style shorter than the flower. ♄. G. Native of New Holland. Calyx white.

Yew-leaved Darwinia. Fl. May, July. Clt. 1824. Shrub decumbent.

Cult. The species of *Darwínia* are singular plants; their culture and propagation are the same as that recommended for *Cálythrix*.

III. VERTICO'RDIA (meaning unknown to us). D. C. dict. class. vol. ii. and not. 1826. prod. 3. p. 208.—Chamelaùcium species of Desf. in ann. mus. 5. p. 29. and p. 271.

Lin. syst. *Icosándria, Monogýnia.* Flower girded by 2 free or concrete involucrum-formed bracteas before evolution. Lobes of calyx 5, each palmately parted into 5-7 lobules. Petals 5. Stamens 20, of which 10 are sterile and ligulate, the other 10 fertile and equal among themselves. Style filiform, exserted. Stigma bearded. Ovarium 1-celled, inclosing 5-6 ovula, which are erect and fixed to the centre. Fruit 1-seeded. Seed globose.—Australian shrubs, with the habit of *Pileánthus.* Leaves opposite, linear, somewhat triquetrous. Flowers on longish pedicels, rising from the axils of the upper leaves, disposed in a terminal corymb.

1 V. Fontaine'sii (D. C. prod. 3. p. 209.) calycine lobes linear, ciliated; bracteas concrete on one side, and separating lengthwise on the other; leaves acutish. ♄. G. Native of New Holland, at King George's Sound. Chamelaùcium plumòsum, Desf. in mem. mus. 5. p. 42. t. 4.

Desfontaine's Verticordia. Shrub 1 to 2 ft.

2 V. Brównii (D. C. l. c.) calycine lobes linear-subulate, bearded, and ending each in an awn; bracteoles distinct; leaves obtuse, adpressed. ♄. G. Native of New Holland. Chamelaùcium Brównii, Desf. in mem. mus. 5. p. 272. t. 19.

Brown's Verticordia. Shrub 1 to 2 ft.

Cult. For culture and propagation see *Cálythrix.*

IV. CHAMÆLAU'CIUM (we suppose this name to be from χαμαιλευκη, an humble poplar; but the application is unknown to us). D. C. prod. 3. p. 209.—Chamelaùcium, Desf. in mem. mus. 5. p. 39.

Lin. syst. *Icosándria, Monogýnia.* Flower girded by 2 concave bracteas before evolution, each terminating in a dorsal mucrone, afterwards separating transversely. Lobes of calyx 5, undivided, petaloid. Petals 5. Stamens 20, of which 10 are sterile and ligulate, and the other 10 fertile and alternately shorter. Style inclosed; stigma capitate. Ovarium 1-celled, inclosing 5-9 erect ovula, which are inserted in the central placenta.—Australian shrub, with the habit of *Pileánthus.* Leaves opposite, crowded, linear, triquetrous. Flowers axillary, white, on short pedicels.

1 C. cilia'tum (Desf. l. c. p. 40. t. 3. f. B.) ♄. G. Native of New Holland, at King George's Sound. Tube of calyx striated, glabrous, with the lobes roundish and ciliated.

Ciliated-calyxed Chamælaucium. Shrub 1 to 2 ft.

Cult. For culture and propagation see *Cálythrix.* A singular shrub.

V. GENETY'LLIS (meaning unknown to us). D. C. dict. class. vol. 2. and not. 1826. prod. 3. p. 209.

Lin. syst. *Icosándria, Monogýnia.* Bracteoles 2, distinct, girding the flower; limb of calyx 5-cleft; lobes very short, obtuse, entire. Petals 5, ovate, acutish, permanent, rather scarious. Stamens 20, short; of these many are sterile and filiform, not strap-formed. Style filiform, exserted; stigma bearded. Ovarium 1-celled, bearing 5-6 seeds at the base.—Australian shrubs, with the habit of *Pileánthus.* Leaves crowded, linear-triquetrous, full of glandular dots, but the upper or floral ones are linear, flat, and rather membranous. Flowers bibracteolate, capitate, white, sessile in the axils of the bracteas. The calyx is like that of *Chamælaùcium;* the style is like that of *Verticórdia,* but differs from both in the sterile stamens not being ligula-formed, but filiform.

1 G. diosmoìdes (D.C. diss. with a figure). ♄. G. Native of New Holland, on the eastern coast. D. C. coll. 3. with a figure.

Diosma-like Genetyllis. Shrub 1 foot.

Cult. For culture and propagation see *Cálythrix,* p. 812.

VI. PILEA'NTHUS (from πιλεος, *pileos,* a cap, and ανθος, *anthos,* a flower; in reference to the flower, which is inclosed within a 1-leaved involucrum before expansion). Labill. nov.

holl. 2. p. 11. t. 149. Juss. ann. mus. 19. p. 432. D. C. prod. 3. p. 209.

LIN. SYST. *Icosándria, Monogýnia.* Flowers inclosed in a 1-leaved involucrum before evolution, which is closed on all sides, but at length is circumcised at the base, and falls off in one piece, leaving a campanulate base. Limb of calyx 10-parted; lobes roundish. Petals 5. Stamens 20, all fertile; filaments free, some simple and others bifurcate at the apex; the anthers are therefore of 2 approximate or of 2 separated cells. Ovarium 1-celled, 5-6-ovulate; the ovulas erect, and fixed to the base of the fruit. Stigma obtuse. Mature fruit unknown.—An Australian shrub, with the leaves and branches opposite. Flowers axillary, nearly terminal, white, on short pedicels.

1 P. LIMA'CIS (Labill. l. c.). ♄. G. Native of New Holland, in Van Lewin's Land. Desf. ann. mus. 5. t. 3. f. A. Leaves terete, and rather clavate, crowded at the tops of the branches. Lobes of calyx white.

Limax-like Pileanthus. Shrub 2 to 3 feet.

Cult. For culture and propagation see *Calýthrix*, p. 812.

Tribe II.

LEPTOSPE'RMEÆ (plants agreeing with *Leptospérmum* in important characters). D. C. dict. class. vol. ii. and not. 1826. prod. 3. p. 209. Lobes of calyx 4-5 (f. 116. *b.* f. 117. *b.*). Petals 4-5. Stamens free (f. 119. *e.*) or polyadelphous (f. 117. *c.*). Fruit dry, many-celled. Seeds exarillate and exalbuminous.—Shrubs and trees, all natives of New Holland, with the exception of a few from the neighbouring regions. Leaves opposite or alternate, usually full of pellucid dots. Inflorescence variable: sometimes cymose and centrifugal, with pedicellate flowers (f. 118.); sometimes spicate and centripetal, with sessile flowers (f. 116. f. 117.), which are as if they were somewhat immersed in hollows in the branches; but are sometimes produced in leafy spikes at the tops of the branches.

SUBTRIBE I. MELALEU'CEÆ (plants agreeing with *Melaleùca* in the stamens being polyadelphous). D. C. prod. 3. p. 210. Stamens polyadelphous (f. 116. *c.* f. 117. *c.*).

VII. ASTA'RTEA (a mythological name; Astarte, in Syriac, Venus). D. C. dict. class. vol. 2. and not. 1826. p. 210.

LIN. SYST. *Polyadélphia, Polyándria.* Tube of calyx hemispherical; limb 5-parted; lobes semi-orbicular. Petals 5. Bundles of stamens alternating with the petals, and shorter than them. Style short; stigma capitate. Capsule half adhering to the calyx, 3-celled, 3-valved, many-seeded.—An Australian shrub, with opposite, linear, fleshy leaves, which, when young, are disposed in axillary fascicles; and pedicellate, solitary, axillary flowers. Habit of *Bæ'ckea*, but differs from it in the stamens being polyadelphous, and from *Melaleùca* in the bundles of the stamens being alternate with the petals, not opposite to them, and in the flowers being pedicellate, not adnate to the branches.

1 A. FASCICULA'RIS (D. C. prod. 3. p. 210.). ♄. G. Native of Van Dieman's Land. Melaleùca fasciculàris, Labill. nov. holl. 2. p. 29. t. 170.

Fascicled-leaved Astartea. Shrub 6 to 9 feet.

Cult. For culture and propagation, see *Cálythrix*, p. 812.

VIII. TRISTA'NIA (*τρεις, treis*, three, and *σταω, stao*, to stand; disposition of flowers and leaves). R. Br. in Ait. hort. kew. ed. 2. vol. 4. p. 417. but not of Poir. D. C. prod. 3. p. 210.

LIN. SYST. *Polyadélphia, Polyándria.* Calyx 5-cleft, permanent; tube turbinate. Petals 5. Bundles of stamens 5, opposite the petals, and hardly longer than them. Anthers incumbent. Capsule 3-celled, many-seeded, half exserted, or inclosed. Seeds wingless.—Australian shrubs, with lanceolate leaves and pedunculate sub-corymbs of flowers.

1 T. NERIIFÒLIA (R. Br. l. c.) leaves opposite, lanceolate, glaucescent beneath; bundles of stamens triandrous or pentandrous. ♄. G. Native of New South Wales. Bonpl. nav. t. 3. Rchb. gart. mag. 1. t. 17. Melaleùca neriifòlia, Sims, bot. mag. t. 1058. Melaleùca salicifòlia, Andr. bot. rep. 485. In each branch of the corymb there are 3 pedicellate flowers, one of which is quadrifid, and the other 2 quinquefid. Petals and stamens yellow.

Oleander-leaved Tristania. Fl. June, Sept. Clt. 1804. Tr. 10 to 30 feet.

2 T. LAU'RINA (R. Br. l. c.) leaves alternate, cuneate-lanceolate; branchlets and calyxes pubescent; capsules half superior. ♄. G. Native of New South Wales. Sieb. nov. holl. exsic. no. 220. Melaleùca laúrina, Smith, in Lin. trans. 3. p. 275. Teeth of calyx shorter than the capsule. Habit almost of *Dáphne Lauréola.* Flowers yellow.

Laurel-like Tristania. Shrub 5 to 10 feet.

3 T. PERSICIFÒLIA (Cunningh. in Fields' new south wales, p. 350.) leaves opposite, lanceolate, attenuated, acute, smooth, glaucous beneath, with undulately crenated or quite entire margins; calycine segments ovate, acute. ♄. G. Native of New Holland, in ravines in spring wood. Allied to *T. neriifòlia.*

Peach-leaved Tristania. Shrub 12 to 16 feet.

4 T. CONFE'RTA (R. Br. l. c.) leaves alternate, lanceolate-elliptic, acute, those at the tops of the branches crowded; segments of calyx acute, foliaceous. ♄. G. Native of New South Wales. Leaves almost of *Pittósporum.*

Crowded-leaved Tristania. Fl. Jul. Sep. Clt. 1805. Sh. 4 to 6 ft.

5 T. SUAVE'OL[illegible] (Smith, in Rees' cycl. vol. 36. no. 2.) leaves alternate, elliptic; calyx somewhat hemispherical, with a repand margin. ♄. G. Native of New Holland, at Endeavour River. Melaleùca suavèolens, Gærtn. fruct. 1. p 173. t. 35. Smith, in Rees' cycl. 23. no. 4. Flowers yellow. Calyx villous.

Sweet-scented Tristania. Tree.

6 T. A'LBENS (Link. et Ott. in hort. berol. ex D. C. prod. 3. p. 210.) leaves elliptic, ciliated, rather hairy on the nerves on both surfaces. ♄. G. Native of New Holland?

Whitish Tristania. Tree.

7 T. DEPRE'SSA (Lodd. cat. ex Link. enum. 2. p. 273.). ♄. G. Native of New Holland. This species is not described.

Depressed Tristania. Clt. 1820. Shrub.

Cult. *Tristània* is a genus of fine-leaved trees or shrubs. The species grow well in an equal mixture of peat, loam, and sand; and cuttings, not too ripe, strike root readily if planted in a pot of sand, and placed under a hand or bell-glass.

IX. BEAUFO'RTIA (so named in compliment to Mary Duchess of Beaufort, a botanical patroness). R. Br. in Ait. hort kew. ed. 2. vol. 4. p. 418. D.C. prod. 3 p. 411.

LIN. SYST. *Polyadélphia Polyándria.* Tube of calyx turbinate; limb 5-parted; lobes acute. Petals 5. Bundles of stamens 5, opposite the petals. Anthers inserted by the base, bifid at the apex; lobes deciduous. Style filiform. Capsule corticate, incrusted to the tube of the calyx, 3-celled; cells 1-seeded.—Elegant Australian shrubs, with sessile, opposite, or scattered leaves, and scarlet flowers.

1 B. DECUSSA'TA (R. Br. l. c.) leaves opposite, decussate, ovate, or oval, many-nerved; bundles of stamens on very long claws; filaments radiating. ♄. G. Native of New Holland, on the south-west coast. Ker. bot. reg. t. 18. Sims, bot. mag. 1733. Colla, hort. ripul. p. 20. t. 22. Flowers scarlet. Styles usually flexuous.

Decussate-leaved Beaufortia. Fl. May, July. Clt. 1800. Shrub 3 to 10 feet.

2 B. SPA'RSA (R. Br. l. c.) leaves scattered, oval, many-nerved. ♄. G. Native along with the preceding species. Flowers red.

Scattered-leaved Beaufortia. Shrub 3 to 10 feet.

3 B. CARINA'TA (Cunningh. mss. ex Loud. hort. brit. p. 319.) leaves opposite, decussate, many-nerved, keeled on the back, ovate or oval, glaucous. ♄. G. Native of New Holland. Flowers scarlet.

Keeled-leaved Beaufortia. Shrub 2 to 4 feet.

N.B. There are two other species, which were detected by Mr. Brown; but they still remain unpublished.

Cult. This is a splendid genus of plants, and therefore the species are desirable objects in every collection of greenhouse plants; they are also very suitable for conservatories, being free growers and abundant flowerers. Their culture and propagation is the same as that recommended for the species of *Tristània*, p. 813.

X. CALOTHA'MNUS (from καλος, *kalos*, beautiful, and θαμνος, *thamnos*, a shrub; in reference to the elegance of the shrubs, from their scarlet flowers and terete leaves). Labill. nov. holl. 2. p. 25. R. Br. in Ait. hort. kew. 4. p. 417.—Baudínia, Leschen. ined.

LIN. SYST. *Polyadélphia Polyándria.* Calyx permanent, 4-5-toothed (f. 116. *b.*), with a hemispherical tube. Petals 4-5 (f. 116. *b.*). Bundles of stamens equal in number to the petals (f. 116. *c. a.*), and opposite them. Anthers inserted by the base. Style filiform. Capsule corticate from the calyx, 3-celled, many-seeded.—Elegant Australian shrubs, with scattered, crowded, terete leaves, and axillary, solitary, scarlet flowers, which are sessile, and the fruit is therefore adnate to [illegible] branches.

* *Flowers quadrifid.*

1 C. SANGUI'NEA (Labill. l. c. t. 154.) 2 of the bundles of stamens bearing 12-16 anthers, and joined together on one side; the other two free, sterile, monandrous; adult leaves, as well as fruit glabrous. ♄. G. Native of New Holland, in Van Lewin's Land. Flowers scarlet.

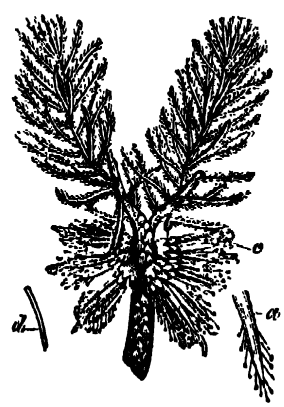
Bloody-flowered Calothamnus. Shrub 2 to 6 feet.

2 C. QUADRI'FIDA (R. Br. in Ait. hort. kew. 4. p. 418.) bundles of stamens 4, distinct, equal, bearing 12-15 anthers each; adult leaves as well as flowers glabrous. ♄. G. Native of New Holland, on the south-west coast. Rchb. gart. mag. 1. t. 9. upper figure. Sims, bot. mag. 1506. Anthers inserted by the base. Flowers scarlet, somewhat secund.

Quadrifid Calothamnus. Fl. July, Sept. Clt. 1803. Shrub 2 to 4 feet.

* * *Flowers quinquefid.*

FIG. 116.



3 C. VILLÒSA (R. Br. l. c.) bundles of stamens equal, distinct, polyandrous; adult leaves as well as fruit villous. ♄. G. Native of New Holland, on the south-west coast. Lindl. bot. reg. t. 1099. Rchb. gard. mag. 1. t. 9. lower figure. Colla, hort. ripul. app. 2. p. 328. t. 15. Flowers scarlet. (f. 116.)

Villous Calothamnus. Fl. Jul. Sept. Clt. 1823. Sh. 2 to 4 ft.

4 C. GRA'CILIS (R. Br. l. c.) bundles of stamens equal, triandrous; leaves very long, and are as well as the exserted fruit, glabrous; stem branched. ♄. G. Native of New Holland, on the south-west coast. Leaves stiff, acute, terete.* Flowers scarlet.

Slender Calothamnus. Fl. July, Sept. Clt. 1803. Shrub 3 to 6 feet.

5 C. CLAVA'TUS (Cunningh. mss. ex Loud. hort. brit. p. 319.) bundles of stamens equal, polyandrous; adult leaves as well as fruit downy. ♄. G. Native of New Holland. Leaves terete, clavate at the apex. Flowers scarlet.

Clavate Calothamnus. Fl. Jul. Sept. Clt. 1824. Sh. 2 to 6 ft.

Cult. The species of *Calothámnus* deserve a place in every collection of greenhouse plants, for the splendour of their blossoms. Their culture and propagation is the same as that recommended for *Tristània*, see p. 813. The glass placed over the cuttings requires to be taken off and wiped occasionally, to prevent damp.

XI. MELALEU'CA (from μελας, *melas*, black, and λευκος, *leucos*, white; the trunk is black, and the branches are white). Lin. mant. 14. Smith, in Lin. trans. 3. p. 273. R. Br. in Ait. hort. kew. 4. p. 410. D. C. prod. 3. p. 211.—Càju-pùti, Adans. fam. f. 2. p. 84.

LIN. SYST. *Polyadélphia, Polyándria.* Tube of calyx somewhat hemispherical (f. 117. *a.*); limb 5-parted (f. 117. *b.*). Petals 5. Bundles of stamens 5 (f. 117. *e. g.*), elongated, opposite the petals. Style filiform (f. 117. *c.*); stigma obtuse. Anthers incumbent. Capsules connate, inclosed in the thickened tube of the calyx, and adnate to the branches by the base, 3-celled, many-seeded. Seeds angular.—Trees and shrubs, for the most part natives of New Holland, and a very few of the East Indies. Leaves alternate, or opposite, equal at the base. Flowers always sessile, or somewhat adnate to the branches, spicate or capitate, white, yellow, or purple.

* *Leaves alternate.*

1 M. LEUCODE'NDRON (Lin. mant. 105.) leaves alternate, long, lanceolate, acuminated, falcate, 3-5-nerved; flower-bearing branches pendulous; flowers in spikes, rather distant, and are as well as the rachis quite glabrous. ♄. S. Native of the East India Islands, where it is called *Caju-puti* by the natives.—A tree with a black trunk, white branches, and white flowers. Rumph. amb. 2. p. 72. t. 16. Mýrtus leucodéndron, Lin. fil. suppl. Melaleùca leucodéndron latifòlia, Lin. fil. suppl. p. 342. M. leucodéndron, Hayne, arzn. gew. 10. t. 9. From the leaves of this tree is distilled the volatile, green, aromatic oil called Cajeput, from *Caju-puti*, a white tree, which is the Malay name, whence also Linnæus gave to it the name of *Leucodéndron.* The oil has the taste of peppermint, but stronger and colder, and a smell of turpentine, but it seldom comes to Europe unadulterated. It is a powerful sudorific, and an useful external application in chronic rheumatism. Ainslie, 1. p. 260. It is considered carminative, cephalic, and emmenagogue, and is, no doubt, a highly diffusible stimulant, antispasmodic, and diaphoretic, and is much used in the cure of cholera morbus, from its antispasmodic powers. It has also the power of dissolving caoutchouc. A decoction of the leaves is much used in China as a tonic. The bark is very serviceable in caulking boats, covering houses, &c.

White-tree or Cajeput-tree. Clt. 1796. Tr. 15 to 20 ft.

2 M. MÌNOR (Smith, in Rees' cycl. vol. 23. no. 2.) leaves alternate, elliptic-lanceolate, acutish, rather falcate, 3-5-nerved; flowers rather distant, in spikes; rachis and calyxes villous. ♄. S. Native of Amboyna, and other East India islands, where it is called in the Malay language *Caju-puti* and *Caju-kilee.* Rumph. amb. 2. p. 74. t. 17. f. 1. and probably f. 2. M. Cajupùti, Roxb. hort. beng. p. 59. M. salígna, Gmel. syst. 793. is referrible to this species, according to the synonyms given to it. M. Cajapùti of gardeners is totally distinct from this

species. The trunk is black, and the branches and flowers white, as in the last species. Cajeput oil is also distilled from the leaves of this tree; probably in greater quantity than from the last.

Smaller Cajeput-tree. Clt. 1800. Tree 10 feet.

3 M. VIRIDIFLÒRA (Gærtn. fruct. 1. p. 173. t. 35.) leaves alternate, elliptic-lanceolate, equal-sided, 5-nerved, acute at both ends; flowers approximate, in spikes; calyxes, rachis, and branchlets pubescent; claws of the bundles of stamens shorter than the segments of the calyx, or obsolete. ♄. G. Native of New South Wales, and of New Caledonia. Smith, et R. Br. l. c. no. 2. M. leucodéndron angustifòlia, Lin. fil. suppl. p. 342. M. angustifòlia, Gærtn. Metrosidèros quinquenérvia, Cav. icon. 4. t. 333. Metrosidèros coriàcea, Poir. suppl. 3. p. 685. but not of Salisb. Metrosidèros álbida, Sieb. pl. exsic. nov. holl. no. 349 Flowers pale greenish yellow.

Greenish-flowered Melaleuca. Clt. 1777. Tr. 10 to 20 ft.

4 M. PALUDÒSA (R. Br. in Ait. hort. kew. 4 p. 410.) leaves alternate, linear-lanceolate, elongated, equal-sided, straight, 3-nerved; lateral nerves approximating the margin, which is scabrous; rachis of the spike, which is cylindrical, as well as the tube of the calyx, clothed with silky down; claws of the bundles of stamens very short. ♄. G. Native of New Holland, on the south-west coast. Flowers red.

Marsh Melaleuca. Fl. July, Sept. Clt. 1803. Sh. 4 to 6 ft.

5 M. GLOBÍFERA (R. Br. l. c.) leaves alternate, oblong, 5-nerved, equal-sided, tapering to the base; heads spherical; capsules connate. ♄. G. Native of New Holland, on the south coast. Flowers greenish yellow?

Globe-bearing Melaleuca. Fl. July, Sept. Clt. 1803. Sh. 4 to 10 feet.

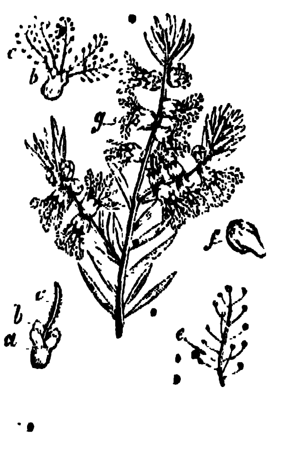
6 M. DIOSMIFÒLIA (Andr. bot. rep. t. 476. and R. Br. l. c.) leaves alternate, oval, or lanceolate, obsoletely 1-nerved, petiolate, flat, crowded, and are as well as the branchlets quite glabrous; spikes oblong, glabrous; bundles of stamens pentandrous. ♄. G. Native of New Holland, on the south-west coast. M. chlorántha, Bonpl. nav. p. 22. t. 8. M. foliòsa, Dum. Cours. bot. cult. 5. p. 373. Flowers greenish yellow.

Diosma-leaved Melaleuca. Fl. June, July. Clt. 1794. Sh. 3 to 10 feet.

7 M. STYPHELOÌDES (Smith, in Lin. trans. 3. p. 275.) leaves alternate, ovate, acuminated, ending in a pungent mucrone, many-nerved, sessile, glabrous; spikes pubescent; segments of calyx acute, nerved. ♄. G. Native of New South Wales. R. Br. in Ait. hort. kew. 4. p. 411. M. obliqua, Hort. ex Steud. Flowers white, surrounding the lower part of the branches. This plant has altogether the habit of *Styphèlia*, from its stiff harsh leaves. M. epacrídea, Hort.

Styphelia-like Melaleuca. Fl. May, July. Clt. 1793. Sh. 4 to 10 feet.

FIG. 117.



8 M. GENISTIFÒLIA (Smith, exot. bot. 1. t. 55.) leaves alternate, linear-lanceolate, flat, 3-nerved, dotted, and are as well as the branches glabrous; bundles of stamens polyandrous, with their claws about equal in length to the petals. ♄. G. Native of New South Wales, and where it is called by the English *White tea-tree*. Flowers with reddish petals and yellow stamens. (f. 117.)

Broom-leaved Melaleuca. Fl. June, July. Clt. 1793. Shrub 6 to 20 feet.

9 M. LANCEOLÀTA (Otto. hort. berol. 36.) leaves scattered, lanceolate, acute, almost nerveless, 3-veined, almost dotless, recurved at the apex, and are as well as the branchlets glabrous; spikes loose, naked; bundles of stamens polyandrous, with their claws about equal in length to the petals. ♄. G. Native of New Holland. Flowers yellowish. Very like *M. genistifòlia*.

Lanceolate-leaved Melaleuca. Fl. June, Aug. Clt. 1816. Shrub 3 to 4 feet.

10 M. STRIÀTA (Labill. nov. holl. 2. p. 26. t. 165.) leaves alternate, lanceolate-linear, acute, obsoletely striated, stiff, almost sessile; spikes oval or oblong; tube of calyx woolly; bundles of stamens usually decandrous, with their claws twice the length of the petals. ♄. G. Native of New Holland, on the south coast. R. Br. l. c. Fruit crowded, nearly globose. Margin of calyx repand. Flowers white.

Striated-leaved Melaleuca. Fl. June, July. Clt. 1803. Sh. 6 to 9 feet.

11 M. PENTAGÒNA (Labill. nov. holl. 2. p. 27. t. 166.) leaves alternate, linear-lanceolate, acuminated, thickish, rather 3-nerved; spikes ovate-globose; tube of calyx glabrous, globose, pentagonal; bundles of stamens pentandrous. ♄. G. Native of New Holland, in Van Lewin's Land. Fruit crowded, in a globose head. Stamens joined together to the middle in bundles. Flowers white?

Pentagonal-fruited Melaleuca. Shrub 4 to 6 feet.

12 M. ACERÒSA; leaves alternate, acerose, villous, full of pellucid dots; bundles of stamens polyandrous, with their claws very long. ♄. G. Native of New Holland. Billòtia aceròsa, Coll. hort. rip. 1. p. 21. t. 23. Flowers purple.

Acerose-leaved Melaleuca. Fl. June, July. Clt.? Shrub 3 to 6 feet.

13 M. THYMOÌ[illegible] (Labill. l. c. t. 167.) leaves alternate, lanceolate, or oblong, 3-nerved, petiolate, and are as well as the branchlets quite glabrous; heads of flowers globose or oval; segments of the calyx acute, 3-nerved; bundles of stamens usually decandrous, with their claws shorter than the petals. ♄. G. Native of New Holland, in Van Lewin's Land, and on the south-west coast. R. Br. in hort. kew. 4. p. 412. Flowers purplish. Perhaps the same as *M. lucidula* of Hort.

Thyme-like Melaleuca. Fl. June, July. Cl. 1803. Shrub 4 to 6 feet.

14 M. SQUÀMEA (Labill. l. c. p. 28. t. 158.) leaves lanceolate-ovate, acuminated, 3-nerved, when young villous as well as the branchlets; heads of flowers globose, pubescent; bundles of stamens bearing 5-9 anthers each, with very short claws. ♄. G. Native of Van Dieman's Land. R. Br. in hort. kew. 4. p. 412. Ker. bot. reg. t. 477. Flowers lilac, much crowded. Fruit corticate by the scaly spongy calyx. Leaves becoming black on drying.

Scaly-calyxed Melalenca. Fl. June, July. Clt. 1805. Tr.

15 M. NODÒSA (Smith, exot. bot. 1. p. 67. t. 35.) leaves alternate, linear-subulate, mucronate, stiff, 1-nerved, flat, and rather spreading; heads globose; segments of the calyx membranous, glabrous; bundles of stamens bearing 3-6-8 anthers, with the claws very short. ♄. G. Native of New Holland, on the eastern coast, at Port Jackson. Vent. malm. t. 112. R. Br. in Ait. hort. kew. 4. p. 413. Metrosidèros, Gærtn. fruct. 1. p. 172. t. 34. Cav. icon. 4. p. 19. t. 334. Metrosidèros púngens, Reich. in Sieb. pl. exsic. no. 316. Flowers pale yellowish. Fruit disposed in a small globose head.

Knotted Melaleuca. Fl. Ju. Jul. Clt. 1790. Sh. 3 to 6 ft.

16 M. TENUIFÒLIA (D. C. prod. 3. p. 213.) leaves alternate, subulate, nearly terete, mucronate, stiff, strictly erect, villous when young, but glabrous in the adult state, as well as the branches; heads of fruit globose, dense; calyxes rather velvety, with deciduous truncate lobes. ♄. G. Native of New Holland, on the east coast. Flowers unknown. Allied to *M. no-*

dòsa, but differs in the leaves being 3 times longer, about 15-16 inches long.

Fine-leaved Melaleuca. Shrub 3 to 6 ft.

17 M. ERICÆFÒLIA (Smith, exot. bot. t. 34.) leaves alternate, linear-subulate, nerveless, awnless, spreading or somewhat recurved; spikes of flowers oval, glabrous; bundles of stamens octandrous or decandrous, with their claws hardly exceeding the petals. ♄. G. Native of New South Wales. M. nodòsa, Link, enum. 2. p. 273. Sieb. pl. exsic. nov. holl. no. 318. and no. 549. Flowers pale yellow.

Heath-leaved Melaleuca. Fl. July, Sept. Clt. 1788. Shrub 4 to 6 ft.

18 M. ARMILLA'RIS (Smith, in Lin. trans. 3. p. 277.) leaves alternate, linear-subulate, mucronate, recurved at the apex; spikes cylindrical, quite glabrous; bundles of stamens polyandrous, with their claws exceeding the petals. ♄. G. Native of New South Wales. M. ericæfòlia, Andr. bot. rep. t. 175. Vent. malm. t. 76. Wendl. coll. 1. t. 29. but not of Smith. Metrosidèros armillàris, Gærtn. fruit. 1. p. 171. t. 43. Cav. icon. 4. t. 335. Flowers white.

Bracelet Melaleuca. Fl. June, July. Clt. 1788. Shrub 6 to 8 ft.

19 M. UNCINA'TA (R. Br. in Ait. hort. kew. 4. p. 414.) leaves alternate, angular, filiform, mucronate, erect, uncinately recurved at the apex; branchlets twiggy; heads of flowers ovate, with the rachis woolly; bundles of stamens pentandrous and hexandrous, with their claws exceeding the petals. ♄. G. Native of New Holland, on the south coast. Flowers yellowish.

Hooked-leaved Melaleuca. Fl. Feb. Sep. Clt. 1803. Shrub 4 to 6 ft.

20 M. SCA'BRA (R. Br. l. c.) leaves alternate, nearly terete, mucronulate, scabrous, crowded; heads of flowers globose; bundles of stamens bearing 4-6 anthers, with their claws about equal in length to the petals. ♄. G. Native of New Holland, on the southern coast. Sweet, fl. austr. t. 10. Flowers purplish. Perhaps the same as M. muricàta, Hort.

Scabrous Melaleuca. Fl. Feb. Sep. Clt. 1803. Sh. 2 to 3 ft.

21 M. JUNIPEROIDES (D. C. prod. 3. p. 213.) leaves alternate, terete, stiff, mucronate, glabrous in the adult state; heads of flowers globose, with the rachis villous; bundles of stamens bearing 4-6 anthers, with their claws about equal in length to the petals. ♄. G. Native of New Holland. Metrosidèros juniperoìdes, Rchb. in Sieb. pl. exsic. nov. holl. no. 317. Flowers yellowish, in small heads. Branchlets and young leaves rather villous.

Juniper-like Melaleuca. Shrub 2 to 4 ft.

22 M. ERUBE'SCENS (Otto, hort. berol. p. 37.) leaves alternate, linear-subulate, flat above, and mucronulate at the apex; spikes cylindrical, and are, as well as the branchlets, quite glabrous; bundles of stamens polyandrous, with their claws exceeding the petals. ♄. G. Native of New Holland. Rchb. gart. mag. 1. t. 82. M. diosmifòlia, Dum. Cours. bot. cult. 5. p. 373. Leaves nearly like those of *M. ericæfòlia.* Flowers less crowded. Petals pale yellowish. Stamens rose-coloured.

Reddish-stamened Melaleuca. Fl. June, July. Clt. Shrub 3 to 6 ft.

23 M. PULCHE'LLA (R. Br. in Ait. hort. kew. 4. p. 414.) leaves scattered or nearly opposite, oval or oblong, obtuse, obsoletely 3-nerved; flowers usually solitary, and are, as well as the branches glabrous; bundles of stamens polyandrous, petaloid on the outside, bearing the stamens from the base to the apex on the margins inside, exceeding the petals. ♄. G. Native of New Holland, on the south coast. Lodd. bot. cab. t. 200. Rchb. gart. mag. 1. t. 8. f. 2. M. dénsa, Colla, hort. ripul. append. 1. p. 815. t. 4. but not of R. Br. M. serpyllifòlia, Dum. Cours. bot. cult. 5. p. 374. Flowers reddish.

Neat Melaleuca. Fl. Ju. Sept. Clt. 1803. Sh. 2 to 3 ft.

** *Leaves opposite.*

24 M. THYMIFÒLIA (Smith, exot. bot. 1. t. 36.) leaves opposite, lanceolate, nerveless; spikes few-flowered; bundles of stamens polyandrous, with the claws branched on the inside even to the middle. ♄. G. Native of New South Wales. R. Br. l. c. Rchb. gart. mag. 1. t. 8. f. 1. Sims, bot. mag. 1869. M. gnidiæfòlia, Vent. malm. t. 7. M. coronàta, Andr. rep. t. 278. M. parvifòlia, Otto, hort. berol. t. 37. M. díscolor, Sieb. pl. exsic. nov. holl. no. 329. Metrosidèros calýcina, Cav. icon. t. 336. f. 2. Bundles of stamens lilac or purple, and somewhat petaloid.

Thyme-leaved Melaleuca. Fl. June, Sep. Clt. 1792. Shrub 2 to 3 ft.

25 M. DECUSSA'TA (R. Br. l. c. p. 415.) leaves opposite, decussate, oval-lanceolate, 3-nerved; spikes oval, quite glabrous; bundles of stamens polyandrous, with the claws very short. ♄. G. Native of New Holland, on the south-west coast. Sims, bot. mag. t. 2268. Colla, hort. rip. 86. t. 15. M. pùmila, Otto, in litt. and M. parviflòra, Otto, hort. berol. p. 37. Rchb. gart. mag. 1. t. 31. Flowers crowded, lilac.

Decussate-leaved Melaleuca. Fl. July, Sep. Clt. 1803. Sh. 3 to 6 ft.

26 M. CUTICULA'RIS (Labill. nov. holl. 2. p. 30. t. 171.) leaves opposite, crowded, oblong-linear, obtuse, veinless; flowers solitary, axillary, glabrous; bundles of stamens dodecandrous, having their claws the length of the petals. ♄. G. Native of New Holland, in Van Lewin's Land. The cuticle of the trunk and branches of the tree are separable. Perhaps the same as the *M. fimbriàta* of gardens, but differs in the leaves being spreading and narrower.

Cuticular Melaleuca. Tree 10 to 20 ft.

27 M. FU'LGENS (R. Br. l. c.) leaves opposite, lanceolate-linear, acute, 1-nerved; spikes of flowers oval, quite glabrous; bundles of stamens polyandrous, palmately many-cleft, having their claws the length of the petals. ♄. G. Native of New Holland. Ker. bot. mag. 103. Flowers larger than those of any other species of the genus. Bundles of stamens scarlet, more than an inch long. Fruit glabrous, nearly globose. Lobes of calyx roundish, blunt.

Fulgent Melaleuca. Fl. July, Sept. Clt. 1803. Sh. 6 to 20 ft.

28 M. LINEARIFÒLIA (Smith, exot. bot. t. 56.) leaves opposite, lanceolate-linear, acute, 3-nerved at the base, dotted; spikes of flowers oblong, glabrous, as well as the branchlets; bundles of stamens polyandrous, pinnate-parted, exceeding the petals. ♄. G. Native of New South Wales. R. Br. l. c. Metrosidèros hyssopifòlia, Cav. icon. 4. t. 336. f. 1. Fruit globose. Calycine lobes small, acutish, deciduous. Flowers cream-coloured.

Toad-flax-leaved Melaleuca. Fl. Ju. Aug. Clt. 1793. Tr. 20 to 30 ft.

29 M. ABIETI'NA (Smith in Rees' cyc. vol. 23. no. 15.) leaves opposite, elliptic-oblong, concave, obtuse, 3-nerved; flowers few, glabrous at the tops of the branches; bundles of stamens polyandrous, having elongated claws, but not exceeding the petals, multifid at the apex. ♄. G. Native of New Holland, at King George's Sound. This species is remarkable in having terminal flowers.

Fir-like Melaleuca. Tree 20 to 30 ft.

30 M. HYPERICIFÒLIA (Smith in Lin. trans. 3. p. 249.) leaves opposite, decussate, elliptic-oblong, 3-nerved, the lateral nerves are obsolete, approximating the margin, which is recurved; spikes cylindrical, quite glabrous; bundles of stamens polyandrous, unguiculate, elongated; filaments radiating. ♄. G. Native of New South Wales. Andr. bot. rep. t. 200. Wendl. coll.

1. t. 18. R. Br. l. c. 4. p. 415. Vent. cels. t. 10. Metrosidèros hypericifòlia, Salisb. prod. p. 351. Flowers of a splendid scarlet-colour.

St. John's-wort-leaved Melaleuca. Fl. June, Aug. Clt. 1792. Shrub 10 to 20 ft.

31 M. elli'ptica (Labill. nov. holl. 2. p. 31. t. 173.) leaves opposite, elliptic, blunt at both ends, 1-nerved in the middle, with the veins pinnate, and confluent at the margins; spikes of flowers cylindrical, pubescent; bundles of stamens polyandrous, with their claws exceeding the petals. ♄. G. Native of New Holland, in Van Lewin's Land. Flowers scarlet, rather smaller than those of the preceding species. Fruit globose, glabrous. Lobes of calyx acutish, permanent.

Elliptic-leaved Melaleuca. Shrub 4 to 6 ft.

32 M. squarròsa (Smith in Lin. trans. 6. p. 300.) leaves opposite, ovate, acute, 5-7-nerved, on short petioles, glabrous; branchlets villous; spikes cylindrical; bracteas foliaceous; lobes of calyx blunt and nerveless; bundles of stamens dodecandrous, with their claws very short. ♄. G. Native of New Holland and Van Dieman's Land. Labill. nov. holl. 2. t. 169. Smith, bot. mag. t. 1935. M. myrtifòlia, Vent. malm. t. 47. M. cajpùtti, Hort. Flowers yellowish.

Squarrose Melaleuca. Fl. Ju. Aug. Clt. 1794. Tr. 20 to 40 ft.

33 M. gibbòsa (Labill. nov. holl. 2. p. 30. t. 172.) leaves opposite, decussate, crowded, ovate, obtuse, 3-nerved; spikes few-flowered, and are, as well as the branches and calyxes, glabrous; bundles of stamens polyandrous, with their claws the length of the petals; fruit appearing as if they were sunk in the branches at the base. ♄. G. Native of Van Dieman's Land and of New Holland on the south coast. M. imbricàta, Hort. There is a variety of this species with 3 leaves in a whorl.

Gibbous Melaleuca. Clt. 1820. Shrub 6 to 12 ft.

34 M. sprengelioìdes (D. C. prod. 3. p. 215.) leaves opposite, decussate, sessile, crowded, roundish, mucronate, 5-nerved; heads of flowers nearly globose, crowded, glabrous; bundles of stamens bearing 7-10 anthers, with their claws the length of the petals; fruit nearly globose, with a truncate, somewhat inflexed limb. ♄. G. Native of New Holland. Allied to *M. gibbòsa*, but very distinct.

Sprengelia-like Melaleuca. Shrub 6 to 8 ft.

35 M. calycìna (R. Br. in Ait. hort. kew. 4. p. 416.) leaves opposite, ovate-lanceolate, 3-5-nerved, nearly sessile; glomerules few-flowered; segments of the calyx acute, nerveless; bundles of stamens polyandrous, with their claws shorter than the petals. ♄. G. Native of New Holland, on the southern coast. Flowers purple.

Large-calyxed Melaleuca. Fl. June, Aug. Clt. 1803. Shrub 3 to 6 feet.

* * * *Leaves in whorls.*

36 M. de'nsa (R. Br. l. c.) leaves scattered, 3 in a whorl or opposite, obovate, 3-nerved; spikes oblong or oval. ♄. G. Native of New Holland, on the south-west coast. Flowers reddish.

Dense-leaved Melaleuca. Fl. June, Aug. Clt. 1803. Shrub 2 to 6 ft.

37 M. inca'na (Rr. Br. in bot. reg. t. 410.) leaves 3 in a whorl, linear-lanceolate, clothed with hoary down on both surfaces, as well as the branches; spikes oval or oblong. ♄. G. Native of New Holland. M. tomentòsa, Colla, hort. rip. 87. t. 37. M. lanàta, Nois. M. canéscens, Link et Otto, hort. berol. p. 87. abbild. t. 81. M. lanígera, Wendl. Bundles of stamens bearing each 5-7 anthers, with their claws shorter than the petals. Flowers pale yellow.

Hoary Melaleuca. Fl. Ju. Aug. Clt. 1817. Shrub 3 to 8 ft.

† *Species not sufficiently known.*

38 M. microphy'lla (Smith in Rees' cycl. vol. 23. no. 9.) leaves alternate, imbricate, cylindrical, obtuse, somewhat spatulate; spikes oval on the upper part of the branches; calyxes glabrous. ♄. G. Native of New Holland, at King George's Sound. From the flowers being pedicellate, and the bundles of stamens not exceeding the petals, it is therefore perhaps a species of *Tristània* or *Astártea*.

Small-leaved Melaleuca. Shrub.

39 M. tetragòna (Lodd. ex Otto, hort. berol. p 37.) leaves opposite, decussate, ovate-elliptic, 3-nerved. ♄. G. Native of New Holland. Allied to *M. decussàta*, but the leaves are broader, much less dotted, more remote, and more spreading. Flowers unknown.

Tetragonal Melaleuca. Clt. 1820. Shrub 4 to 6 ft.

† † *Species only known by name. Many of them may prove identical with some of those described above.*

1 *M. divaricàta*, Donn. 2 *M. híspida*, Wendl. 3 *M. perforàta*, Rœusch. 4 *M. stricta*, Smith. 5 *M. trinérvia*, Smith. 6 *M. pendulìna*, Lodd.

Cult. The greater part of the species of *Melaleùca* are desirable green-house or conservatory plants, their foliage being neat, and in some the blossoms are splendid. Their culture and propagation are the same as recommended for *Tristània*, see p. 813.

XII. LAMA'RCHEA (dedicated to A. M. Lamarche, a captain in the French navy, formerly lieutenant of the ship Uranie, under captain Freycenet in his voyage round the world; and a particular friend of Gaudichaud's). Gaud. in Freyc. voy. part. bot. p. 483. t. 110.

Lin. syst. *Icosándria, Monogýnia.* Calyx hemispherical, with a 5-parted regular deciduous limb. Petals 5, inserted in the limb of the ca[illegible], obovate-spatulate, ciliately fringed at the apex, campanulately conniving, exceeding the limb of the calyx. Stamens numerous, inserted with the petals, monadelphous, exceeding the corolla. Staminiferous tube a little arched, divided into 5 polyandrous parts even to the middle. Ovarium globose, free. Style crowned by a subcapitate stigma. Capsule globose, chartaceous, 3-celled, dividing into 3 valves at the dissepiments; placentas 3, fixed to the axis of the capsule. Seeds numerous, cuneated or lanceolate, arched triangular, erectly ascending.—An unarmed tree, with scattered, linear-lanceolate, quite entire, 3-nerved, coriaceous leaves. Flowers axillary, solitary, sessile, brownish purple, lateral after the leaves have fallen.

1 L. hakeæfòlia (Gaud. l. c. t. 484. t. 110.) ♄. G. Native of the Sandwich Islands ?

Hakea-leaved Lamarchea. Tree.

Cult. For culture and propagation see *Tristània*, p. 813.

XIII. EUDE'SMIA (from ευ, *eu*, well, and δεσμη, *desme*, a bundle; in reference to the stamens being connected into 4 bundles). R. Br. in gen. rem. p. 67. t. 3. D. C. prod. 3. p. 216.

Lin. syst. *Polyadélphia, Polyándria.* Tube of calyx turbinate; limb 4-cleft. Petals closely joined into 4-striped deciduous hemispherical operculum. Stamens indefinite, joined into 4 polyandrous bundles, which alternate with the teeth of the calyx, and therefore opposite the petals. Capsule 4-celled, 4-valved, opening at the apex.—A New Holland shrub, with tetragonal branches. Leaves nearly opposite, broad-lanceolate, coriaceous, glaucous. Peduncles axillary, bearing umbels of white flowers.

1 E. tetragòna (R. Br. l. c.) ♄. G. Native of New Holland, at Lucky Bay. Sweet, fl. austr. t. 21. Lindl. bot. reg. with a figure.

Tetragonal-branched Eudesmia. Fl. July. Clt. 1824. Tree 10 to 20 feet.

Cult. For culture and propagation see *Tristània*, p. 813.

SUBTRIBE II. EULEPTOSPE'RMEÆ (from *eu*, well, and *leptospermum*; this subtribe contains plants agreeing with *Leptospérmum* in the free stamens). D.C. prod. 3. p. 216. Stamens free.

XIV. EUCALY'PTUS (from ευ, *eu*, well, and καλυπτω, *kalypto*, to cover, as with a lid; in reference to the limb of the calyx covering the flower before expansion, and afterwards falling off in one piece, in the shape of a lid or cover (f. 118. *b*.). Lher. sert. angl. 18. D.C. prod. 3. p. 216.

LIN. SYST. *Icosándria*, *Monogýnia*. Tube of calyx permanent, obovate or globose (f. 118. *a*.), cup-shaped; limb in the form of a lid, entire, cut round regularly at the base, and falling off in one piece (f. 118. *b*.). Petals wanting. Stamens numerous (f. 118. *d*.), free. Capsule 4-celled (f. 118. *c*.), or only 3-celled from abortion, opening at the apex, many-seeded.—Tall trees, natives of New Holland. Leaves quite entire, coriaceous, usually alternate, rarely opposite, very variable even in the same tree, quite glabrous except in a very few of the species. Peduncles axillary, bearing an umbel of from 3-15 flowers. Flowers white. The operculum of the calyx in some, according to Mr. Brown, (gen. rem. p. 68.) is double, the outer in the form of a calyx, and the inner the form of a corolla. There are about 100 species in New Holland (R. Br. gen. rem. p. 15.), of which hardly a half are rightly known. In Van Dieman's Land a manufactory has been established for the preparation of extract of tannin from the bark of various species of *Eucalýptus*. A considerable quantity of the substance has been recently imported into England, and it has been said by tanners to be twice as powerful in its operation as oak-bark.

§ 1. *Alternifòliæ* (from *alternus*, alternate, and *folium*, a leaf). *Leaves alternate.*

* *Operculum conical, longer than the calycine cupula.*

1 E. CORNU'TA (Labill. voy. 1. p. 403. t. 20. nov. holl. 2. t. 221.) operculum cone-formed, 5 times longer than the cupula; base of style permanent; flowers capitate at the tops of the terete peduncles; leaves linear-lanceolate. ♄. G. Native of New Holland, in Van Lewin's Land.

Horned Eucalyptus. Clt. 1803. Tree 30 ft.

2 E. TERETICÓRNIS (Smith in Lin. trans. 3. p. 284. nov. holl. 41.) lid conical, terete, quite smooth and membranous, broader, and 3 times longer than the cupula; umbels lateral; leaves lanceolate, oblique at the base. ♄. G. Native of New Holland.

Terete-horned Eucalyptus. Clt. 1804. Tree.

3 E. RESINÍFERA (Smith in Whit. voy. p. 331. t. 25. ex exot. bot. 2. p. 49. t. 84.) lid conical, terete, coriaceous, twice the length of the cupula; peduncles of umbel somewhat compressed, a little longer than the petioles; leaves ovate-lanceolate, long-acuminated, attenuated at the base, marginate by a nerve. ♄. G. Native of New Holland. Andr. bot. rep. t. 400. Hayn. arzn. gew. 10. t. 5. Metrosidèros gummífera, Gærtn. fruct. 1. p. 173. t. 34. f. 1. Leaves full of minute dots. A resin something like kino has been produced from this species, and for all medical purposes full as efficacious.

Resin-bearing Eucalyptus or Red Gum-tree. Fl. Apr. July. Clt. 1788. Tree.

4 E. LONGIFÒLIA (Link, enum. 2. p. 29. Link et Otto, abbild. t. 45.) lid of calyx conical; leaves lanceolate, unequal at the base, long-acuminated, having the acumen incurved, full of pellucid dots, and margined by a nerve; peduncles longer than the petioles. ♄. G. Native of New Holland. Lindl. bot. reg. 941. E. glaucophýlla, Hoffm. berz. 1826. p. 114.? Branches red. Leaves usually deflexed. Allied to *E. resinífera*, but differs in the peduncles being longer.

Long-leaved Eucalyptus. Fl. June. Tree.

* * *Operculum conical, equal in length to the cupula.*

5 E. ROBU'STA (Smith in Lin. trans. 3. p. 283. spec. nov. holl. p. 39. t. 13.) operculum conical, constricted in the middle, length of the cup, and broader than it; peduncles lateral and terminal, 2-edged; pedicels short, compressed; leaves ovate. ♄. G. Native of New Holland.

Var. β, *rostràta* (Cav. icon. 4. t. 342.) leaves ovate-lanceolate, acuminated, coriaceous, girded by a marginal parallel nerve. ♄. G. Native of New Holland. E. robústa, Sieb. pl. exsic. nov. holl. no. 480.

Robust Eucalyptus. Fl. Aug. Sep. Clt. 1794. Tr. 100 ft.

6 E. MARGINA'TA (Smith in Lin. trans. 6. p. 302.) lid of calyx conical, length of cup; umbels lateral; leaves ovate, with thickened margins. ♄. G. Native of New Holland. Margin of leaves cartilaginous and reddish. Operculum not constricted as in *E. robústa*, to which it is very nearly allied.

Marginate-leaved Eucalyptus. Fl. April, June. Clt. 1794. Tree.

7 E. INCRASSA'TA (Labill. nov. holl. 2. p. 12. t. 150.) lid of calyx conical, somewhat constricted nearly the length of the cupula; peduncles axillary, 2-edged, as well as the pedicels, which are short; leaves oblong-lanceolate, thickish, rather acuminated, girded by a thin nerve, which is parallel with the margin. ♄. G. Native of New Holland, in Van Lewin's Land. Marginal nerve of leaf visible beneath. Lower surface of leaves pale.

Thickened Eucalyptus. Clt. 1818. Shrub 6 ft.

8 E. PERSICIFÒLIA (Lodd. bot. cab. t. 501.) lid of calyx conical, a little shorter than the cupula; peduncles axillary, 2-edged, length of the petiole; pedicels short, compressed; leaves oblong, attenuated at the base, acuminated at the apex, marked with a nearly parallel, very thin nerve on the margin. ♄. G. Native of New Holland. Lodd. bot. cab. 501. Umbels 8-10-flowered. Leaves 3 inches long and 6 lines broad.

Var. β; leaves a little broader; peduncles shorter. Eucalýptus, Sieb. pl. exsic. nov. holl. no. 593.

Var. γ; leaves a little longer; peduncles exceeding the petioles a little. E. incrassàta, Sieb. pl. exsic. nov. holl. no. 477. E. multiflòra, Poir. suppl. 2. p. 594.

Peach-leaved Eucalyptus. Fl. July. Clt. 1817. Tree.

9 E. PUNCTA'TA; lid of calyx conical, longer than the cupula; peduncles axillary at the tops of the branches, shorter than the petioles, and are, as well as the pedicels, 2-edged; leaves oblong, attenuated at the base, acuminated at the apex, dotted beneath, and girded by a nerve, which is parallel to the margin. ♄. G. Native of New Holland. Sieb. pl. exsic. nov. holl. no. 623. Leaves more distinctly margined than the preceding. Operculum not constricted in any way. Umbels 4-8-flowered. Dots on the under surface of the leaves blackish. Leaves 3 inches long, and 7-8 lines broad.

Dotted-leaved Eucalyptus. Tree.

10 E. ACE'RVULA (Sieb. pl. exsic. nov. holl. p. 469.) lid of calyx conical, length of the cupula; peduncles lateral, shorter than the petioles, and are, as well as the pedicels, 2-edged; leaves ovate-lanceolate, oblique at the base, and very much cut on one side, acuminated at the apex. ♄. G. Native of New Holland. Leaves 4-5 inches long, and about an inch broad. Umbels 5-10-flowered. Alabastrum or flower-bud 3 lines long.

Little-horned Eucalyptus. Tree.

11 E. VIRGA'TA (Sieb. l. c. no. 467.) lid of calyx conical, length of the cupula; peduncles axillary and lateral, hardly longer than the petioles, and are 2-edged, as well as the pedicels; leaves oblong-linear, acuminated at both ends, thickish, coriaceous, and nearly veinless. ♄. G. Native of New Holland. Leaves 4-6 inches long, and about 6-9 lines broad.

Twiggy Eucalyptus. Tree.

12 E. MICRA'NTHA (D. C. prod. 3. p. 217.) operculum conical, length of the cup; peduncles angular, length of the petioles,

axillary and nearly terminal; umbels 15-20-flowered; leaves oblong, coriaceous, attenuated at the base, long-acuminated, with the nerves confluent in front of the margins. ♄. G. Native of New Holland. Sieb. pl. exsic. no. 497. Leaves shining on both surfaces, 6-7 inches long, and 1 broad, having the veins feathered. Alabastrum ovoid, smaller than that of any other species.

Small-flowered Eucalyptus. Tree.

13 E. STELLULA'TA (Sieb. l. c. no. 487.) lid conical, length of the cupula; peduncles lateral, very short, nearly terete; umbels 15-20-flowered; leaves oblong, tapering to both ends, 3-5-nerved at the base. ♄. G. Native of New Holland. Petioles and peduncles 3 lines long. Leaves 3 inches long, and half an inch broad, rather coriaceous, and a little shining. Flower-bud oblong, tapering to both ends, 2 lines long.

Starry Eucalyptus. Tree.

14 E. OBLÓNGA (D. C. prod. 3. p. 217.) lid of calyx conical, length of the cupula; peduncles lateral and axillary, compressed, length of the petioles; umbels 8-12-flowered; leaves oblong, unequal at the base and attenuated, mucronate at the apex, coriaceous, veinless. ♄. G. Native of New Holland. Sieb. pl. exsic. no. 583. Flower-bud oblong, attenuated at both ends, nearly sessile on the tops of the peduncles, and a little shorter than them. Leaves 3-4 inches long, and 9 lines broad.

Oblong-leaved Eucalyptus. Tree.

15 E. VIMINA'LIS (Labill. nov. holl. 2. p. 12. t. 151.) operculum conical, hardly acute, length of the cupula; peduncles axillary and lateral, compressed, shorter than the petioles; flowers sessile, 3 on the top of each peduncle; leaves linear-lanceolate. ♄. G. Native of Van Dieman's Land. Capsule hemispherical. Leaves 3 inches long, and 4-5 lines broad. Intermediate between the first and second division of the genus.

Twiggy Eucalyptus. Clt. 1810. Tree.

16 E. CAPITELLA'TA (Smith in White, voy. p. 226. icon. nov. holl. t. 42.) lid of calyx conical, bluntish, length of the cup, which is angular, and somewhat 2-edged; peduncles lateral; flowers capitate; leaves ovate-lanceolate, stiff, oblique. ♄. G. Native of New Holland. E. triántha, Link, enum. 2. p. 20. and perhaps of Spreng. syst. 2. p. 501.

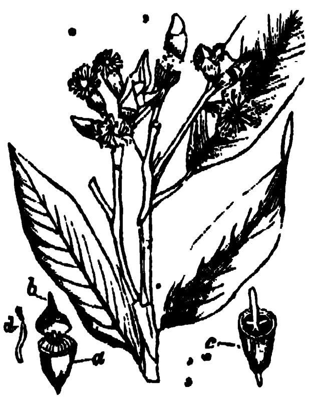
Headed-flowered Eucalyptus. Clt. 1804. Tree.

17 E. SALI'GNA (Smith in Lin. trans. 3. p. 285.) operculum acute, and is, as well as the cup angularly 2-edged; peduncles lateral, short; flowers capitate; leaves linear-lanceolate. ♄. G. Native of New Holland. Flowers small. Calyx biangular. Fruit turbinate. E. angustifòlia, Link, enum. 2. p. 30. ex Spreng.

Willowy-leaved Eucalyptus. Clt. 1804. Tree.

*** *Operculum nearly conical or hemispherical, shorter than the cupula.*

FIG. 118.



18 E. OVA'TA (Labill. l. c. p. 13. t. 153.) lid of calyx hemispherical, mucronulate, shorter than the cup; peduncles axillary, and somewhat terminal, nearly terete, shorter than the petioles; flowers 3-5-together, capitate; leaves ovate, mucronate, a little crenated. ♄. G. Native of New Holland, in Van Lewin's Land. Leaves coriaceous, some entire, and others irregularly crenated. E. mucronàta, Link, enum. 2. p. 30. E. androsemifòlia, Hoffm. verz. 1826. Petioles half an inch long. Limb of leaves 3-4 inches long, and 1-2 broad.

Ovate-leaved Eucalyptus. Clt. 1820. Shrub 6 to 8 ft.

19 E. SCA'BRA (Dum. Cours. bot. cult. 7. p. 280.) operculum rather conical, a little shorter than the cup; peduncles axillary, angularly compressed, equal in length to the petioles, or longer; flowers capitate; leaves lanceolate, unequal at the base, those on the sterile branches curled, on the fertile flat; when young usually velvety, as well as the branches. ♄. G. Native of New Holland. E. eugenioìdes, Sieb. pl. nov. holl. exsic. no. 479. E. penicellàta, Hort. Branches and leaves bearing crowded fascicles of short hairs, which at length fall off, and the leaves become glabrous; sometimes glabrous even in the young state. Petioles 4 lines long. Leaves unequal at the base, oval or oblong-lanceolate, acuminated. The peduncles, in Sieber's specimens, are 4-5-flowered, and about equal in length to the petioles, but in the plant cultivated by Noisette, they are 15-20-flowered, and twice the length of the petioles.

Scabrous Eucalyptus. Clt. 1810. Tree.

20 E. PILULA'RIS (Smith in Lin. trans. 3. p. 284.) lid of calyx conical, rather hemispherical at the base, a little shorter than the cup; peduncles lateral, very short, rather angular; flowers 6-7 in a head; leaves linear-lanceolate, acuminated; veins confluent at the tops, forming a nerve, which is parallel with the margin. ♄. G. Native of New Holland. Sieb. pl. exsic. nov. holl. no. 474. Sieber's plant is most probably the same as Smith's, but that of Sprengel is perhaps different, from the flowers being corymbose. Flower-bud about the size of a grain of millet. Peduncles 2-3 lines long, nearly one-half shorter than the petioles. Leaves 3 inches long, and 5 lines broad.

Pill-bearing Eucalyptus. Clt. 1804. Tree.

21 E. RADIA'TA [illegible]eb. pl. exsic. nov. holl. no. 425.) lid of calyx hemispherical, mucronate, shorter than the cupula; peduncles axillary and lateral, rather angular, and rather shorter than the petioles; flowers 15-20-together in an umbel, on short pedicels; leaves linear-lanceolate, veins very fine, confluent at the apex, and forming a nerve, which is parallel with the margin. ♄. G. Native of New Holland. Fruit globose, 3 lines in diameter. Petioles 4 lines long. Leaves 4 inches long, and 6-7 lines broad.

Ray-nerved Eucalyptus. Tree.

22 E. STRÍCTA (Sieb. l. c. no. 472.) operculum hemispherical, mucronate, shorter than the cupula; peduncles lateral, nearly terete, a little longer than the petioles; flowers 5-6 in a head; leaves stiff, linear-lanceolate, coriaceous, acuminated. ♄. G. Native of New Holland. Fruit globose, 3 lines in diameter. Petioles a line and a half long. Peduncles 3 lines long. Leaves 3 inches long, and 4 lines broad, rather shining, having the middle nerve hardly prominent, and the rest veinless.

Straight Eucalyptus. Tree.

23 E. HÆMA'STOMA (Smith in Lin. trans. 3. p. 285.) operculum hemispherical, mucronulate, shorter than the cupula; peduncles axillary, and nearly terminal, rather angular, longer than the petioles, some bearing one umbel at the apex, and others bearing many umbels disposed in a racemose manner; flowers pedicellate, 5-10 in each umbel; leaves linear-lanceolate, acuminated. ♄. G. Native of New Holland. E. racemòsa, Cav. icon. 4. p. 24. no. 377. White, trav. p. 226. with a figure. Leaves rather unequal at the base, 3 inches long, and 6 lines broad.

Bloody-mouthed Eucalyptus. Clt. 1803. Tree.

24 E. LIGU'STRINA (D. C. prod. 3. p. 219.) operculum hemispherical, mucronate, shorter than the cup; peduncles axillary, compressed, length of the petioles; flowers 6-8 in a head; leaves linear-lanceolate, very unequal at the base and attenuated, acuminated at the apex. ♄. G. Native of New Holland. Sieb. pl. exsic. nov. holl. no. 617. Leaves 2 inches long, and 4-5

lines broad. Petioles and peduncles 3-4 lines long. Perhaps the same as E. salicifòlia, Cav. icon. 4. p. 376.

Privet-like Eucalyptus. Tree.

25 E. AMYGDA'LINA (Labill. nov. holl. 2. p. 14. t. 154.) lid hemispherical, nearly mutic, shorter than the cup; peduncles axillary and lateral, nearly terete, length of the petioles; umbels 6-8-flowered, nearly capitate; leaves linear-lanceolate, attenuated at the base, and acuminately mucronate at the apex. ♄. G. Native of Van Dieman's Land. Metrosidèros salicifòlia, Gærtn. fr. 1. p. 171. t. 24. f. 3. a. but not b. E. globulàris, Hort. Leaves 3 inches long, and 3 lines broad, some unequal at the base, and some equal. Petioles and peduncles 3 lines long. Fruit globose, size of a grain of pepper.

Almond-like Eucalyptus. Clt. 1820. Tree.

26 E. AMBIGUA (D. C. prod. 3. p. 219.) lid hemispherical, mucronulate, shorter than the cupula; peduncles axillary, compressed, length of the petioles; umbels capitate, 8-9-flowered; leaves lanceolate, rather coriaceous, unequally attenuated at the base, and acuminately mucronate at the apex. ♄. G. Native of New Holland. Allied to *E. ligústrina* and *E. amygdálina*, but the fruit is nearly globose, and twice the size. Petioles and peduncles 2-3 lines long. Leaves 2-3 inches long, and 6-12 lines broad, stiffish; lateral veins hardly evident.

Ambiguous Eucalyptus. Tree.

27 E. LINDLEYA'NA (D. C. prod. 3. p. 219.) operculum hemispherical, nearly mutic; peduncles nearly terete; flowers 3-5 in an umbel; leaves linear-lanceolate, some petiolate and cuneated at the base, others sessile and obtuse at the base. ♄. G. Native of New Holland. E. longifòlia, Lindl. bot. reg. t. 947.

Lindley's Eucalyptus. Fl. June. Tree.

28 E. BOTRYOÌDES (Smith in Lin. trans. 3. p. 286.) lid of calyx hemispherical, rather mucronate, shorter than the cupula; peduncles lateral, compressed, 4-6-flowered, capitate; leaves lanceolate, oblique. ♄. G. Native of New Holland. E. platýpodos, Cav. icon. 4. p. 23. t. 341. Fruit turbinate, ex Smith, but cylindrical according to Cav.

Botrys-like Eucalyptus. Fl. Apr. July. Clt. 1803. Tree.

29 E. PIPERÌTA (Smith, l. c.) operculum hemispherical, mucronate, shorter than the cup; peduncles axillary and lateral, compressed, shorter than the petioles; umbels 3-5-flowered; branchlets angular; leaves lanceolate, coriaceous, acuminated, 1-nerved, and somewhat many-nerved at the base. ♄. G. Native of New Holland. White, trav. p. 226. with a figure. Rchb. gart. mag. t. 42. Petioles 8 lines long. Peduncles 4 lines long. Leaves 4-6 inches long, and an inch broad, shining on both surfaces.

Var. β, *pauciflòra* (Sieb. pl. exsic. no. 470.) leaves longer; umbels fewer-flowered. ♄. G. Native of New Holland.

Peppery Eucalyptus. Clt. 1788. Tree.

30 E. PA'LLENS (D. C. prod. 3. p. 219.) lid of calyx hemispherical, nearly awnless, shorter than the cupula; peduncles axillary, compressed, length of the petioles; umbels 5-7-flowered; branches angular; leaves lanceolate, acuminated, rather coriaceous, feather-nerved; veins confluent in front of the margins. ♄. G. Native of New Holland. Sieb. pl. exsic. no. 606. Petioles 5 lines long. Leaves 5 inches long, hardly oblique at the base, and nearly an inch and a half broad, white on both surfaces.

Pale-leaved Eucalyptus. Tree.

31 E. OBLÌQUA (Lher. sert. angl. p. 18.) lid of calyx hemispherical, mucronate, shorter than the cupula; peduncles axillary and lateral, and are, as well as the branches, nearly terete, length of the petioles; umbels 9-12-flowered; leaves broad, lanceolate, acuminated, very unequal at the base, feather-nerved. ♄. G. Native of New Holland. Lam. ill. t. 422. Salisb. par. lond. 15. Smith, nov. holl. 13. Leaves 6-7 inches long, and 2 inches broad. Petioles and peduncles an inch long.

Oblique-leaved Eucalyptus. Fl. July, Aug. Clt. 1774. Tr. 100 ft.

32 E. CORYMBÒSA (Smith in Lin. trans. 3. p. 287. nov. holl. p. 43.) operculum hemispherical, mucronate, shorter than the cup; peduncles angular, disposed in a terminal corymb; leaves lanceolate, equally attenuated at the base, coriaceous. ♄. G. Native of New Holland. Cav. icon. t. 340. Fruit turbinate. Petioles half an inch long. Leaves 4 inches long, and one broad. Veins feathered, hardly evident. The *E. corymbòsa* of the gardens is probably distinct from this, but the flowers have not been seen.

Corymbose-flowered Eucalyptus. Clt. 1788. Tree.

33 E. PANICULA'TA (Smith, l. c.) operculum hemispherical, mucronate, shorter than the cup, which is angular; peduncles angular, lower ones axillary, the rest disposed in a terminal panicle; leaves lanceolate, equally attenuated at the base, coriaceous. ♄. G. Native of New Holland. Fruit turbinate, angular. Leaves 3 inches long, and 5-6 lines broad. Petioles 5 lines long.

Panicled-flowered Eucalyptus. Clt. 1804. Tree.

34 E. CNEORIFÒLIA (D. C. prod. 3. p. 220.) lid of calyx hemispherical, nearly mutic, shorter than the cupula, which is turbinate; peduncles nearly terete, axillary, length of the petioles; flowers 5-7 in a head; leaves linear-lanceolate or oblong-lanceolate, unequally attenuated at the base, coriaceous. ♄. G. Native of New Holland, on the eastern coast. Alabastrum with the lid or operculum about 4 lines long, obtuse. Flowers sessile on the tops of the peduncles. Petioles 4 lines long. Leaves 2 inches long, and 6 lines broad. The middle nerve is only prominent or even evident.

Widow-wale-leaved Eucalyptus. Tree.

35 E. OBTUSIFÒLIA (D. C. prod. 3. p. 220.) operculum hemispherical, very blunt, shorter than the cup, which is obovate; peduncles rather angular, axillary, length of the petioles; flowers 4-5 in each head; leaves lanceolate, mucronate, unequally attenuated at the base, coriaceous. ♄. G. Native of New Holland, on the eastern coast. Very like the preceding species, but differs in the flowers being larger, in the cup of the calyx being obovate, in the operculum being blunter, and in the leaves being broader. The mucrones of the leaves are deciduous as in the preceding species.

Blunt-leaved Eucalyptus. Tree.

* * * * *Operculum hemispherical, much broader than the cupula.*

36 E. GOMPHOCE'PHALA (D. C. prod. 3. p. 220.) operculum hemispherical, obtuse, rather striated, much broader than the cup, and a little longer; peduncles 2-edged, length of the petioles, nearly terminal; flowers 3-4 in each head or umbel; leaves lanceolate, acuminated, coriaceous. ♄. G. Native of New Holland. Petals wanting. Stamens very numerous. Fruit angularly compressed, rather turbinate, 4-celled. Petioles an inch long, terete. Leaves glaucous, veinless, 5 inches long, and one broad.

Club-flowered Eucalyptus. Tree.

* * * * * *Mature operculum depressed in the centre, where it is umbonate, shorter than the cupula.*

37 E. GLÓBULUS (Labill. voy. 1. p. 153. t. 13. nov. holl. 2. p. 121.) operculum conical, when young length of the cup, which is tetragonal, but in the adult state it is depressed, and mucronate in the centre; peduncles axillary, short, 1-flowered; leaves alternate, lanceolate, nearly falcate. ♄. G. Native of Van

Dieman's Land and New Holland. Petioles an inch long. Leaves 7-8 inches long, and one broad. Fruit an inch in diameter, flat on the top. E. globulàris, Hort. is probably distinct from this in the leaves.

Globuled Eucalyptus. Clt. 1810. Tree 150 ft.

§ 2. *Oppositifòliæ* (from *oppositus*, opposite, and *folium*, a leaf). *A series of the leaves are opposite and sessile, and others petiolate and alternate.*

38 E. DIVERSIFÒLIA (Bonpl. nav. 1. p. 35. t. 13) operculum conical, length of the cup, which is turbinate; peduncles axillary, terete; flowers 5-7 in each tuft; lower leaves opposite, sessile, ovate, obtuse; upper ones alternate, petiolate, lanceolate, acuminated by a mucrone. ♄. G. Native of New Holland, in Kanguru Island. E. connàta, Dum. Cours. bot. cult. 7. p. 280.? E. piperìta, hort. berol. Fruit hemispherical, 5 lines in diameter, flat at the top. Pericarp cross-formed at the apex. Leaves 2-3 inches long, lower ones an inch and a half broad, but the upper ones are only half an inch broad. Branches terete, but when very young compressed. E. heterophýlla, Sweet?

Diverse-leaved Eucalyptus. Tree.

39 E. PULVI'GERA (Cunningh. in Field's new south wales, p. 350.) leaves opposite, sessile, rather connate at the base, nearly orbicular, retuse, cuspidate at the apex, with thickened undulated margins; umbels axillary, pedunculate, 3-flowered; pedicels very short, terete. ♄. G. Native of New Holland, near Cox's River. Operculum hemispherical, acute.

Powder-bearing Eucalyptus. Clt. 1824. Tree.

40 E. CORDA'TA (Labill. nov. holl. 2. p. 13. t. 152.) operculum with the margin depressed, and the middle umbonate, shorter than the cup, which is obovate; peduncles axillary and terminal, short, and rather angular; flowers 3-4 in each head, leaves for the most part opposite, sessile, cordate, usually crenated; branchlets terete. ♄. G. Native of New Holland, at Cape Van Dieman. Lodd. bot. cab. t. 328. Fruit nearly globose, 4-5 lines in diameter. Branches and young leaves glaucous. Leaves usually obtuse, 2 inches long and an inch and a half broad.

Cordate-leaved Eucalyptus. Fl. June. Clt. 1816. Tr. 60 ft.

41 E. PULVERULE'NTA (Sims, bot. mag. t. 208.) operculum hemispherical; peduncles short, axillary; flowers 3 in each head; leaves opposite, ovate-orbicular, rather mucronate, cordate, covered with glaucous powder, quite entire; branches terete. ♄. G. Native of New Holland. E. cordàta, Hort. berol. Perhaps distinct from the preceding species. Perhaps the operculum is truly hemispherical.

Powdery Eucalyptus. Clt. 1816. Tree.

† *Doubtful species, in consequence of the flowers being unknown. Many of which are probably identical with some of those described above, especially among those with alternate leaves.*

* *Leaves opposite.*

42 E. GLAU'CA (D. C. prod. 3. p. 221.) operculum unknown; leaves glaucous and powdery; lower ones opposite, sessile, stem-clasping, cordate, ovate, mucronate; middle ones on short petioles, and about opposite; upper ones alternate, petiolate, lanceolate, and acuminated; branches 4-winged or quadrangular. ♄. G. Native of New Holland. E. perfoliàta, Hort. E. pulverulénta, Link, enum. 2. p. 31. Leaves very variable on the same plant, both with regard to size and shape.

Glaucous Eucalyptus. Clt. 1820. Tree.

43 E. PURPURA'SCENS (Link, enum. 2. p. 31.) leaves opposite, stem-clasping, lanceolate, long-acuminated, glaucous beneath. ♄. G. Native of New Holland. Branches and nerves of leaves purplish. Leaves 4 inches long and 10 lines broad. Perhaps the two following varieties are the same, only differing in the shape of the leaves from the age of the plants.

Var. β, petiolulàta (D. C. l. c.) leaves on short petioles, linear-lanceolate, acuminated.

Var. γ, petiolàris (D. C. l. c.) leaves on long petioles, broad-lanceolate. E. oppositifòlia, Desf. hort. par. 1804. p. 422. Branchlets terete, and are as well as the petioles and nerves of leaves brownish purple. Leaves 3-4 inches long and an inch broad, unequally attenuated at the base, girded by a nerve at the margin.

Purplish-nerved Eucalyptus. Clt. 1823. Tree.

44 E. TUBERCULA'TA (Parm. h. engh. ex Otto. hort. berol.) leaves opposite, sessile, stem-clasping, oblong-linear, acute, membranous, glabrous; branches filiform, tubercular. ♄. G. Native of New Holland. E. verrucòsa, Hort. ex Loud. hort. brit. p. 198.

Tuberclcd-branched Eucalyptus. Clt. 1822. Tree.

45 E. CUNNINGHA'MI; leaves linear-lanceolate, rather falcate, acute, with thickened margins; umbels many-flowered, and are as well as the leaves crowded. ♄. G. Native of New Holland, forming bushes upon the more elevated of the mountains. E. microphýlla, Cunningh. in Field's new south wales, p. 350.

Cunningham's Eucalyptus. Clt. 1824. Shrub.

46 E. RI'GIDA (Hoffmans. verz. 1826. p. 114.) leaves stiff and hard, lower ones sessile, opposite, ovate, rather cordate, obtuse, upper ones petiolate, scattered, lanceolate, acute, and somewhat apiculated; stem and branches terete. ♄. G. Native of New Holland. Flowers and fruit unknown. Perhaps the same as *E. diversifòlia.*

Stiff-leaved Eucalyptus. Tree.

47 E. HYPERIC[illegible]LIA (Dum. Cours. bot. cult 7. p. 279.) leaves opposite, lanceolate-oblong, acute, glaucescent beneath; branches filiform. ♄. G. Native of New Holland. Petioles half an inch long. Leaves 6 inches long and an inch and a half broad. Lateral nerves of leaves parallel, connected in front of the margin. E. hypericifolia of Link. enum. 2. p. 30. has alternate, nearly linear leaves, which are acuminated at both ends, coriaceous, standing on short petioles, dotted when examined by a lens, but perhaps only the same plant.

St. John's-wort-leaved Eucalyptus. Clt. 1823. Tree.

* * *Leaves alternate.*

48 E. MICROPHY'LLA (Willd. enum. p. 515.) leaves alternate, ovate-oblong, cuspidate, glaucescent beneath. ♄. G. Native of New Holland. Petioles 4 lines long. Leaves an inch and a half long, falcate at the apex, small, crowded on the branchlets. Link, enum. 2. p. 30.

Small-leaved Eucalyptus. Clt.? Tree.

49 E. STENOPHY'LLA (Link, enum. 2. p. 30.) leaves alternate, linear, attenuated at the base, bluntish, veiny, dotted, with the lateral nerves connected before the margin. ♄. G. Native of New Holland. Petioles 4 lines long. Leaves 3 inches long, and 4 lines broad.

Narrow-leaved Eucalyptus. Clt. 1823. Tree.

50 E. MYRTIFÒLIA (Link, enum. 2. p. 30.) leaves alternate, on long petioles, ovate, acute, reticulated, dotted; lateral nerves connected before the margins. ♄. G. Native of New Holland. Petioles 3-4-lines long. Leaves 20-21 lines long, and nearly an inch broad.

Myrtle-leaved Eucalyptus. Clt. 1823. Tree.

51 E. ELONGA'TA (Link, l. c.) leaves alternate, lanceolate, reticulately veined, coriaceous, ending in a filiform acumen each. ♄. G. Native of New Holland. Petioles 8 lines long. Leaves 4-5 inches long, and 10-12 lines broad. Perhaps the same as *E. cornùta*, or perhaps *E. persicifòlia.*

Elongated Eucalyptus. Clt. 1823. Tree.

52 E. me'dia (Link, l. c.) leaves alternate, lanceolate, long-acuminated, obovate, and oblique at the base, with the nerves parallel beneath. ♄. G. Native of New Holland. Petioles half an inch long. Leaves 6-7 inches long, and from 1-2 inches broad.

Intermediate Eucalyptus. Clt. 1823. Tree.

53 E. reticula'ta (Link, l. c.) leaves alternate, lanceolate, acuminated, somewhat ovate at the base, oblique, reticulately veined beneath. ♄. G. Native of New Holland. Leaves 6-7 inches long and 2 or more broad.

Reticulated-leaved Eucalyptus. Clt. 1823. Tree.

54 E. umbella'ta (Dum. Cours. bot. cult. 7. p. 279.) leaves alternate, ovate, rather crenated, mucronate, stiffish. ♄. G. Native of New Holland. Branches terete, brown. Leaves 4-5 inches long and 2-5 inches broad. Nearly allied to *E. ovàta.*

Umbellate-flowered Eucalyptus. Tree.

† *The following names occur in the gardens, but they are all perhaps synonymous with those described above.*

1 *E. orbiculàris*, Lodd. 2 *E. pulchélla*, Lodd. 3 *E. albicaúlis*, Hort. 4 *E. cotinifòlia*, Lodd. 5 *E. undulàta*, Hort. 6 *E. alàta*, Hort.

Cult. For culture and propagation see *Tristània*, p. 813.

XV. ANGO'PHORA (from αγγος, *angos*, a vessel, and φορεω, *phoreo*, to bear; form of fruit). Cav. icon. 4. p. 21. D. C. prod. 3. p. 222.

Lin. syst. *Icosándria, Monogýnia.* Tube of calyx turbinate, marked with 5 prominent ribs; limb of 5 permanent teeth. Petals 5. Stamens indefinite, free; anthers ovate. Style filiform. Capsule covered by the corticate [illegible]x, obovate, truncate, 3-celled, 3-valved. Seeds solitary, or few in the cells.—Australian shrubs, with opposite leaves, rarely with the rameal ones ternate. Flowers white.

1 A. cordifòlia (Cav. l. c. t. 338.) leaves sessile, ovate, cordate at the base, and are glabrous as well as the branches; peduncles and branchlets clothed with bristles or stiff hairs. ♄. G. Native of New Holland, near Port Jackson. Metrosidèros híspida, Smith, in Lin. trans. 3. p. 267. Sieb. pl. exsic. no. 471. Sims. bot. mag. t. 1960. Metrosidèros hirsùta, Andr. bot. rep. t. 281. Metros. anómala, Vent. malm. t. 2. Met. cordifòlia and M. híspida, Pers. ench. 2. p. 25. Eucalýptus hirsùta, Link, enum. hort. berol. 2. p. 31. Flowers rather large, yellowish or whitish.

Heart-leaved Angophora. Fl. May, Aug. Clt. 1789. Sh. 7 to 10 feet.

2 A. interme'dia (D. C. prod. 3. p. 222.) leaves on short petioles, elliptic-oblong, and are as well as the branches glabrous; peduncles hispid from bristles. ♄. G. Native of New Holland. Flowers one half smaller than those of the preceding species.

Intermediate Angophora. Shrub 4 to 6 feet.

3 A. lanceola'ta (Cav. l. c. t. 339.) leaves petiolate, lanceolate, acuminate, glabrous, as well as the branches and peduncles. ♄. G. Native of New Holland, near Port Jackson. Metrosidèros spléndens, Gærtn. fr. 1. p. 171. t. 34. f. 7. Melaleùca costàta, Rœusch. Metrosidèros costàta and lanceolàta, Pers. ench. 2. p. 25. Like the two preceding species, this varies with opposite and alternate leaves.

Lanceolate-leaved Angophora. Fl. May, Aug. Clt. 1816. Shrub 4 to 6 feet.

Cult. See *Metrosidèros* for culture and propagation.

XVI. CALLISTE'MON (καλλιστος, *kallistos*, beautiful, and στημων, *stemon*, a stamen; in most of the species the stamens are of a beautiful scarlet colour). R. Br. in bot. reg. no. 393. D. C. prod. 3. p. 222.—Metrosidèros species of authors.

Lin. syst. *Icosándria, Monogýnia.* Tube of calyx half spherical; limb 5-parted, with the lobes obtuse. Petals 5 (f. 119. *b*). Stamens numerous (f. 119. *e.*); filaments free. Style filiform. Stigma capitate (f. 119. *c.*). Capsule 3-celled (f. 119. *f.*), many-seeded, inclosed, and connate with the thickened tube of the calyx, which is adnate to the branches.—New Holland shrubs, having the inflorescence rising from the old branches in crowded spikes, as in the species of *Melaleùca;* but with the stamens free, as in *Metrosidèros.* Leaves elongated, stiff, alternate, usually lanceolate.

* *Filaments of stamens yellowish.*

1 C. pinifòlium (D. C. prod. 3. p. 223.) leaves linear-filiform, acerose, stiff, mucronate, channelled, scabrous; calyxes glabrous. ♄. G. Native of New Holland. Metrosidèros pinifòlia, Wendl. coll. 1. p. 53. t. 16. Willd. enum. 513. Metro. viridiflòra, Cels. Nois. but not of Sims. Petals greenish, oval. Stamens of a dirty yellowish green colour, thrice the length of the petals.

Pine-leaved Callistemon. Fl. June, Jul. Clt. ? Sh. 4 to 6 ft.

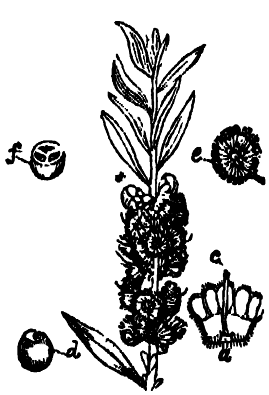
2 C. viridiflòrum (D. C. l. c.) leaves linear-lanceolate, stiff, pungent, beset with scabrous dots, rather villous when young as well as the branches; calyx glabrous. ♄. G. Native of New Holland, on the east coast. Metrosidèros viridiflòra, Sims, bot. mag. 2602. Petals and stamens greenish yellow. Filaments deflexed, 4-times the length of the corolla, ex Sims. Fruit globose; limb of calyx deciduous.

Green-flowered Callistemon. Fl. June, Aug. Clt. 1818. Shrub 4 to 6 feet.

3 C. sali'gnum (D. C. l. c.) leaves lanceolate, acuminated at both ends, mucronate, glabrous in the adult state, with the middle nerve feather-veined, and the lateral nervules approximating the margins; calyxes glabrous. ♄. G. Native of New Holland. Metrosidèros salígna, Smith, in Lin. trans. 3. p. 272. Vent. hort. cels. t. 70. Bonpl. nav. t. 4. Sieb. pl. exsic. no. 320. Flowers pale yellow. Stamens hardly 3-times the length of the petals, which are roundish.

Willowy Callistemon. Fl. May, July. Clt. 1788. Shrub 4 to 6 feet.

FIG. 119.



4 C. lopha'nthum (Sweet, fl. aust. t. 29.) leaves lanceolate, attenuated at both ends, mucronate, 1-nerved, and feather-veined, glabrous in the adult state, but villous when young as well as the branches; flowers distinct, spicate, nearly terminal; calyx pilose; petals rather pubescent, ciliated; ovary densely clothed with down; capsule distinct. ♄. G. Native of New Holland. Metrosidèros lophántha, Vent. hort. cels. t. 69. Metro. salígna, Sims, bot. mag. 1821. Flowers straw-coloured.

Crest-flowered Callistemon. Fl. June, Aug. Clt. 1806. Shrub 4 to 6 ft.

5 C. leptosta'chyum (Sweet, fl. aust. no. 29.) leaves lanceolate, acute, mucronate, attenuated at both ends, full of dots, 1-nerved, and feather-veined, glabrous in the adult state, when young clothed with silky tomentum as well as the branches; spikes long, slender; calyx pilose; petals pubescent, ciliated; ovaries smoothish; capsules crowded. ♄. G. Native of New Holland. Flowers greenish yellow.

Slender-spiked Callistemon. Fl. June, Aug. Clt. 1820. Shrub 4 to 6 feet.

6 C. PA'LLIDUM (D. C. prod. 3. p. 223.) leaves obovate-oblong, glaucous, mucronate, glabrous in the adult state, with the lateral nerves hardly evident; calyxes glabrous. ♄. G. Native of New Holland. Metrosidèros pállida, Bonpl. nav. p. 101. t. 41. Metro. austràlis, R. Br. mss. Very like the preceding species, and hardly distinct. Flowers pale yellowish green.

Pale-flowered Callistemon. Shrub 4 to 6 feet.

7 C. SIEBE'RI (D. C. l. c.) leaves linear, almost nerveless, and with the midrib hardly prominent, clothed with silky villi when young, but glabrous in the adult state; the lateral nerves wanting; calyxes pubescent. ♄. G. Native of New Holland. Myrtàcea, Sieb. pl. exsic. no. 637. Stamens a little longer than the petals.

Sieber's Callistemon. Shrub 4 to 6 feet.

* * *Filaments of stamens scarlet.*

8 C. RI'GIDUM (R. Br. in bot. reg. t. 393.) leaves linear or lanceolate, flat, stiff, very acute, mucronate, smooth; calyxes pubescent. ♄. G. Native of New Holland. Metrosidèros lineàris, Willd. enum. p. 513. but not of Willd. spec. Metros. viminàlis, Hort. berol. Perhaps the same as Metros. viminàlis, Gærtn. fruct. 1. p. 171. t. 34. Lam. ill. t. 421. f. 6. Smith, in Lin. trans. 3. p. 273. Flowers crimson.

Stiff Callistemon. Fl. May, June. Clt. 1800. Sh. 4 to 8 ft.

9 C. LINEA'RE (D. C. prod. 3. p. 223.) leaves linear, stiff, acute, keeled beneath. channelled above, villous while young; calyxes clothed with velvety pubescence. ♄. G. Native of New Holland. Metrosidèros lineàris, Smith, in Lin. trans. 2. p. 273. Willd. spec. 2. p. 953. Melaleùca lineàris, Wendl. et Schrad. sert. hann. t. 11. Metrosidèros calyculàtus, Sieb. pl. nov. holl. exsic. no. 545. Callistèmon púngens, Hort. Style longer than the stamens. Lobes of calyx almost orbicular, falling off after flowering. Fruit globose.

Linear-leaved Callistemon. Fl. June, July. Clt. 1788. Sh. 4 to 6 feet.

10 C. RUGULÒSUM (D. C. l. c.) leaves linear-lanceolate, stiff, mucronate, flat, tubercled on the disk, and scabrous on the margins, 3-nerved; lateral nerves approximating the margin of the leaf; fruit glabrous. ♄. G. Native of New Holland. Metrosidèros rugulòsa, Willd. enum. suppl. p. 31. without a description. Metrosidèros scàbra, Coll. hort. ripul. p. 71. Metro. glandulòsa, Desf. hort. par. M. macro-punctàtum, Dum. Cours. bot. cult. 7. p. 277. Callistèmon scàbrum, Lodd. bot. cab. 1283. Stamens scarlet.

Roughish-leaved Callistemon. Fl. Mar. June. Cl. 1821. Sh. 4 to 6 feet.

11 C. LINEARIFÒLIUM (D. C.) leaves linear-lanceolate, stiff, mucronate, flat, having the middle nerve finely feather-nerved: the lateral nerves confused with the entire margin of the leaves; tube of calyx villous. ♄. G. Native of New Holland. Metrosidèros linearifòlia, Link, enum. 2. p. 26. Stamens scarlet.

Linear-leaved Callistemon. Fl. Mar. June. Clt. 1820. Sh. 5 to 8 feet.

12 C. LANCEOLA'TUM (D. C. l. c.) leaves lanceolate, mucronate, attenuated at both ends; having the midrib rather prominent and feather-nerved; the lateral nerves approximating the margins of the leaves; calyxes pubescent. ♄. G. Native of New Holland. Metrosidèros lanceolàta, Smith, in Lin. trans. 3. p. 272. Pers. ench. 2. p. 24. no. 15. but not no. 11. Metro. cítrina, Curt. bot. mag. 260. Stamens scarlet.

Lanceolate-leaved Callistemon. Fl. June, Nov. Clt. 1788. Shrub 5 to 10 feet.

13 C. MARGINA'TUM (D. C. prod. 3. p. 224.) leaves lanceolate, stiff, flat, acute at both ends, 3-nerved; the middle nerve rather prominent; and the lateral ones approximating the margin; calyxes glabrous. ♄. G. Native of New Holland. Metrosidèros marginàta, Cav. icon. 4. p. 18. t. 332. Stamens scarlet.

Marginate-leaved Callistemon. Fl. June, Aug. Clt. 1816. Shrub 6 to 8 feet.

14 C. SPECIÒSUM (D. C. l. c.) leaves lanceolate, mucronate, flat, having the middle nerve rather prominent, and the lateral ones approximating the margin; calyxes villous; capsule 4-celled, tomentose at the apex. ♄. G. Native of New South Wales. Metrosidèros speciòsa, Sims, bot. mag. t. 1761. Leaves when young rather silky from adpressed caducous villi, and reddish. Stamens scarlet.

Var. β, *glaúcum* (D. C. l. c.) leaves glaucescent. ♄. G. Metrosidèros glaúca, Bonpl. nav. 1. p. 86. t. 34. Perhaps the same as *Metrosidèros semperflòrens*, Lodd. bot. cab. t. 523. Callistèmon formòsum, Hort.

Showy Callistemon. Fl. Mar. Ju. Clt. 1823. Sh. 5 to 10 ft.

† *A species not sufficiently known.*

15 C. HY'BRIDUM (D. C. l. c.) leaves linear, stiff, marginate by a nerve, acuminately mucronate, almost pungent, glabrous. ♄. G. Native country unknown. Metrosidèros hýbrida, Otto. hort. berol.

Hybrid Callistemon. Shrub 4 to 6 feet.

Cult. All the species of *Callistèmon* are worth cultivating in every collection of greenhouse plants for the neatness of their foliage, and the beauty of their blossoms, but especially those belonging to the last division of the genus, for the splendour of their flowers, which are either scarlet or crimson; and are therefore well adapted for a conservatory. The soil best suited for them is a mixture of loam, peat, and sand. Ripened cuttings of them strike root in sand, under a hand-glass. They may be also raised from seeds, which are frequently produced in this country on large plants. Plants raised from cuttings, taken from flowering plants, come into flower when small, but those raised from seeds do not flower till they become large.

XVII. METROSIDE'ROS (from *μητρα*, *metra*, the heart of a tree, and *σιδηρος*, iron; the wood and pith of the trees are very hard). R. Br. gen. rem. p. 15. D. C. prod. 3. p. 224.—Metrosidèros species, Gærtn. Smith and Ait.—Nàni, Adans. fam. 2. p. 88.

LIN. SYST. *Icosándria, Monogýnia.* Tube of calyx not angular, adhering to the ovarium; limb 6-cleft (f. 120. *a.*). Stamens 20-30, free, very long, and exserted. Style filiform; stigma simple. Capsule 2, but usually 3-celled; cells many-seeded. Seeds wingless.—Trees or shrubs. Leaves opposite or alternate. Flowers pedicellate, not adnate to the branches, as in the genus *Melaleùca* and *Callistèmon*. The genera *Angóphora* and *Callistèmon* have been separated from *Metrosidèros* as it formerly stood; these genera are very natural, but the present genus requires to be still further divided into other genera, for as it now stands it is a heterogeneous mass of plants; but from the fruit of the greater part of the species being unknown, this is altogether impracticable at present.

* *Leaves opposite.*

1 M. VE'RA (Rumph. amb. 3. p. 16. t. 7. Lindl. coll. t. 18.) leaves opposite, on short petioles, ovate-lanceolate, acuminated, quite glabrous; cymes axillary, pedunculate, many-flowered. ♄. S. Native of Amboyna and Java, among rocks. Nàni Valent. æst. ind. 220. t. 53. ex Rumph. Eugènia Amboynénsis, Hort. Flowers yellow. Stamens 30. Ovarium 2-celled. This species differs from all the others in habit, and is probably the only true species of *Metrosidèros*. The Chinese make rudders and anchors of the wood; and among the Japanese it is very scarce and valuable. The bark is used as a remedy for fluor albus and

diarrhœa, being mixed with pinang and a small quantity of cloves and nutmegs.

True Iron-wood. Fl. Mar. Ju. Clt. 1819. Tr. 10 to 20 ft.

2 M. DIFFU'SA (Smith, in Lin. trans. 3. p. 268.) leaves opposite, ovate, veiny, glabrous on both surfaces; panicles axillary or terminal; pedicels opposite. ♄. G. Native of New Zealand and the Island of Otaheite. Melaleùca diffùsa, Forst. prod. no. 213. Melaleùca lùcida, Lin. fil. suppl. t. 342. Flowers yellow. Leaves 3-nerved beneath at the base. Fruit unknown.

Diffuse Iron-wood. Tree.

3 M. VILLÒSA (Smith, l. c.) leaves opposite, ovate, veiny, pubescent beneath; thyrse axillary or terminal, opposite, villous; flowers sessile, crowded. ♄. G. Native of the Sandwich Islands. Flowers reddish. Melaleùca villòsa, Lin. fil. suppl. p. 342. Melaleùca æstuòsa, Forst. prod. no. 215. Mel. spectábilis, Gærtn. fr. 1. p. 172. t. 34. f. 9.?—Leptospérmum collìnum, Forst. gen. 36. no. 2. appears to differ from this, according to the description, in the leaves being glabrous on both surfaces, in the petioles being velvety, and in the calyx being truncate from the limb being deciduous; it is therefore perhaps a different species.

Villous Iron-wood. Tree.

4 M. FLÓRIDA (Smith, l. c.) leaves opposite, obovate-oblong, glabrous, veiny; thyrse terminal; calyx turbinate, nakedish. ♄. G. Native of New Zealand. Melaleùca flórida, Forst. prod. 114. Leptospérmum scándens, Forst. gen. 36. no. 1. but not of Gærtn. Calyx elongated, as in the above, silky from almost imperceptible adpressed down. Flowers yellowish. Stamens twice the length of the petals. Style length of stamens. Ovarium 3-celled.

Flowering Iron-wood. Tree.

5 M. GLOMULÍFERA (Smith, in Lin. trans. 3. p. 268.) leaves opposite, ovate, reticulately veined, pubescent beneath; heads lateral, pedunculate, and are as well as the bracteas tomentose. ♄. G. Native of New Holland. Branches opposite. Petioles short. Flowers greenish yellow. Heads of flowers bibracteate. Fruit unknown.

Heap-bearing Iron-wood. Fl. May, June. Clt. 1805. Tr. 15 to 20 feet.

6 M. ANGUSTIFÒLIA (Smith, l. c.) leaves opposite, linear-lanceolate, naked; peduncles axillary, umbellate; bracteas lanceolate, glabrous. ♄. G. Native of the Cape of Good Hope. Mýrtus angustifòlia, Lin. mant. 74. Houtt. pfl. syst. 3. t. 25. f. 2. Leptospérmum salicifòlium, Lam. dict. 3. p. 467. ex herb. Juss. Branches tetragonal. Leaves resembling those of *Phillýrea*. Stamens long. Fruit capsular, 3-celled. Flowers yellowish.

Narrow-leaved Iron-wood. Clt. 1787. Tr. 20 ft.

7 M. UMBELLA'TA (Cav. icon. 4. p. 20. t. 337.) leaves opposite, elliptic-lanceolate, glabrous; peduncles umbellate, short, rising from the axils of the upper leaves, rather downy; umbels few-flowered; petals oblong. ♄. G. Native of New Holland. Melaleùca umbellàta, Ræusch. Leaves nearly of *Philly'rea angustifòlia*, but differ in being dotted beneath, and revolute at the margins. Lobes of calyx 5, acute, and are as well as the tube glabrous at length. Stamens distinct, much exserted, scarlet. Capsule 3-celled.

Umbellate-flowered Iron-wood. Shrub 8 to 10 feet.

8 M. OPERCULA'TA (Labill. sert. cal. p. 61. t. 60.) leaves opposite, linear-lanceolate, glabrous, but when young rather villous; corymbs nearly terminal; petals orbicular, somewhat adhering to each other at the apex, and separating in the manner of an operculum. ♄. G. Native of New Caledonia. Petals opening almost as in *Vìtis*. Stamens about 70, 5-times the length of the petals. Capsule 3-celled.

Operculate-petalled Iron-wood. Shrub 9 feet.

9 M. OBOVA'TA (Hook, in Beech. bot. p. 63. t. 12.) leaves opposite, obovate, coriaceous, very blunt, veiny, glabrous, tapering into the peticle, which is short, with the margins rather revolute; corymbs axillary and terminal; calyx glabrous, full of elevated dots. ♄. G. Native of Gambier Island.

Obovate-leaved Iron-wood. Tree.

10 M. POLYMÓRPHA (Gaud. in Freyc. voy. part. bot. p. 482. t. 108. and 109.) leaves opposite, of various forms, coriaceous, glabrous on both surfaces, but covered with a little silky tomentum beneath; peduncles 3 or many-flowered, terminal and axillary, corymbose; calyxes and branchlets glabrous, or clothed with silky tomentum. ♄. G. Native of the Sandwich Islands, at the elevation of 900 to 1800 feet.

Var. α; leaves roundish-elliptic, cordate.

Var. β; leaves ovate or ovate-elliptic, rounded at the base.

Var. γ; leaves oblong, acute at the base.

Var. δ; leaves lanceolate.

Polymorphous Iron-wood. Tree.

* * *Leaves alternate.*

11 M. CILIA'TA (Smith, l. c. Labill. sert. cal. p. 60. t. 59.) leaves scattered or nearly opposite, elliptic, obtuse, coriaceous, ciliated at the base when young, as well as the branchlets; flowers in dense corymbs. ♄. G. Native of New Caledonia. Melaleùca ciliàta, Forst. prod. p. 217. Leptospérmum ciliàtum, Forst. gen. 36. no. 3. Leaves like those of *Celástrus buxifòlius*. Flowers purple. Lobes of calyx 5, acute, permanent. Capsule 3-celled.

Ciliated-leaved Iron-wood. Shrub 6 feet.

12 M. CAPITA'TA (Smith, l. c.) leaves scattered, obovate, mucronate; heads of flowers dense, terminal; calyxes and branchlets pilose. ♄. G. Native of New Holland. Melaleùca eriocéphala, Sieb. pl. exsic. nov. holl. no. 322. Callistèmon or Callistémma capitàtum, Rchb. hort. bot. 1. t. 84. Leaves 3-4 lines long, rather villous when young, but in the adult state the margins are scabrous from glands. Heads of flowers globose. Flowers lilac. Stamens a little longer than the petals. Stigma rather capitate.

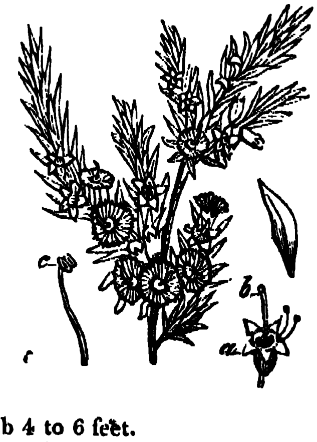
Capitate-flowered Iron-wood. Clt. 1824. Sh. 5 to 6 ft.

13 M. ERICIFÒLIA (Smith, in Rees' cycl. vol. 23. no. 16.) leaves alternate, imbricate, linear, acute, pilose, channelled above, convex beneath; heads of flowers terminal. ♄. G. Native of New Holland, at King George's Sound. Said to be allied to the preceding species.

Heath-leaved Iron-wood. Shrub.

14 M. CORIFÒLIA (Vent. malm. t. 46.) leaves alternate, linear, recurved at the apex; flowers axillary; calyxes smoothish, with the lobes lanceolate; stigma capitate. ♄. G. Native of New Holland, on the eastern coast. Leptospérmum ambíguum, Smith, exot. bot. t. 59. Flowers white. Leaves crowded on the branches. Stamens a little longer than the petals. From the stigma being capitate (f. 120. *b.*) in this as well as in *M. capitàta* and *M. ericifòlia*, these plants will form a distinct genus, which might be called *Gynocéphala*.

FIG. 120.



Coris-leaved Iron-wood. Shrub 4 to 6 feet.

15 M. JUNIPE'RINUS; leaves subulately-filiform, mucronate, stiff, glabrous, tubercled; peduncles woolly; spikes capitate. ♄. G. Native of New Holland. Metrosidèros junipérinus, Rchb. ex Spreng. syst. app. p. 194.

Juniper-like Metrosideros. Shrub 4 to 6 feet.

16 M. PU'NGENS (Sieb. ex Spreng. syst. add. p. 194.) leaves linear, mucronate, spreading, nerved, glabrous; peduncles woolly; spikes capitate. ♄. G. Native of New Holland.

Pungent Metrosideros. Shrub.

† *Species not sufficiently known.*

* *Leaves and flowers unknown.*

17 M.? SALICIFÒLIA (Gærtn. fruct. 1. p. 171. f. 3.). Two species of *Eucalýptus* are confused under this name.

Willow-leaved Iron-wood. Tree.

18 M.? EXCE'LSA (Gærtn. fruct. 1. p. 172. t. 34. f. 8.). This is perhaps a species of *Leptospérmum*.

Tall Iron-wood. Tree.

19 M.? SPECTA'BILIS (Gærtn. l. c. f. 9.). Probably a species of *Leptospérmum*.

Showy Iron-wood. Shrub.

20 M.? SCA'NDENS (Gærtn. l. c. f. 10.). Probably a species of *Leptospérmum*.

Climbing Iron-wood. Shrub.

21 M.? ALBIFLÒRA (Gærtn. l. c. f. 11.). Probably a species of *Leptospérmum*.

White-flowered Metrosideros. Shrub.

22 M. MYRTIFÒLIA (Gærtn. l. c. f. 12.). Probably a species of *Leptospérmum*.

Myrtle-leaved Iron-wood. Shrub.

* * *Flowers and fruit unknown.*

23 M.? AROMA'TICA (Salisb. prod. p. 351.) leaves alternate, broad-ovate, acuminated, thin, glaucous beneath. ♄. G. Native about Port Jackson.

Aromatic Iron-wood. Shrub.

24 M.? PRÒCERA (Salisb. l. c.) leaves alternate, ovate-lanceolate, green beneath, coriaceous, with divaricating nerves. ♄. G. Native at Port Jackson.

Tall Iron-wood. Tree.

25 M.? PROPI'NQUA (Salisb. l. c.) leaves alternate, ovate-lanceolate, glaucous beneath, coriaceous, with divaricating nerves. ♄. G. Native at Port Jackson.

Allied Iron-wood. Shrub.

26 M.? APOCYNIFÒLIA (Salisb. l. c.) leaves nearly opposite, elliptic, marginate, coriaceous, with parallel nerves. ♄. G. Native at Port Jackson.

Apocynum-leaved Iron-wood. Shrub.

27 M.? CORIA'CEA (Salisb. l. c.) leaves alternate, ovate-lanceolate, glabrous on both surfaces, very coriaceous. ♄. G. Native at Port Jackson.

Coriaceous-leaved Iron-wood. Shrub.

28 M.? DECÒRA (Salisb. l. c.) leaves alternate, dense, on very short petioles, lanceolate, mucronulate, coriaceous, glabrous on both surfaces in the adult state. ♄. G. Native at Port Jackson.

Neat Iron-wood. Shrub.

29 M.? SCARIÒSA (Horn. hort. hafn. suppl. p. 139.) leaves scattered, lanceolate, with scarious margins; branchlets pubescent. ♄. G. Native country unknown.

Scarious-leaved Iron-wood. Shrub.

* * * *Species entirely undescribed.*

30 *M. connàta*, Desf. hort. par. 31 *M. pliniæfòlia*, Desf. l. c. 32 *M. nàna*, Gmel. hort. Carls.

N.B. *Metrosidèros macrophýlla* of Lam. ill. t. 421. f. 1. Poir. suppl. 3. p. 686 is the same as *Sarcolæ'na multiflòra*, see vol. 1. p. 562. or a nearly allied species.

Cult. For culture and propagation see *Callistèmon*, p. 823.

XVIII. LEPTOSPE'RMUM (from λεπτος, *leptos*, slender, and σπερμα, *sperma*, a seed; in reference to the seeds being small and narrow). Forst. gen. p. 36. Gærtn. fruct. 1. p. 174. t. 35. Smith, in Lin. trans. 3. p. 260. Cav. icon. 4. p. 16. Leptospérmum, sect. 2. Euleptospermum, D. C. prod. 3. p. 227.

LIN. SYST. *Icosándria, Monogýnia.* Tube of calyx rather turbinate; limb 5-cleft, with the lobes triangular and valvate. Petals 5. Stamens 20-30, free, shorter than the petals. Style filiform; stigma capitate. Capsule 4-5-celled. Seeds oblong, small.—New Holland shrubs, with alternate, quite entire, dotted, small leaves. Flowers pedicellate, solitary, scattered, white.

1 L. EMARGINA'TUM (Wendl. fil. ex Spreng. syst. 2. p. 491.) leaves linear-oblong, emarginate, obscurely 5-nerved; calycine teeth membranous, coloured. ♄. G. Native of New Holland. Melaleùca nervòsa, Hort. ex Link, enum. 2. p. 25.

Emarginate-leaved Leptospermum. Fl. Ju. Jul. Clt. 1818. Shrub 4 to 6 feet.

2 L. OBOVA'TUM (Sweet, fl. aust. t. 36.) leaves obovate, emarginate, obscurely 3-5-nerved, glabrous; branches angular, a little winged; calyxes glabrous; with the teeth coloured. ♄. G. Native of New Holland. Flowers white.

Obovate-leaved Leptospermum. Fl. July, Aug. Clt.? Sh. 3 to 6 feet.

3 L. SERI'CEUM (Labill. nov. holl. 2. p. 9. t. 147.) leaves obovate, mucronate, 3-5-nerved, silky on both surfaces as well as the calyxes; lobes of calyx permanent. ♄. G. Native of Van Dieman's Land. Flowers white.

Silky Leptospermum. Fl. Ju. Jul. Clt. 1818. Sh. 4 to 6 ft.

4 L. TUBERCULA'TUM (Poir. suppl. 3. p. 338.) leaves ovate or oblong-lanceolate, dotted beneath and finely 3-nerved, glabrous in the adult state, but clothed with silky pubescence when young, as well as the branchlets; calyxes silky, but when in fruit glabrous. ♄. G. Native of New Holland, about Port Jackson. L. stellàtum, Cav. icon. 4. p. 16. t. 330.? The margin of the calyx is said to be entire by Cavanilles, in his diagnosis, but from his description, as well as from the figure, it is acutely 5-cleft. The petals are yellow, according to Cav., but according to the specimen white.

Var. β, subenérve (D. C. prod. 3. p. 227.) leaves 1-nerved, or almost nerveless.

Tubercular Leptospermum. Fl. June, Jul. Clt. 1816. Sh. 4 to 6 feet.

5 L. GRANDIFLÒRUM (Smith, in Lin. trans. 6. p. 299.) leaves lanceolate, narrowed at both ends, mucronate; calyxes villous, with coloured teeth; bracteas gemmaceous, permanent. ♄. G. Native of New Holland. Sims, bot. mag. t. 1810. Lodd. bot. cab. t. 701. Flowers large, white, about the size of those of *Fabrícia lævigàta*. Leaves pubescent when young, but glabrous in the adult state.

Great-flowered Leptospermum. Fl. June, July. Clt. 1803. Shrub 4 to 6 feet.

6 L. LANÍGERUM (Ait. hort. kew. ed. 2. vol. 3. p. 182. but not of Willd.) leaves oblong or oval, mucronate, pubescent on both surfaces or only beneath, obsoletely 3-nerved; branchlets villous; calyxes very villous, from spreading pili. ♄. G. Native of Van Dieman's Land and New Holland. Lodd. bot. cab. t. 1192. Philadélphus lániger, Ait. hort. kew. ed. 1. vol. 2. p. 156. Flowers white.

Var. β, pubéscens (D. C. prod. 3. p. 227.) leaves smaller, and rather oblique. ♄. G. Gathered with the species. Philadélphus lániger β, pilíger. Ait. hort. kew. ed. 1. vol. 2. p. 156. L. pubéscens, Willd. spec. 2. p. 650. Not differing from the species, unless in the leaves being rather smaller. Both have their leaves sometimes nearly glabrous in the gardens; but always to be known by the hairy calyx.

Wool-bearing Leptospermum. Fl. Ju. Jul. Clt. 1774. Sh. 3 to 6 feet.

7 L. TRINE'RVE (White, journ. 229. with a figure) leaves ovate-lanceolate, 3-nerved; calyx clothed with adpressed silky villi; calycine teeth foliaceous, permanent. ♄. G. Native of New Holland. Leptospérmum lanígerum, var. Smith, in Lin. trans. 3. p. 263. Willd. spec. 2. p. 949. Flowers white.

Three-nerved-leaved Leptospermum. Shrub 4 to 6 ft.

8 L. SCOPA'RIUM (Smith, in Lin. trans. 3. p. 262.) leaves ovate, mucronate, obsoletely 3-nerved; calyxes glabrous; calycine teeth membranous, coloured. ♄. G. Native of New Zealand and New Holland, on the sea-shore. Andr. bot. rep. 622. Philadélphus scopàrius, Ait. hort. kew. ed. 1. vol. 2. p. 156. Melaleùca scopària, Wendl. sert. hann. p. 25. t. 15. Flowers white. The leaves of this species were used by Captain Cook's ships' crews as tea, whence they named it the tea-plant. They have a very agreeable bitter flavour, with a pleasant smell when fresh, but lose something of both when dry. A strong infusion of them proved emetic to some, in the same manner as green tea. They were also used with spruce leaves in equal quantity to correct their astringency, in brewing beer from them, and they rendered the beer exceedingly palateable.

Var. α, linifòlium (D. C. prod. 3. p. 227.) leaves lanceolate. ♄. G. Native of New Zealand. L. scopàrium, Forst. gen. 36. trav. 1. t. 22. Melaleùca scopària diosmatifòlia, Wendl. l. c. f. 1. L. squarròsum, Gærtn. fruct. 1. p. 174.

Var. β, myrtifòlium (D. C. l. c.) leaves ovate-elliptic. ♄. G. Native of New Holland. Wendl. l. c. f. 2. Philadélphus floribúndus, Rœm. et Ust. mag. 7. t. 2.

Var. γ, rubricaúle (D. C. prod. 3. p. 227.) leaves flattish, hardly 3-nerved. ♄. G. R. rubricaúle, Link, enum. 2. p. 25.

Broom Leptospermum or New Zealand Tea. Fl. June, July. Clt. 1772. Shrub 4 to 6 feet.

9 L. FLAVE'SCENS (Smith, l. c. Ait. hort. kew. ed. 2. vol. 3. p. 181.) leaves linear-lanceolate, obtuse, 1-nerved, dotted; calyxes glabrous; calycine teeth membranous, at length deciduous. ♄. G. Native of New Holland. L. théa, Willd. L. flavéscens, Willd. spec. 2. p. 949. Hook, bot. mag. 2695. Melaleùca thèa, Wendl. sert. hann. 1. p. 24. t. 14. L. polygalæfòlium, Salisb. prod. p. 3. Flowers white, but yellowish in a dried state. Wendlend says the leaves are 3-nerved, and in the Hortus Kewensis they are said to be nerveless, but in the specimens examined they are 1-nerved, as in the figure of Wendland.

Yellowish Leptospermum. Fl. May, July. Clt. 1788. Sh. 4 to 6 feet.

10 L. GNIDIÆFÒLIUM (D. C. prod. 3. p. 228.) leaves linear-lanceolate, acutish, 3-nerved, dotless; calyxes covered with silky villi; calycine teeth smoothish, and coloured a little. ♄. G. Native of New Holland. L. péndulum, Sieb. Flowers white.

Gnidia-leaved Leptospermum. Shrub 4 to 6 feet.

11 L. POROPHY'LLUM (Cav. icon. 4. p. 17. t. 330. f. 2.) leaves oblanceolate, acutish, 1-nerved, densely dotted, glabrous; calyxes silky, with the teeth acute. ♄. G. Native of New Holland. In the figure of this plant, given by Cavanilles, the teeth of the calyx are deciduous, and the pubescence of the calyx is not taken any notice of, but it is probably the same. Flowers white.

Porous-leaved Leptospermum. Fl. June, July. Clt. 1800. Shrub 3 to 6 feet.

12 L. PARVIFÒLIUM (Smith, in Lin. trans. 3. p. 263.) leaves oblong-obovate, nerveless, dotted, glabrous; calyxes villous, with the teeth membranous and coloured. ♄. G. Native of New Holland. L. eriocàlyx, Sieb. pl. exsic. nov. holl. no. 313. Branches villous when young, but at length becoming glabrous. Leaves 2 lines long. Flowers white.

Small-leaved Leptospermum. Fl. June, July. Clt. 1789. Shrub 4 to 6 feet.

13 L. MYRTIFÒLIUM (Sieb. pl. exsic. nov. holl. no. 314,) leaves obovate-oblong, 3-nerved, dotted, rather pubescent while young; calyxes clothed with silky villi; with the lobes membranous, coloured, and pubescent. ♄. G. Native of New Holland. Flowers solitary, sessile, yellowish when in a dry state.

Myrtle-leaved Leptospermum. Shrub 3 to 6 feet.

14 L. ATTENUA'TUM (Smith, in Lin. trans. 3. p. 262.) leaves linear-lanceolate, acute, 3-nerved; calyx clothed with silky villi; with the teeth membranous, coloured, and nearly glabrous. ♄. G. Native of New Holland. Flowers for the most part 2 on a short silky peduncle. Perhaps *L. glomeràtum*, Wendl. in flor. 1819. p. 678. and *L. resiniferum*, Bertol. amœn. p. 28. differs from the present plant. Flowers white.

Attenuated-leaved Leptospermum. Fl. May, Jul. Clt. 1795. Shrub 3 to 6 feet.

15 L. MULTIFLÒRUM (Cav. icon. 4. p. 17. t. 331. f. 1.) leaves linear, attenuated, acuminated, 1-nerved, dotless; calyxes glabrous, with the lobes deciduous. ♄. G. Native of New Holland. Flowers white.

Many-flowered Leptospermum. Shrub 6 to 8 feet.

16 L. THYMIFÒLIUM (Cunningh. in Field's new south wales, p. 349.) rather villous; leaves oval, obtuse, flattish; flowers axillary, solitary, or twin; segments of the calyx deciduous. ♄. G. Native of New Holland, growing in swampy forest land on the Macquarie River.

Thyme-leaved Leptospermum. Clt. 1824. Shrub.

17 L. MULTICAU'LE (Cunning. l. c.) silky; leaves oval, or ovate-lanceolate; teeth of calyx coloured. ♄. G. Native of New Holland, in barren bushy hills, near Bathurst.

Many-stemmed Leptospermum. Clt.? Shrub.

18 L. OBLI'QUUM (Coll. hort. ripul. append. 2. p. 351.) leaves oblique, sessile, linear-lanceolate, attenuated at the base, and mucronate at the apex, dotted, pale beneath; stem reddish, branched. ♄. G. Native of New Holland. Nearly allied to *L. multiflòrum*. Flowers white.

Oblique-leaved Leptospermum. Fl. June, July. Clt. 1800. Shrub 4 to 6 feet.

19 L. JUNIPE'RINUM (Smith, in Lin. trans. 3. p. 263.) leaves linear-lanceolate, pungent, 1-nerved, silky while young as well as the branchlets; calyx glabrous, with membranous, coloured teeth. ♄. G. Native of New Holland. Vent. malm. t. 89. L. recurvifòlium, Salisb. prod. p. 350. Melaleùca tenuifòlia, Wendl. obs. p. 50. ex Willd. Flowers white.

Juniper-like Leptospermum. Fl. June, July. Clt. 1790. Shrub 4 to 5 feet.

20 L. BACCA'TUM (Smith, l. c.) leaves linear-lanceolate, pungent, 1-nerved, but 3-nerved at the very base; branches hairy; calyxes glabrous: with coloured, pubescent teeth; capsule baccate. ♄. G. Native of New Holland. L. juniperifòlium, Cav. icon. 4. p. 18. t. 331. f. 2. Flowers white.

Berry-fruited Leptospermum. Fl. July. Clt. 1790. Shrub 4 to 5 feet.

21 L. ARACHNOÍDEUM (Smith, l. c.) leaves subulate, pungent; branchlets hairy; tube and teeth of calyx villous; capsule 5-celled. ♄. G. Native of New Holland. L. arachnoídes, Gærtn. fruct. 1. p. 174. t. 35. f. 3. Lam. dict. 3. p. 466. Melaleùca arachnoídea, Ræusch. Flowers white.

Cobwebbed Leptospermum. Fl. May, Jul. Clt. 1795. Sh. 2 to 3 feet.

22 L. TRILOCULA'RE (Vent. malm. t. 84.) leaves linear, pungent, dotted, ciliated; calyx clothed with silky villi, both on tube and teeth; capsule 3-5-celled; stamens 15. ♄. G. Native of New Holland. Lodd. bot. cab. t. 791. Bracteas gemmaceous, permanent, glabrous. Leaves usually twisted obliquely, 1-nerved, hardly 3-nerved at the base. Flowers white.

Three-celled-fruited Leptospermum. Fl. June, July. Clt. 1800. Shrub 2 to 3 feet.

23 L. du'bium (Spreng. syst. 2. p. 492.) leaves linear, very narrow, bluntish; teeth of calyx glabrous, green. ♄. G. Native of New Holland. The rest unknown.

Doubtful Leptospermum. Shrub.

24 L. pe'ndulum (Sieb. pl. exsic. nov. holl. no. 312.) leaves linear, acute, when young silky, but glabrous in the adult state, dotted, 1-nerved; calyx clothed with silky villi, both on the tube and lobes. ♄. G. Native of New Holland. Branches twiggy, flexile, glabrous.

Pendulous Leptospermum. Fl. Ju. Jul. Clt.? Sh. 2 to 4 ft.

25 L. squarrò̀sum (Sieb. pl. exsic. nov. holl. ex Spreng. syst. addend. p. 194.) leaves lanceolate, acute, squarrose, stiff, glabrous, but when young silky beneath; calyx sessile, glabrous, coloured, obtuse. ♄. G. Native of New Holland.

Squarrose Leptospermum. Shrub 4 to 6 ft.

26 L. ericoca'lyx (Sieb. pl. exsic. nov. holl. ex Spreng. syst. add.) leaves small, spatulate, quite glabrous, dotted; calyxes nearly sessile, clothed with silky wool. ♄. G. Native of New Holland.

Hairy-calyxed Leptospermum. Shrub 4 to 6 ft.

† *Species not sufficiently known.*

27 L.? umbella'tum (Gærtn. fruct. 1. p. 174. t. 35. f. 3.) flowers umbellate; capsule girded by a circular margin in the middle. ♄. G. Native of New Holland. Perhaps this plant does not belong to the present genus, but it is not sufficiently known.

Umbellate flowered Leptospermum. Shrub.

28 L.? imbrica'tum (Smith, in Lin. trans. 6. p. 300.) leaves obovate, imbricate, nerveless; branches and calyxes glabrous; calycine teeth membranous, coloured, keeled. ♄. G. Native of New Holland. Perhaps a species of *Bæ'ckea.* Flowers white.

Imbricate-leaved Leptospermum. Fl. June, Jul. Clt. 1823. Shrub 4 to 5 feet.

29 L. Amboine'nse (D. C. prod. 3. p. 229.) leaves linear-lanceolate; flowers pedicellate, solitary; calycine lobes deciduous. ♄. S. Native of Amboyna. Myrtus Amboinénsis, Rumph. amb. 2. t. 18. Perhaps a species of *Bæ'ckea*, but the leaves are said to be scattered, and the stamens 23 in number.

Amboyna Leptospermum. Shrub.

Cult. For culture and propagation, see *Callistèmum*, p. 823. All the species are pretty shrubs when in flower.

XIX. BILLO'TIA (dedicated to Madame Tecaphila Billoti, of Turin, a famous botanical artist). R. Br. but not of Colla. hort. rip. t. 23. Leptospérmum, sect. 1. Acònis, D. C. prod. 3. p. 226.

Lin. syst. *Icosándria, Monogýnia.* Tube of calyx rather turbinate; limb 5-cleft; lobes valvate. Petals 5. Stamens 10-30, free, shorter than the petals. Style filiform; stigma capitate. Capsule 3-celled.—New Holland shrubs, with alternate, entire, dotted, small leaves. Flowers white, sessile, densely crowded into globose heads.

1 B. margina'ta; flowers capitate; leaves obovate-oblong, edged with white, ciliated, 3-nerved; lateral nerves obsolete at the apex, distant from the margin. ♄. G. Native of New Holland, in Van Lewin's Land, at the Straits of d'Entrecasteaux. Leptospérmum marginàtum, Labill. nov. holl. 2. p. 10. t. 148. Stamens 10, but the habit of the shrub is like that of the other species.

Var. β, glabràta (D. C. prod. 3. p. 226.) leaves nearly glabrous. ♄. G. Fabricia angustifòlia, Otto. in litt.

Marginate-leaved Billotia. Fl. June, July. Clt. 1820. Sh. 4 to 6 feet.

2 B. flexuòsa; flowers capitate; leaves linear-lanceolate, acuminated at both ends, glabrous, 3-nerved; lateral nerves approximating the margin even to the apex; branches flexuous, glabrous. ♄. G. Native of New Holland, on the east coast, at Geography Bay and in Kangaroo Island. Leptospérmum flexuòsum, Spreng. nov. prov. 25. no. 51. Link, enum. hort. berol. 2. p. 26. Coll. hort. ripul. append. 1. p. 111. t. 2. Metrosidèros flexuòsa, Willd. enum. p. 514. Flowers white.

Flexuous-branched Billotia. Fl. May, July. Clt. 1823. Sh. 4 to 6 feet.

3 B. linearifòlia; flowers capitate; leaves linear-lanceolate, acute at both ends, nearly nerveless, glabrous in the adult state, but when young villous as well as the branches. ♄. G. Native of New Holland, on the eastern coast, in Decre's Island. Leptospérmum linearifòlium, D. C. prod. 3. p. 226. Flowers white.

Linear-leaved Billotia. Shrub 3 to 6 feet.

Cult. For culture and propagation see *Fabrícia.*

XX. FABRI'CIA (in honour of J. C. Fabricius, the celebrated Danish entomologist). Gærtn. fruct. 1. p. 175. t. 35. Smith, in Lin. trans. 3. p. 265. D. C. prod. 3. p. 229.

Lin. syst. *Icosándria, Monogýnia.* Calyx semi-superior, 5-cleft; with a campanulate tube and valvate lobes. Petals 5, sessile. Stamens indefinite, free. Stigma capitate. Capsule many-celled, girded by the adnate, permanent calyx; cells opening at the apex. Seeds few, winged.—Australian shrubs, with alternate, glaucescent, obovate, dotted leaves; and axillary, solitary, white flowers, on short pedicels.

1 F. myrtifo'lia (Gærtn. l. c.) cells of capsule 2-3-seeded; calycine teeth nearly orbicular; leaves silky when young. ♄. G. Native of New S[illegible]h Wales. Sims, bot. mag. t. 1304. Sieb. pl. exsic. nov. holl. no. 309. F. sericea, Nois.

Myrtle-leaved Fabricia. Fl. May, June. Clt. 1788. Shrub 6 to 10 feet.

2 F. lævigà'ta (Gærtn. l. c.) cells of capsule 5-8-seeded; calycine teeth triangular; leaves glabrous when young. ♄. G. Native of New Holland, about Port Jackson.

Smooth Fabricia. Fl. May, Jul. Clt. 1788. Sh. 3 to 6 ft.

3 F. stri'cta (Lodd. bot. cab. t. 1219.) the figure and description of this plant are so insufficient, as not to admit of us giving a description of it; and the plant is now lost in the gardens. ♄. G. Native of New Holland.

Straight Fabricia. Fl. April, Ju. Clt. 1827. Sh. 2 to 4 ft.

Cult. The species of *Fabricia* are well fitted for a conservatory, as they do not flower until they have attained a considerable size. A mixture of loam and peat is the best soil for them. Cuttings taken from young wood root readily, if planted in a pot of sand, with a bell-glass placed over them.

XXI. BÆ'CKEA (in honour of Abraham Bæck, a Swedish physician, and much esteemed friend of Linnæus, who received the *B. frutéscens* from him). Lin. gen. 191. R. Br. gen. rem. 16. D. C. prod. 3. p. 229.—Bæ'ckea and Júngia, Gært. fruct. 1. p. 157. and 175.—Imbricària and Bæ'ckea, Smith, in Lin. trans. 3. p. 258.—Móllia, Gmel.

Lin. syst. *Penta-Decándria, Monogýnia.* Tube of calyx turbinate; limb 5-cleft, permanent. Petals 5. Stamens 5-10, shorter than the petals. Style filiform; stigma capitate. Capsule 2-5-celled, many-seeded, inclosed in the calyx.—Shrubs, with opposite, glabrous, dotted leaves. Flowers pedicellate, small, white. In *B. virgàta* the filaments are glandular at the tops and probably in the others.

1 B. frute'scens (Lin. spec. p. 514.) leaves linear, awnless; pedicels axillary, 1-flowered; calycine teeth membranous, coloured. ♄. G. Native of China. Osbeck, trav. p. 251. t. 1.

Smith, in Lin. trans. 3. p. 260. B. Chinénsis, Gærtn. fruct. 1. p. 157. t. 31. Capsule 3-celled.

Shrubby Bæckea. Fl. Sept. Dec. Clt. 1806. Sh. 2 to 3 ft.

2 B. PA'RVULA (D. C. prod. 3. p. 229.) leaves elliptic-oblong, obtuse, rather mucronate; peduncles axillary, umbelliferous. ♄. G. Native of New Caledonia. Leptospérmum párvulum, Labill. sert. caled. p. 62. t. 61. Capsule 3-celled. Stamens 10.

Small Bæckea. Shrub 1 foot.

3 B. VIRGA'TA (Andr. bot. rep. t. 598.) leaves linear-lanceolate; peduncles axillary, umbelliferous. ♄. G. Native of New Caledonia. Sims, bot. mag. 2127. Lodd. bot. cab. t. 341. Colla, hort. ripul. t. 6. Leptospérmum virgàtum, Forst. gen. p. 36. Smith, in Lin. trans. 3. p. 265. Melaleùca virgàta, Lin. fil. suppl. t. 343. Stamens 5-10.

Twiggy Bæckea. Fl. Aug. Oct. Clt. 1806. Sh. 2 to 3 ft.

4 B. PINIFÒLIA (D. C. l. c.) leaves long, linear, acuminated, nerveless; peduncles axillary, 3-flowered, longer than the leaves. ♄. G. Native of New Caledonia. Leptospérmum pinifòlium, Labill. sert. caled. p. 63. t. 62. Stamens 10. Capsule 3-celled.

Pine-leaved Bæckea. Shrub 1 to 2 feet.

5 B. LINIFÒLIA (Rudge, in Lin. trans. 8. p. 297. t. 12.) leaves linear, long, mucronate; pedicels short, axillary, 1-flowered. ♄. G. Native of New Holland, about Port Jackson. B. trichophýlla, Sieb. pl. exsic. nov. holl. no. 280. Leaves 6-8 lines long, distant.

Flax-leaved Bæckea. Fl. July, Aug. Clt. 1818. Shrub 2 to 3 feet.

6 B. DIFFU'SA (Sieb. pl. exsic. nov. holl. no. 276.) leaves linear, ciliately crenulated, nerveless, acutish; pedicels axillary, 1-flowered, about the length of the leaves, with 2 bracteoles under the flower. ♄. G. Native of New Holland. The 2 bracteoles are just under the flower-bud at first, but at last in the middle of the peduncle, in consequence of its elongation. Segments of calyx obtuse, and ciliately crenulated.

Var. β, striàta (D. C. prod. 3. p. 230.) leaves striated lengthwise. ♄. G. Native of New Holland. Perhaps a proper species. Habit stiffer.

Diffuse Bæckea. Shrub 1 to 2 ft.

7 B. DENSIFÒLIA (Smith in Lin. trans. 3. p. 260.) leaves linear-subulate, acerose, crowded on the branches, quadrifariously imbricated, each terminated by a short, somewhat deflexed deciduous mucrone. ♄. G. Native of New Holland. Bæ'ckea fasciculàta, Sieb. pl. exsic. nov. holl. no. 260. Leaves 2-3 lines long. Calyx not ciliated.

Dense-leaved Bæckea. Fl. Aug. Oct. Shrub 1 to 2 ft.

8 B. GRA'CILIS (Cunningh. in Field's new south wales, p. 349.) leaves linear, obtuse, imbricated in 4 rows; stem branched, erectish; flowers capitate, terminal, and lateral. ♄. G. Native of New Holland, in arid rocky situations. A slender shrubby plant.

Slender Bæckea. Clt. 1826. Shrub 1 to 2 ft.

9 B. RAMOSI'SSIMA (Cunningh. in Field's new south wales, p. 249.) much branched, diffuse; leaves lanceolate-linear, acutish, spreading, with scabrous margins; teeth of calyx coloured, ciliated; flowers solitary, axillary, pedunculate, bibracteate. ♄. G. Native of New Holland, on the Blue Mountains.

Much-branched Bæckea. Clt. 1824. Shrub 1 to 2 ft.

10 B. PULCHE'LLA (D. C. prod. 3. p. 230.) leaves linear, acute, crowded in the axils and on the branchlets; pedicels axillary, 1-flowered, bractless, length of the leaves. ♄. G. Native of New Holland, on the eastern coast. Leaves crowded, spreading. Flowers innumerable.

Neat Bæckea. Shrub 1 to 2 ft.

11 B. DIOSMIFÒLIA (Rudge in Lin. trans. 8. p. 298. t. 13.) leaves oblong, rather cuneated, keeled, acute, crowded, imbricate, and are, as well as the calyxes, ciliated; flowers axillary, solitary, approximate, sessile. ♄. G. Native of New Holland. Myrtàcea, Sieb. pl. exsic. nov. holl. no. 585.

Diosma-leaved Bæckea. Fl. Aug. Oct. Clt. 1824. Shrub 1 to 2 ft.

12 B. CAMPHORA'TA (R. Br. ex Sims, bot. mag. t. 2694.) quite glabrous; leaves loosely imbricated in 4 rows, obovate-lanceolate, flat, dotted, finely marginate, on short petioles; flowers axillary, twin or solitary, pedicellate; stamens 15. ♄. G. Native of New Holland.

Camphor-scented Bæckea. Fl. July, Aug. Clt. 1818. Shrub 2 to 3 ft.

13 B. MICROPHY'LLA (Rudge ex Sieb. pl. exsic. nov. holl. no. 282.) leaves triquetrous, short, obtuse, glabrous, imbricated; flowers axillary, solitary, sessile; tube of calyx 5-furrowed; calycine segments ciliated and membranous. ♄. G. Native of New Holland, on the eastern coast. Imbricària ciliàta, Smith in Lin. trans. 3. p. 176. and therefore Escallònia ciliàta, Rœm. et Schultes. Stereóxylum ciliàtum, Poir. Júngia tenélla, Gærtn. Stamens 5.

Small-leaved Bæckea. Shrub 1 to 2 ft.

14 B. BREVIFÒLIA (D. C. prod. 3. p. 230.) leaves triquetrous, very short, obtuse, glabrous, imbricated in 4 rows; flowers axillary, solitary, on very short pedicels; tube of calyx turbinate; calycine lobes glabrous, acute. ♄. G. Native of New Holland. Leptospérmum brevifòlium, Rudge in Lin. trans. 8. p. 299. t. 14. Bæ'ckea carnósula, Sieb. pl. exsic. nov. holl. no. 278.

Short-leaved Bæckea. Shrub 1 to 2 ft.

15 B. MICRA'NTHA (D. C. prod. 3. p. 230.) leaves obovate, triquetrous, glabrous, imbricated in 4 rows; flowers axillary, solitary, sessile. ♄. G. Native of New Holland. A much branched shrub.

Small-flowered Bæckea. Shrub 1 to 2 ft.

16 B. CRENULA'TA (D. C. l. c.) leaves obovate-cuneiform, crenulated upwards; flowers axillary, solitary, sessile; calycine lobes roundish, denticulated. ♄. G. Native of New Holland? Imbricària crenulàta, Smith in Lin. trans. 3. p. 259. Júngia imbricàta, Gærtn. fruct. 1. p. 175. t. 35. Móllia imbricàta, Gmel. syst. p. 420. Stereóxylum crenulàtum, Poir. Escallònia crenulàta, Rœm. et Schultes. Stamens 5.

Crenulated-leaved Bæckea. Shrub 1 to 2 ft.

17 B. OBOVA'TA (D. C. l. c.) leaves obovate, entire, glabrous, spreading; pedicels axillary, rather longer than the leaves, bearing 2-3 sessile flowers in an umbel at the top. ♄. G. Native of New Holland, at King George's Sound.

Obovate-leaved Bæckea. Shrub 1 to 2 ft.

18 B. DIOSMOÌDES (Sieb. pl. exsic. nov. holl. no. 277.) leaves ovate, acute, erect, rather concave, and somewhat imbricated; flowers axillary, solitary, sessile; lobes of calyx ovate, membranous, somewhat denticulated at the apex. ♄. G. Native of New Holland.

Diosma-like Bæckea. Shrub 1 to 2 ft.

19 B. SAXÍCOLA (Cunningh. mss.) ♄. G. Native of New Holland. This species is not described.

Rock Bæckea. Shrub 1 to 2 ft.

Cult. All the species of *Bæ'ckea* are delicate little shrubs. Their culture and propagation are the same as that recommended for *Fabricia*, see p. 827.

Tribe III.

MY'RTEÆ (plants agreeing with *My'rtus* in important characters). D. C. dict. class. vol. xi. and note, 1826. prod. 3. p. 230. Calyx 4-5-cleft. Petals 4-5. Stamens free. Fruit fleshy, many-celled.—Trees and shrubs, for the most part natives within the tropics, and a very few of New Holland.

The leaves are opposite and full of pellucid dots, or opaque, quite entire. The peduncles are axillary, sometimes 1-flowered, sometimes bearing trichotomous cymes, and sometimes branched, and approximating into a terminal panicle.

XXII. SONNERA'TIA (so named by the younger Linnæus in memory of M. Sonnerat, who travelled into New Guinea, the East Indies, and China, and communicated many new plants to the botanists of Europe; author of Voyage a la Nouvelle Guinée, Paris, 1776. 4to., Voyage aux Indes Orientales, et à la Chine, 1774-1781. Paris, 1782. 4to.) Lin. fil. suppl. p. 38. Juss. gen. 325. D. C. prod. 3. p. 231.—Aublètia, Gærtn. fruct. 1. p. 379. t. 78. but not of others.

LIN. SYST. *Icosándria, Monogýnia.* Calyx campanulate, 4-6-cleft, adhering to the ovarium at the base; lobes acute, valvate in æstivation. Petals 4-6, spreading, alternating with the lobes of the calyx, or wanting. Stamens numerous; filaments free; anthers roundish. Style filiform; stigma subcapitate. Base of berry adnate to the permanent calyx, but free at the apex, and appearing semi-superior, nearly globose, many-celled; rind membranous; cells 10-15, separated by thin dissepiments. Seeds numerous, nestling in fleshy pulp, curved, exalbuminous. Embryo curved, with a long radicle, and foliaceous, short, convolute, unequal cotyledons.—Small trees, with tetragonal branches. Leaves opposite, entire, oval, thickish, 1-nerved, nearly veinless, without any dots. Flowers terminal, nearly solitary, large.

1 S. A'CIDA (Lin. fil. suppl. p. 252.) branchlets tetragonal; leaves oval-oblong; calyx 6-cleft; petals 6; berry globose. ♄. G. Native of New Guinea and the Moluccas, in swamps. Lam. ill. t. 420. dict. 1. p. 429. Pagapàte, Sonn. voy. p. 16. tt. 10, 11. Aublètia caseolàris, Gærtn. fruct. 1. p. 379. t. 78. Rhizóphora caseolàris, Lin. spec. p. 635. Mángium caseolàre rùbrum, Rumph. amb. 3. t. 74. Blatti, Rheed. mal. 3. t. 10. Bagatpat, Ray, hist. 3. luz. p. 83. Petals red. Pulp of fruit acid.

Acid-fruited Sonneratia. Tree 40 ft.

2 S. A'LBA (Smith in Rees' cycl. vol. 33. no. 2.) branchlets terete; leaves oval-roundish; flowers 6-8-cleft, apetalous; berry obconical at the base, and depressed at the apex. ♄. S. Native of the Moluccas. Mángium caseolàre álbum, Rumph. amb. 3. t. 73.

White Sonneratia. Tree 50 ft.

3 S. APE'TALA (Buchan in Sym. emb. ava. 3. p. 313. t. 25. ex Smith in Rees' cycl. vol. 33. no. 3.) branches terete, pendulous; leaves ovate-lanceolate; flowers 4-cleft, apetalous. ♄. S. Native of Ava near Rangoon, on the wet inundated banks of the coast. Roth, nov. spec. p. 233.

Apetalous Sonneratia. Tree.

Cult. For culture and propagation see *Psídium*, p. 833.

XXIII. NE'LITRIS (from *νη, ne*, priv. and *ελυτρον, elytron*, a seed-vessel; in reference to the berry, which is without any partitions). Gærtn. fruct. 1. p. 134. t. 27. Lindl. coll. no. 16. in a note. D. C. prod. 3. p. 231.—Decaspérmum, Forst. gen. no. 37.—Psìdium species, Lin. fil.

LIN. SYST. *Icosándria, Monogýnia.* Tube of calyx obovate; limb 4-5-toothed. Petals 4-5. Stamens numerous, free, inserted in a narrow ring at the base of the limb of the calyx. Style filiform; stigma capitate. Ovarium 4-10-celled; ovula fixed to the axis. Berry crowned by the calyx, few or many-seeded. Seeds covered by a bony testa. Embryo straightish, with a thick radicle, which is much longer than the cotyledons, which are ovate-lanceolate and minute.—Australian shrubs, with opposite, ovate or oblong, shining, dotless, 1-nerved, entire leaves; pedunculate flowers, and small fruit.

1 N. JAMBOSE'LLA (Gærtn. l. c.) leaves ovate, acute; peduncles axillary, 1-flowered, nearly the length of the leaves; ovarium 8-10-celled. ♄. G. Native of New Caledonia, and of the Society Islands. Decaspérmum fruticòsum, Forst. l. c. Psídium decaspérmum, Lin. fil. suppl. p. 252.

Jambosella Nelitris. Clt. 1810. Shrub 6 to 8 ft.

2 N. PANICULA'TA (Lindl. l. c.) leaves oblong, acuminated; flowers terminal and axillary, panicled; ovarium 4-celled. ♄. G. Native of the Moluccas. Eugènia polýgama, Roxb. hort. beng. p. 92. N. polýgama, Spreng. syst. 2. p. 488.

Panicled Nelitris. Tree.

3 N.? URVÍLLEI (D. C. prod. 3. p. 231.) panicles axillary and terminal, about the length of the leaves; bracteas linear, acute; tube of calyx hemispherical, pubescent, with ovate lobes; fruit 5-celled; leaves lanceolate, acuminated, opaque, stiff, glabrous on both surfaces; branchlets pubescent. ♄. S. Native of the Island of Praslin, one of the Sechelles. Leaves 2 inches long, and 8 lines broad. Flower-bud globose. Stamens and style about equal in length to the petals, which are oval-oblong. The fruit being unknown, the genus to which the plant belongs is therefore doubtful.

D'Urville's Nelitris. Tree.

4 N. HU'MILIS; dwarf; leaves elliptic-lanceolate, tapering to both ends, glabrous; panicles terminal; calycine segments triangular, acute; petals nearly orbicular. ♄. G. Native of New Holland. Stamens connected into a ring at the base, numerous, exserted. Stigma tapering. (v. s. in herb. Lamb.)

Dwarf Nelitris. Shrub 2 ft.

5 N.? PSIDIOI'DES; leaves elliptic, tapering to both ends, acuminated at the apex; peduncles racemose, axillary; pedicels opposite, and are, as well as the calyx, downy; branches angular; calycine segments equal in breadth, shorter than the petals. ♄. G. Native of New Holland. Stigma capitate. (v. s. in herb. Lamb.)

Guava-like Nilitris. Shrub 6 ft.

Cult. For culture and propagation see *Psídium*, p. 833.

XXIV. CAMPOMANE'SIA (dedicated to Rodriguez C. de Campomanes, a Spanish naturalist). Ruiz et Pav. fl. per. prod. p. 72. t. 13. syst. p. 128. Lindl. coll. no. 16. in a note. H. B. et Kunth, nov. gen. amer. 6. p. 150. D. C. prod. 3. p. 232.

LIN. SYST. *Icosándria, Monogýnia.* Tube of calyx globose; limb 5-parted; lobes ovate. Petals 5. Stamens numerous, free, inserted in a narrow ring at the base of the limb of the calyx. Style filiform; stigma peltately capitate. Berry many-seeded, pulpy, globose, crowned by the calyx, 10-12-seeded (Ruiz et Pav.), 7-10-celled; cells containing about 9 seeds. Seeds 10-12, imbedded in pulp, disposed in one circular series, inserted in a large fleshy placenta, ex Kunth, somewhat reniform, ex Ruiz et Pav.; testa granular and resiniferous.—American trees. Leaves opposite, petiolate, conduplicate, entire, full of pellucid dots. Peduncles one or many-flowered, rising from the axils of the fallen leaves. Berry crowned by the calyx.

1 C. LINEATIFÒLIA (Ruiz et Pav. syst. 128. fl. per. ined. 4. t. 422.) leaves oval, acute; pedicels axillary, aggregate, bibracteolate. ♄. S. Native of the Andes of Peru, in very hot places. It is also cultivated in the gardens of Peru, under the name of *Palillo*, for the sake of its fruit, which are eaten by the inhabitants, and has much the taste of the Guava. The fruit is yellow and sweet-scented.

Lined-leaved Campomanesia. Tree.

2 C. CORNIFÒLIA (H. B. et Kunth, nov. gen. amer. 6. p. 150. t. 147.) leaves nearly elliptic, acute, clothed with fine pubescence beneath; lower peduncles aggregate or branched. ♄. S. Native of New Granada, near Ibague, where it is called *Guyavo de Anselmo*, and where the fruit is eaten by the inhabitants. Perhaps the same as the preceding species.

Dog-wood-leaved Campomanesia. Tree.

3 C.? TOMENTÒSA (H. B. et Kunth, l. c.) leaves elliptic-oblong, acutish, coriaceous, clothed with rufescent tomentum beneath. ♄. S. Native of New Granada, near Ibague. Flowers and fruit unknown.

Tomentose Campomanesia. Tree.

Cult. For culture and propagation see *Psídium*, p. 833.

XXV. PSI'DIUM (from ψίδιον, *psidion*, the Greek name of the pomegranate. It is derived from ψιω, *psio*, to make small, in reference to the number of seeds). Lin. gen. no. 615. Lam. ill. 416. Lindl. coll. no. 16.—Guaiàva, Tourn. inst. t. 443. Gærtn. fruct. 1. p. 185. t. 38.—Psídium and Buchárdia, Neck.

LIN. SYST. *Icosándria, Monogýnia.* Tube of calyx ellipsoid (f. 121. *a.*) or obovate, usually contracted at the apex; limb ovate, undivided, but afterwards 1-5-cleft (f. 121. *d.*). Petals 5 (f. 121. *b.*). Stamens numerous, free, inserted in a broad circle almost through the whole undivided part of the limb. Style filiform (f. 121. *c.*); stigma capitate. Ovarium 5-20-celled (f. 121. *e.*) (ex Mart. in litt.); cells bipartite; from the septiform placenta being cleft at the margin, many of the cells become abortive at maturity. Ovula numerous, horizontal (f. 121. *e.*), fixed to the margin of the placenta. Berry many-seeded, corticate by the tube of the calyx, and crowned by its lobes. Seeds nestling in the pulp in the mature fruit, with a bony testa. Embryo form of a horse-shoe, with a hard crustaceous testa; radicle longer than the cotyledons, which are very small; cover of embryo separable at the radicle.—Trees or shrubs, natives of America within the tropics. Leaves opposite, feather-nerved, dotless. Peduncles axillary, 1-3-flowered, bibracteate. Flowers white. Fruit edible; cells usually not distinguishable at maturity. *Guava* is a corruption of the American name *Guayaba.*

* *Branchlets tetragonal.*

1 P. PU'MILUM (Vahl. symb. 2. p. 56.) branchlets tetragonal; leaves lanceolate, acute, glabrous above, tomentose and lined beneath; pedicels 1-flowered, shorter than the leaves; fruit globose. ♄. S. Native of the Moluccas, Ceylon, and Java. Blume, bijdr. fl. ned. ind. p. 1093.—Rumph. amb. 1. t. 49. P. angustifòlium, Lam. dict. 3. p. 16. Branches and under side of leaves white, ex Lam. P. cujavíllus, Burm. fl. ind. p. 114, but the peduncles are said to be 2-flowered, and the leaves ovate.

Var. β, Guadalupénse (D. C. prod. 3. p. 233.) leaves linear-lanceolate, velvety from rufous down beneath, as well as on the branchlets. ♄. S. Native of Guadaloupe. Perhaps the same as the Indian plant.

Dwarf Guava. Shrub 2 to 3 ft.

2 P. AROMA'TICUM (Aubl. guian. 1. p. 485. t. 191.) branchlets tetragonal; leaves oblong, acuminated, glabrous; peduncles 1-flowered; fruit globose, 4-celled. ♄. S. Native of the woods of Guiana and Cayenne. Buchárdia, Neck. gen. no. 728. Berry yellow, hardly the size of a cherry. The bruised leaves have the smell of balm.

Var. β, grandiflòrum (Aubl. guian. t. 190.) leaves ovate. ♄. S. Native along with the first, which it is very like, but smaller.

Aromatic Guava. Fl. July. Clt. 1779. Shrub 5 to 8 ft.

3 P. ACUTA'NGULUM (D. C. prod. 3. p. 233.) branchlets acutely tetragonal, almost 4-winged, glabrous; leaves ovate or elliptic-oblong, short, petiolate, rather attenuated at both ends, glabrous, full of pellucid and somewhat tubercular dots; pedicels solitary, 1-flowered; calycine lobes ovate, reflexed, longer than the tube, which is obovate before expansion. ♄. S. Native of Brazil, near Ega. Pedicels nearly an inch long. Leaves about 3 inches long.

Var. β, ácidum (Mart. herb.) leaves more obtuse at the base, hardly with any pellucid dots. ♄. S. Native of Brazil, at Nogueira, in the province of Rio Negro. Fruit globose, glabrous, pale yellow, size of a Borsdorffer apple. Lobes of calyx ovate, obtuse, erect, and usually connate, crowning the fruit; pulp acid, citron-coloured. Seeds orbicular, compressed, pale brown.

Acute-angled-branched Guava. Shrub.

4 P. STRIATE'LLUM (D. C. prod. 3. p. 233.) branchlets tetragonal, glabrous; leaves oblong, gradually acuminated, hardly obtuse at the base, on very short petioles, glabrous, and full of tubercular dots on both surfaces; pedicels solitary, 1-flowered, glabrous; ovarium obovate, striated lengthwise. ♄. S. Native of Brazil. Allied to *P. turbiniflòrum.* Leaves with pellucid dots when young. Perhaps a species of *Mýrtus.*

Striated-fruited Guava. Shrub 10 to 12 ft.

5 P. PUNCTULA'TUM (D. C. l. c.) branches somewhat tetragonal; leaves ovate, cuneated at the base, short-acuminated at the apex, glabrous, dotted beneath, and bearded in the axils of the veins; peduncles 1-flowered; ovarium broad, globose. ♄. S. Native of Brazil. Petioles half an inch long. Peduncles longer than the petioles. Young leaves villous and dotted. Lobes of calyx broad, very blunt, and spreading. Perhaps a *Mýrtus.*

Dotted Guava. Shrub 4 to 6 ft.

6 P. RIVULA'RE (Mart. herb. ex D. C. l. c.) branchlets somewhat tetragonal; leaves oval or ovate, short-acuminated, glabrous above, when young white beneath, clothed with rufous down at the nerves, but glabrous in the adult state; pedicels solitary, 1-flowered, opposite, at the base of the branchlets of the same year; fruit spherical. ♄. S. Native of Brazil, between Coari and Ega by rivulet sides. Lobes of calyx oval, obtuse. Fruit 10-celled.

Rivulet Guava. Shrub 6 to 10 ft.

7 P. MARIBE'NSE (Mart. herb. D. C. prod. 3. p. 233.) glabrous; upper part of branches tetragonal; leaves on short petioles, elliptic-oblong, cuneated at the base, bluntish at the apex; pedicels 1 flowered, a little longer than the petioles; fruit spherical. ♄. S. Native of Brazil, at Maribi, near the river Tapura. Leaves 2 inches long, and an inch broad. Petioles 2 lines long. Fruit 6 lines in diameter. Lobes of calyx short, at length obliterated or deciduous.

Maribi Guava. Shrub 6 to 10 ft.

8 P. MONTA'NUM (Swartz, fl. ind. occ. p. 879.) branches tetragonal; leaves oval-oblong, acuminated, quite glabrous; peduncles many-flowered; fruit roundish. ♄. S. Native of Jamaica, on the mountains. Wood very hard. Fruit small, acid, smelling like the flowers of the bitter-almond; hence it is called *Almandron.* Leaves broadly subcrenated according to the author, but almost entire according to the specimens examined. The wood is excellent, of a dark-colour and curled grain; it is easily worked, and takes a fine polish.

Mountain Guava. Clt. 1779. Tree 60 to 100 ft.

9 P. PYRÍFERUM (Lin. spec. 672.) branches tetragonal; leaves elliptic, acute, lined with rather prominent nerves, pubescent beneath; pedicels 1-flowered; fruit pear-shaped. ♄. S. Native of the Caribbee Islands and the continent of America, near Cumana, and now cultivated every where within the tropics, for the sake of its fruit. Lindl. bot. reg. 1079. Ruiz et Pav. fl. per. ined. 4. t. 418. Rumph. amb. 1: t. 47. Trew. ehr. t. 43. Guayàva pyrifórmis. Gærtn. fruct. 1. t. 38. P. vulgàre, Rich. act. soc. hist. par. p. 110. The common *Guava* is pear-shaped, and of a yellowish colour when ripe. Pulp sweet, aromatic, and pleasant. The fruit of the *guava* is eaten both by the natives and Europeans, either in its crude state or when made into jellies.

Pear-bearing or Common Guava. Fl. June, July. Clt. 1656. Tree 10 to 20 ft.

10 P. POMI'FERUM (Lin. spec. p. 672.) branches tetragonal;

leaves oval or oblong-lanceolate, pubescent beneath; peduncles 3-8, or many-flowered; fruit globose. ♄. S. Native of the West Indies, Mexico, and South America, from whence it has migrated to the East Indies, but is said to grow wild in Cochin-china, by Loureiro. Perhaps indigenous to both Asia and America, or probably two species are confused. Rumph. amb. 1. t. 48.—Mer. sur. t. 57. Hern, mex. p. 85. with a figure. Fruit yellow, somewhat astringent, with an agreeable odour. The root and young leaves are astringent, and are esteemed useful in strengthening the stomach. Peduncles downy, varying from one to many-flowered, whence it has been joined with *P. pyríferum* by Raddi, under the name of *P. Guaiàra*. Pulp of fruit red.

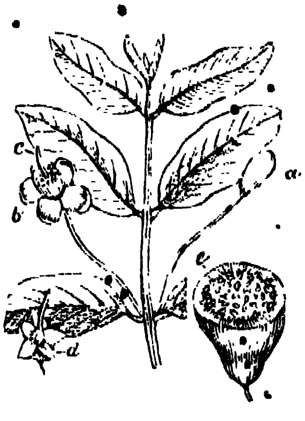


FIG. 121.

Var. β, sapidissima (Jacq. hort. schoenbr. 3. p. 62. t. 366.) peduncles 1-flowered.—Native country unknown. Berry dirty yellow, larger than a plum.

Apple-bearing or Common Red Guava. Fl. June, July. Clt. 1692. Shrub 6 to 15 ft.

11 P. HIA'NS (Mart. herb. D. C. prod. 3. p. 234.) branches tetragonal; leaves oval, obtuse at the base, and usually at the apex, puberulous on both surfaces, but hairy on the nerves beneath; peduncles solitary, 1, rarely 2-flowered, axillary, erect, lateral ones usually deflexed; flower-bud globose, gaping at the apex. ♄. S. Native of Brazil, at Vaodo, Parama, in Tabuleira, and Catingas. Branches, peduncles, and calyxes velvety from short rufous down. Ovarium obovate. Limb of calyx cup-shaped; lobes 5, roundish, at length reflexed.

Gaping Guava. Shrub 6 to 10 ft.

12 P. TURBINIFLÒRUM (Mart. in litt. ex D. C. 3. p. 234.) branches tetragonal, hairy; leaves ovate-oblong, gradually acuminated, obtuse at the base, on very short petioles, beset with tubercular dots on both surfaces, and hairy on the nerves beneath; pedicels 1-flowered, solitary, villous; calyx gaping, at length lobed; ovarium oblong, turbinate. ♄. S. Native of Brazil. Pedicels 9-10 lines long. Ovarium and calyx becoming glabrous at length. Branches opposite, at length terete.

Top-flowered Guava. Shrub 10 to 20 ft.

13 P. CINE'REUM (Mart herb. ex D. C. l. c.) branches tetragonal; leaves oblong, mucronate, on very short petioles, glabrous above, but clothed with adpressed canescent villi beneath; peduncles 1-3-flowered; fruit ovate, crowned by the lobes of the calyx, which are roundish-ovate and short. ♄. S. Native of Brazil, in the province of St. Paul. Perhaps a narrow-leaved variety of *P. incanéscens*.

Grey Guava. Shrub 4 to 6 ft.

14 P. INCANE'SCENS (Mart. herb. ex D. C. l. c.) branches tetragonal; leaves obovate, on short petioles, cuneated at the base, obtuse, and mucronate at the apex, glabrous above, but clothed with adpressed canescent villi beneath; peduncles 3-flowered; young fruit ovate, crowned by the lobes of the calyx, which are ovate and short. ♄. S. Native of Brazil, in fields near Taubate, in the province of St. Paul. A very distinct species. Branchlets rather downy. Leaves 2½ inches long, and 1½ broad. Fruit nearly like that of *Eugènia*, 4-5-seeded.

Hoary Guava. Shrub 4 to 6 ft.

15 P. GRANDIFÒLIUM (Mart. herb. ex D. C. l. c.) branches tetragonal, thick, clothed with white tomentum; leaves obovate, mucronate, on short petioles, cuneated at the base, glabrous above, but clothed with white tomentum beneath; peduncles 1-flowered; fruit globose, nearly naked. ♄. S. Native of Brazil, in fields at Ypanema, in the province of St. Paul. Like *P. incanéscens*, but the down is more woolly. Leaves 3 inches long. Stem 1-3 feet high. Root thick. Fruit about the size of a walnut. Perhaps the same as P. grandiflòrum, Ruiz et Pav. fl. per. ined. 4. t. 421. f. a.

Great-leaved Guava. Shrub 1 to 3 ft.

16 P. RU'FUM (Mart. herb. ex D. C. l. c.) branchlets tetragonal, densely clothed with rufous hairs, as well as the peduncles, bracteas, and calyxes; leaves elliptic or elliptic-oblong, on short petioles, villous on both surfaces when young, but in the adult state glabrous on the upper surface, and clothed with rufescent villi beneath; pedicels in the axils of the lower branchlets, but somewhat racemose; young fruit ovate-roundish, crowned by the lobes of the calyx, which are short and obtuse. ♄. S. Native of Brazil, in mountain fields in the province of Minas Geraes. Branchlets hairy, but the branches are terete and smooth. Leaves 4 inches long, and 1½ or 2 inches broad. Bracteoles linear.

Rufous Guava. Shrub 4 to 6 ft.

17 P. PUBE'SCENS (Mart. herb. ex D. C. l. c.) branches rather tetragonal; pedicels, bracteas, and calyxes hairy; leaves nearly sessile, oblong, acute, when young downy on both surfaces, hoary beneath; pedicels 1-flowered; bracteoles linear-subulate; lobes of calyx acute. ♄. S. Native of Brazil, in the province of Pernambuco, near the river Termo. Flowers large. Ovarium broadly obovate, not constricted at the apex. Habit nearly of *Cratæ̀gus eriocárpa*.

Pubescent Guava. Shrub 3 to 4 ft.

* * *Branchlets terete.*

18 P. GUINEE'NSE (Swartz, fl. ind. occ. 2. p. 881.) branches terete, pubescently villous; leaves petiolate, ovate, glabrous above, clothed with rusty tomentum beneath, as well as the petioles; peduncles 1-3-flowered; fruit roundish. ♄. S. Cultivated in the West Indies, but is said to have been introduced from Guinea. Berry fulvous, rather pubescent, red inside, about the size of a nutmeg, of an exquisite taste.

Guinea Guava. Shrub 8 to 12 ft.

19 P. POLYCA'RPON (Lamb. in Lin. trans. 11. p. 231. t. 17.) branches terete, hairy; leaves almost sessile, ovate-oblong, acute, pubescent above, wrinkled and scabrous beneath; peduncles 3-flowered; fruit globose. ♄. S. Native of the Island of Trinidad. Ker. bot. reg. 653. Branches reclinate. Fruit yellow inside, about the size of a plum, of a delicate taste. The middle flower on the peduncle is sessile, and the lateral ones pedicellate, as in the preceding and following species.

Many-fruited Guava. Fl. May. Clt. 1810. Shrub 3 to 6 ft.

20 P. ARA'CA (Raddi, mem. 1821. p. 5. t. 1.) branchlets terete, hairy; leaves petiolate, oval or oblong, obtuse, downy or hairy on both surfaces; peduncles axillary, 1-3-flowered; fruit ovoid. ♄. S. Native of Brazil, in fields about Rio Janeiro. P. minus, Mart. herb. Berry about the size of those of a sorbus, greenish-yellow on the outside, but whitish within. Very nearly allied to *P. Guineénse*, but the leaves are velvety above, not glabrous, and the nerves more elevated.

Araca Guava. Shrub 4 to 6 ft.

21 P. FLUVIA'TILE (Rich. ex herb. Thib.) branchlets terete, glabrous; leaves petiolate, oval, quite glabrous; lower ones obtuse at both ends, but the upper ones are acuminated at both ends; pedicels opposite, 1-flowered, almost 10-times the length of the petioles. ♄. S. Native of Cayenne, along the banks of rivers. P. Guianénse, Pers. ench. 2. p. 27. Peduncles an inch and a half long. Style longer than the stamens. Stigma hardly

capitate. Fruit unknown. Leaves full of pellucid dots. Perhaps a *Mýrtus.*

River-side Guava. Shrub 6 to 8 feet.

22 P. DENSI'COMUM (Mart. herb. ex D. C. l. c.) branches terete, rather compressed at the apex, glabrous; leaves petiolate, ovate-lanceolate, gradually acuminated, glabrous; pedicels 1-flowered, 3 or 4-times longer than the petioles; fruit globose. ♄. S. Native of Brazil, on the banks of the Solunois, and at Lake Ega. Tree glabrous, with a dense head. Allied to *P. fluviátile*, but differs in the pedicels being shorter.

Dense-headed Guava. Tree 20 feet.

23 P. LITTORA'LE (Raddi, mem. 1831. p. 6. t. 1. f. 2.) branchlets terete; leaves oval-oblong, thickish or coriaceous, attenuated at the base, bluntly acuminated at the apex, glabrous on both surfaces, shining above; pedicels 1-flowered, longer than the petioles; fruit exactly pear-shaped. ♄. S. Native of Brazil, on the sea-shore, where it is called by the inhabitants *Araca de Praya.* Fruit greenish-yellow, but white inside.

Shore Guava. Shrub 6 to 10 feet.

24 P. RIPA'RIUM (Mart. herb. ex D. C. l. c.) branches terete; pedicels and calyxes hairy; leaves almost sessile, linear-oblong, obtuse at the apex, rather cordate at the base, pubescent beneath, and nearly glabrous above; pedicels 3-flowered; fruit pear-shaped. ♄. S. Native of Brazil, on the banks of rivers. Nearly allied to *P. turbiniflòrum.* Leaves 3 inches long and an inch broad, with somewhat sinuated crenated margins. Lobes of calyx very blunt.

River-side Psidium. Tree 20 to 30 feet.

25 P. GUAVIRÒBA (D. C. prod. 3. p. 235.) glabrous; branches terete; leaves oval-lanceolate, acuminated, tapering to the base, petiolate; pedicels 1-flowered, length of petioles; fruit globose; calycine lobes short and blunt. ♄. S. Native of Brazil, in fields at Ypanema, in the province of St. [illegible], where it is called by the inhabitants *Guaviroba de Canorro* or *Guavirobo de Campo.* P. canìnum, Mart. herb. but not of Lour. Leaves 2 inches long, and 9-10 lines broad. Fruit the size of a large pea.

Guaviroba. Shrub 6 to 10 feet.

26 P.? DECUSSA'TUM (D. C. l. c.) branchlets terete, rather hairy; leaves oval, obtuse, membranous, opaque; pedicels axillary, 1-flowered, length of leaves; calyx at length bluntly 5-lobed, reflexed; style incurved. ♄. S. Native of Brazil, in fields, in the province of Minas Geraes. Mýrtus decussàta, Mart. herb. Leaves 6 lines long and 3 lines broad. Branches and branchlets opposite, slender. Stamens very numerous. Calyx glabrous.

Decussate-branched Guava. Shrub 2 to 3 feet.

27 P.? DESERTÒRUM (Mart. herb. ex D. C. prod. 3. p. 236.) branchlets terete, and are as well as the petioles and pedicels clothed with short velvety down; leaves ovate, acute, rather cordate at the base, with crenated margins, glabrous on both surfaces, full of pellucid dots; pedicels 1-flowered, slender; fruit ovate; lobes of calyx roundish. ♄. S. Native of Brazil, in the desert of Bahia. A small neat tree, with pale green leaves. Leaves 15-18 lines long, and 7-9 lines broad. Petioles 2-3 lines long. Pedicels 10-12 lines long. Flowers small.

Desert Guava. Tree 10 to 15 feet.

28 P.? TENUIFÒLIUM (Mart. herb. ex D. C. l. c.) branchlets terete, glabrous as well as the petioles and pedicels; pedicels 1-3 together, axillary, 1-flowered; leaves ovate, obtuse at the base, but acuminated at the apex, glabrous, but beset with crowded, very minute dots: fruit globose; lobes of calyx roundish. ♄. S. Native of Brazil, in the desert of Bahia. Fruit 5-celled; cells biovulate. Pedicels 5-6 lines long, slender, bractless at the apex. Leaves membranous. Very nearly allied to *P. desertòrum.*

Fine-leaved Guava. Tree 15 to 20 feet.

29 P. OLIGOSPE'RMUM (Mart. herb. ex D. C. l. c.) branches terete or compressed, slender, glabrous; leaves elliptic, acuminated, glabrous, full of pellucid dots; pedicels 1-flowered, rather compressed, thrice the length of the petioles; flower-bud oblong, acute; fruit obovate, subglobose, turbinate at the base, 1-3-seeded. ♄. S. Native of Brazil, in woods on the banks of rivers in the province of Bahia. Bark greyish. Leaves an inch long and 5-lines broad. Fruit nodding, yellow. Seeds imbedded in bitter, rather diaphanous pulp. P. oligospérmum, Link, enum. is perhaps different from this.

Few-seeded Guava. Shrub 8 to 10 feet.

30 P. LANUGINO'SUM (Ruiz, et Pav. fl. per. ined. 4. t. 421. f. b.) branches terete; leaves oblong, obtuse, crenated, woolly; peduncles 3-flowered, the middle flower sessile, and the lateral ones pedicellate, bearing 2 bracteas at the base of each; tube of calyx long, 4-cleft, with the lobes acute; stamens exserted. ♄. S. Native of Peru. Petals obovate. Fruit long, terete, 4-celled, crowned by the lobes of the calyx. Seeds reniform. Shrub woolly in every part.

Woolly Guava. Shrub 6 to 8 feet.

31 P.? MYRSINÌTES (D. C. prod. 3. p. 236.) branchlets terete, clothed with rufous hairs; pedicels axillary, solitary, 1-flowered, angular, hairy; bracteoles deciduous; ovarium turbinate, glabrous; lobes of calyx 5, very blunt; leaves oblong, almost sessile, obtuse at the base, acutish at the apex, villous on the margins, and middle nerve above, the rest glabrous. ♄. S. Native of Brazil, in deserts, in the provinces of the mines. Mýrtus myrsinìtes, Mart. herb. Pedicels 3-4 lines long. Throat of calyx broad, and staminiferous, as in *Psídium.* Leaves 12-15 lines long, and 3-4 broad. Perhaps a species of *Mýrtus.*

Myrtle-like Psidium. Tree 12 feet.

32 P. BROWNIA'NUM (Mart. herb. ex D. C. l. c.) branchlets hairy; pedicels solitary, axillary, 1-flowered, with lanceolate-linear bracteoles under the flowers; flower-bud ovate, acute, glabrous, at length splitting unequally into 5 roundish lobes; leaves ovate, almost sessile, bluntly attenuated at the apex, opaque, glabrous on both surfaces as well as the branches. ♄. S. Native of Brazil, in the desert of Bahia. A small, densely branched tree, with greyish bark. Leaves 2 inches long and 1 inch broad, with rather revolute margins. Petals roundish. Stamens usually changing into elliptic petals. Fruit unknown.

Brown's Guava. Tree 10 to 12 feet.

33 P. OBOVA'TUM (Mart. herb. ex D. C. l. c.) branchlets terete, velvety from short down; leaves obovate, coriaceous, quite glabrous in the adult state, but when young rather velvety; fruit nearly globose, glabrous. ♄. S. Native of Brazil, in fields, in the province of St. Paul. Very like the Brasilian *P. Cattleyànum*, but differs in the branches being beset with short villi.

Obovate-leaved Guava. Shrub 10 to 15 feet.

34 P. CATTLEIA'NUM (Sabine, in hort. trans. 4. p. 315. t. 11.) branchlets terete, glabrous; leaves obovate, coriaceous, quite glabrous; pedicels opposite, 1-flowered, hardly equal in length to the petioles. ♄. S. Native of China and of Brazil, or rather originally brought from China to Brazil. Lindl. coll. t. 16. Ker. bot. reg. 622. P. coriàceum, Mart. herb. P. Chinénse, Lodd. cab. The fruit of this *Guava* is rather large, nearly spherical, of a fine deep claret colour, growing in the axils of the leaves; the skin has much the consistence of that of a fig, but is thinner; the interior is a soft fleshy pulp, purplish red next the skin, but becoming paler towards the middle, and at the centre is quite white; it is juicy, and in consistence is much like a strawberry, to which it bears some resemblance in flavour.

Cattley's Guava. Fl. May, Ju. Clt. 1818. Tr. 10 to 20 ft.

35 P. CORDA'TUM (Sims, bot. mag. t. 1779.) branchlets terete, glabrous; leaves sessile, cordate-roundish, rather stem-clasping,

coriaceous, glabrous on both surfaces; pedicels aggregate or few-flowered, longer than the flowers. ♄. S. Native of Guadaloupe. P. amplexicaúle, Rich. in herb. Juss. Pers. ench. 2. p. 27.

Cordate-leaved Guava. Fl. May, July. Clt. 1811. Shrub 5 to 6 feet.

36 P. emargina'tum (Ruiz, et Pav. fl. per. ined. 4. t. 418.) peduncles axillary; leaves ovate, obtuse, coriaceous, somewhat cordate at the base, and emarginate at the apex, much shorter than the peduncles; fruit globose, crowned by the lobes of the calyx: calyx 4-cleft; petals 4. ♄. S. Native of Peru. Branches apparently terete.

Emarginate-leaved Guava. Shrub 8 to 10 feet.

37 P. macroste'mon (Ruiz et Pav. fl. per. ined. 4. t. 420. f. a.) branches dichotomously branched; leaves small, crowded, ovate, acute, downy; pedicels rising from the axils of the upper leaves, all 1-flowered, and forming a terminal raceme; stamens very long; stigma somewhat capitate; calyx 4-lobed; petals 4, obovate. ♄. S. Native of Peru. Branches apparently terete.

Long-stamened Guava. Shrub.

38 P. rutidoca'rpum (Ruiz et Pav. fl. per. ined. 4. t. 420. f. b.) branches terete; leaves oval, acuminated, wrinkled; pedicels axillary, solitary, 1-flowered; fruit oval, rugged, crowned by the lobes of the calyx; petals 5. ♄. S. Native of Peru.

Rugged-fruited Guava. Shrub.

† *Species not sufficiently known.*

39 P. du'bium (H. B. et Kunth, nov. gen. amer. 6. p. 152.) branchlets compressed; leaves on short petioles, lanceolate, terminating each in a long, narrow acumen, membranous, glabrous; peduncles racemose, short, few-flowered. ♄. S. Native of South America, among rocks on the banks of the Orinoco, near Atures. Calyx 4-cleft. Petals 4. Ovarium 2-celled; cells 2-seeded. Perhaps a species of *Mýrtus* or a *Eugènia.*

Doubtful Guava. Shrub 2 to 3 feet.

40 P. canìnum (Lour. coch. p. 310.) leaves on short petioles, ovate, acutish, tomentose on both surfaces; peduncles racemose, many-flowered, axillary, and terminal; fruit ovate. ♄. G. Native of China, about Canton. Loureiro calls this *P. caninum*, because dogs are delighted with it in the same manner as cats with valerian. The leaves are rather serrated. This species comes very near to *P. pùmilum.*

Dog's Guava. Shrub 2 to 3 feet.

41 P. nìgrum (Lour. l. c.) leaves ovate-lanceolate, glabrous on both surfaces, scattered; peduncles terminal, branched; fruit globose. ♄. G. Native of Cochin-china, in woods. Berry small, black. Leaves serrated.

Black-fruited Guava. Tree.

42 P. ru'brum (Lour. l. c.) leaves oblong, obtuse, glabrous, on short petioles; flowers axillary, sessile, crowded, 4-petalled; fruit oblong. ♄. G. Native of Cochin-china, in woods. Berry red, small, with an acrid sweet taste.

Red-fruited Guava. Tree.

43 P. I'ndicum (Raddi, mem. p. 6.) leaves rather fleshy, shining, rounded at the apex; berries roundish, sessile. ♄. S. Native of Brazil, where it is cultivated for its fruit, and has probably been imported from the East Indies.

Indian Guava. Tree 10 to 12 feet.

44 P. latifòlium (Link, enum. 2. p. 27.) leaves tapering into the petiole, which is short, and somewhat acuminated. ♄. S. Native of South America. Nothing more is known about this plant.

Broad-leaved Guava. Shrub 10 to 12 feet.

45 P. Willemetia'num (D. C. prod. 3. p. 337.) ♄. S. Native of the Mauritius, between Port St. Louis and Le Pouce. Willem. herb. maur. p. 28. Perhaps a species of *Jossínia.*

Willemet's Guava. Shrub.

Cult. The species of *Guàva* grow freely in a mixture of loam and peat. Cuttings will strike root if planted in sand, with a hand-glass over them. Some of the species fruit in the stoves of this country; but they are hardly worth the trouble and expense, to grow them for this purpose.

XXVI. JOSSI'NIA (meaning unknown to us). Comm. mss. D. C. prod. 3. p. 337.—Eugènia species, Lam. Mýrtus species, Spreng.

Lin. syst. *Icosándria, Monogýnia.* Tube of calyx turbinately globose; limb 4-parted, even to the base; lobes distinct in the bud. Petals 4. Stamens numerous, free, inserted in a broad disk, as in *Psidium.* Fruit fleshy, turbinately globose, crowned by the calycine lobes, many-seeded. Seeds not well known. Trees and shrubs, natives of the Mauritius, where they are commonly called *Bois de nèfle* by the colonists. Leaves stiff. Peduncles axillary, 1-flowered, bibracteolate, under the flowers. Fruit edible. This genus is not well known; it differs from *Eugènia* in the broad stamniferous disk; in the fruit being many-seeded, and in the seeds being like those of *Mýrtus:* it differs from *Psidium* in the lobes of the calyx being 4, not 5, and in the flower-bud; from *Mýrtus* and *Mýrcia* in the parts of the flower being 4, not 8.

1 J. mespiloìdes (D. C. prod. 3. p. 337.) leaves ovate-lanceolate, on long petioles, coriaceous, with revolute margins, glabrous and shining above, but velvety beneath, as well as on the branches and peduncles; pedicels 1-flowered, longer than the petioles. ♄. S. Native of the Island of Bourbon, where it is called *Bois de pèche marron, Bois de nèfle à grandes feuilles.* Eugènia mespiloìdes, Lam. dict. 3. p. 205. Mýrtus mespiloìdes, Spreng. syst. 2. p. 481. Petioles 8 lines long. Pedicels nearly an inch long. Fruit, according to the specimen in Jussieu's herbarium, ovate, fleshy, crowned by the calyx, velvety-canescent. Flowers large.

Medlar-like Jossinia. Tree 50 feet.

2 J. lu'cida (D. C. prod. 3. p. 337.) leaves obovate-orbicular, on short petioles, glabrous, coriaceous, pale beneath; flowers solitary, on short pedicels. ♄. S. Native of the Mauritius, where it is commonly called *Bois de cloux.* Eugènia lùcida, Lam. dict. 3. p. 205. Mýrtus Commersònii, Spreng. syst. 2. p. 479. Fruit obovate-globose, glabrous, crowned by the obtuse lobes of the calyx.

Shining Jossinia. Tree.

3 J. orbicula'ta (D. C. l. c.) leaves roundish, obtuse, coriaceous, glabrous, on short petioles, with reflexed margins; pedicels very short, 1-flowered, 5-6 together in a fascicle, and are as well as the calyxes rather velvety. ♄. S. Native of the Mauritius. Eugènia orbiculàta, Lam. dict. 3. p. 204. Mýrtus orbiculàta, Spreng. syst. 2. p. 480. There is a variety of this with solitary pedicels. Leaves 2 inches broad and hardly 2¼ inches long. Pedicels 3 lines long.

Orbicular-leaved Jossinia. Clt. 1823. Shrub 6 to 8 feet.

4 J. ellí'ptica (D. C. l. c.) leaves elliptic, attenuated at the base, bluntish at the apex, glabrous, rather coriaceous, on short petioles; flowers axillary, 2-4 in a fascicle, almost sessile; calyxes pubescent. ♄. S. Native of the Mauritius. Eugènia ellíptica, Lam. dict. 3. p. 206. but not of Smith. Flowers small. Lateral nerves of leaves hardly prominent, with the limb opaque, without any pellucid dots.

Elliptic-leaved Jossinia. Shrub 2 to 3 feet.

5 J. tinifo'lia (D. C. prod. 3. p. 238.) leaves oval, coriaceous, on short petioles, when young clothed with white velvety down as well as the branchlets, peduncles, and calyxes; pedicels solitary or twin, 3 or 4 times longer than the leaves. ♄. S. Native of the Mauritius, where it is called *Bois de nèfle.*

Eugènia tinifòlia, Lam. dict. 3. p. 204. Perhaps sufficiently distinct from *J. buxifòlia*. Pedicels 3-4 lines long.

Tinus-leaved Jossinia. Tree or shrub.

6 J. buxifòlia (D. C. l. c.) leaves ovate-oblong, bluntish, coriaceous, glabrous, on very short petioles, with reflexed margins, pale beneath; pedicels solitary, slender, shorter than the leaves, exactly axillary; calyxes clothed with silky velvety down. ♄. S. Native of the Island of Bourbon, on the mountains, where it is called *Bois de nèfle commun*. Eugènia buxifòlia, Lam. dict. 3. p. 204. Mýrtus Borbónica, Spreng. syst. 2. p. 481. Pedicels 7-8 lines long. Flowers small. Fruit unknown.

Box-leaved Jossinia. Shrub.

7 J. cotinifòlia (D. C. l. c.) leaves ovate or roundish, obtuse, rather coriaceous, with somewhat revolute margins, on very short petioles, full of pellucid dots, glabrous on both surfaces, pale beneath; pedicels 1-3 together, axillary, or supra-axillary, very slender, a little shorter than the leaves. ♄. S. Native of the Island of Bourbon, on the mountains. Eugènia cotinifòlia, Jacq. obs. 3. p. 3. t. 53. Mýrtus cotinifòlia, Spreng. syst. 2. p. 481. exclusive of the country. Leaves an inch long. Pedicels 8-10 lines long; in some specimens always solitary.

Cotinus-leaved Jossinia. Shrub.

8 J. cassinoìdes (D. C. l. c.) leaves ovate, acutish at both ends, coriaceous, glabrous, full of pellucid dots; pedicels 2-3-together, filiform, shorter than the leaves; lobes of calyx roundish. ♄. S. Native of Madagascar. Eugènia cassinoìdes, Lam. dict. 3. p. 205. Mýrtus cassinoìdes, Spreng. syst. 2. p. 481.

Cassine-like Jossinia. Tree.

Cult. All the species of *Jossinia* are worth cultivating, for the sake of their beautiful foliage, as well as for their flowers, which are rather large and white. Their culture and propagation are the same as that recommended for *Psidium*, p. 833.

XXVII. MYRTUS (from μυρον, *myron*, perfume; μυρτος of the Greeks; *Myrtus* of the Dutch; and almost the same in every European language). Lin. gen. 617. Gærtn. fruct. 1. p. 184. t. 38. D. C. prod. 3. p. 138.—Mýrtus species of Kunth. Mýrtus, Tourn. inst. t. 409.

Lin. syst. *Icosándria, Monogýnia.* Tube of calyx subglobose; limb 5-parted, rarely 4-parted. Petals 5, rarely 4. Stamens free. Berry 2-3-celled, nearly globose, crowned by the limb of the calyx. Seeds numerous in each cell even when mature, rarely solitary, bony, reniformly incurved. Embryo curved, with very short semicylindrical cotyledons, which are much shorter than the radicle.—Shrubs. Leaves opposite, full of pellucid dots. Pedicels axillary, 1-flowered.—In the most part of the species the flowers and seeds are unknown, it is therefore doubtful whether many of them belong to the genus. A great many of them probably belong to the genus *Mýrcia.*

Sect. I. Leucomy'rtus (λευκος, white, and μυρτος, *myrtos*, a myrtle; in reference to the white flowers of the species). D. C. prod. 3. p. 238. Flowers white. Seeds curved in the manner of a horse-shoe; when mature disposed irregularly in the cells.

* *Flowers 4-cleft, with few stamens.*

1 M. nummula'ria (Poir. dict. 4. p. 407. exclusive of the country) pedicels axillary, solitary, 1-flowered, shorter than the leaves, bibracteolate under the flowers; leaves roundish, shining, small, glabrous; stem creeping; calyx 4-cleft. ♄. G. Native of the Maclove or Falkland Islands, and at the Straits of Magellan. Gaud. ann. sc. nat. 5. t. 2. f. 5. Lucet-musque, Pernet. voy. 2. p. 58.

*Money-wort-*like Myrtle. Sh. creeping.

2 M. vaccinoìdes (H. B. et Kunth. nov. gen. amer. 6. p. 130.) pedicels axillary, solitary, 1-flowered, shorter than the leaves, bibracteolate at the apex; leaves small, elliptic-ovate, acute, coriaceous, veinless, glabrous; branchlets hairy; calyx 4-lobed; stamens 8. ♄. S. Native of Peru. Leaves 3-4 lines long. Petals ciliated. Berry subglobose, 2-3-celled. Seeds few, rather reniform. Embryo of *M. commùnis.* Allied to *M. nummulària.*

Whirtle-berry-like Myrtle. Sh. 1 ft.

3 M. myrsinoìdes (H. B. et Kunth, nov. gen. amer. 6. p. 132.) pedicels axillary, solitary, 1-flowered, bibracteolate at the apex; leaves small, obovate, somewhat emarginate, rather coriaceous, reticulated, shining, and are as well as the branches glabrous; flowers 4-cleft, octandrous. ♄. G. Native of Peru, in cold parts between Ayavaca and Guancabamba. A much-branched shrub. Leaves 4-5 lines long. Fruit unknown. Nearly allied to *M. vaccinoìdes.*

Myrsine-like Myrtle. Sh. 6 ft.

4 M. microphy'lla (Humb. et Bonpl. pl. equin. 1. p. 19. t. 4.) pedicels axillary, 1-flowered, shorter than the leaves, bearing 2 bracteoles under the flowers; leaves oval, acute, coriaceous, glabrous above, and clothed with adpressed silky down beneath; calyx 4-cleft, hairy. ♄. S. Native of the cold mountains of Saragura, near Loxa. Habit of *Phýlica* or *Erìca.* Petals white, ciliated. Margins of leaves revolute, 4 lines long. Berry red, globose, 2-3-celled. Ovula 2-4 in each cell. Embryo like that of *E. commùnis*, according to Kunth.

Small-leaved Myrtle. Sh. 3 ft.

* * *Flowers 5-cleft, polyandrous.*

5 M. commu'nis (Lin. spec. p. 673.) pedicels solitary, 1-flowered, about the length of the leaves, bearing 2 linear bracteoles under the flowers; calyx 5-cleft; leaves ovate or lanceolate, acute. ♄. F. Native of the south of Europe, on exposed rocks. Berry roundish, 2-3-celled. Seeds reniform. Embryo arched, with a long radicle, and small, equal cotyledons. Gærtn. fruct. 1. p. 184. t. 38. Lam. ill. t. 410. Duham. ed. nov. 1. p. 43. Corolla white. The common *myrtle* is well known as an elegant evergreen sweet-scented shrub, but unfortunately just too tender to abide our winters in the open air, without some protection. It was a great favourite among the ancients, and was sacred to Venus. *Myrtle* wreaths adorned the brows of bloodless victors, and were the symbol of authority for magistrates at Athens. Both branches and berries were put into wine, and the latter were used in the cookery of the ancients. The *myrtle* was also one of their medicinal plants. All parts of it are astringent, but it is discarded from modern practice.

A. melanocárpa (D. C. prod. 3. p. 239.) fruit blackish. This variety of *myrtle* is frequent in the south of Europe, and in gardens, where there are varieties of it with double flowers and variegated leaves.

Var. α, Romàna (Mill. fig. t. 184. f. 1.) leaves ovate; pedicels longer. The *common broad-leaved* or *Roman myrtle.* It is sometimes called *flowering myrtle*, because it flowers more freely in England than any other variety.

Var. β, Tarentìna (Mill. dict.) leaves ovate; berries rounder. The *box-leaved myrtle.* Flowers small, and open late in the autumn. Leaves small.

Var. γ, Itálica (Mill. dict.) leaves ovate-lanceolate, acute; branches more erect. The *Italian* or *upright myrtle.*

Var. δ, Bæ'tica (Mill. dict.) leaves lanceolate, acuminated. The *orange-leaved myrtle.*—Blackw. t. 114.

Var. ε, Lusitánica (Lin. spec.) leaves lanceolate-ovate, acute. M. acùta, Mill. dict.—Clus. hist. 1. p. 66. f. 1. The *Portugal myrtle.* The *nutmeg myrtle* appears to be only a variety of this.

Var. β, Bélgica (Mill. dict.) leaves lanceolate, acuminated.

The *broad-leaved Dutch myrtle.* Leaves crowded, dark green. The *double-flowering myrtle* appears to be of this variety.

Var. θ, mucronàta (Lin. spec.) leaves linear-lanceolate, acuminated. M. mínima, Mill. *Rosemary* or *thyme-leaved myrtle.*

B. leucocárpa (D. C. prod. 3. p. 239.) fruit white. ♄. H. Native of Greece and the Balearic Islands. Smith, prod. fl. græc. p. 36. The fruit of this kind is rather large, edible, with a grateful taste and smell.

The above varieties are constant; but there are others in the gardens which are more variable. It will suffice to give the names of a few of these.

1 *Gold-striped broad-leaved myrtle.*

2 *Broad-leaved Jews' myrtle.* This variety has its leaves frequently in threes, on which account it is said to be in esteem among the Jews in their religious ceremonies.

3 *Gold-striped-leaved orange-myrtle.*

4 *Silver-striped Italian myrtle.*

5 *Striped box-leaved myrtle.*

6 *Silver-striped rosemary-leaved myrtle.*

7 *Silver-striped nutmeg myrtle.*

8 *Cock's-comb or bird's-nest myrtle.*

9 *Spotted-leaved myrtle.*

Common Myrtle. Fl. July, Aug. Clt. 1597. Sh. 3 to 10 ft.

6 M. MYRICOIDES (H. B. et Kunth, nov. gen. amer. 6. p. 131. t. 539.) peduncles axillary, 1-flowered, hardly shorter than the leaves, pubescent, furnished with 2 bracteoles at the apex; leaves oblong, coriaceous, veinless, glabrous above, puberulous beneath as well as on the branchlets; calyx 5-cleft. ♄. S. Native of Peru. Petals glabrous. Berry nearly globose, 3-4-celled. Seeds numerous, nearly reniform. Embryo as in *M. communis.*

Myrica-leaved Myrtle. Sh. 4 to 6 ft.

7 M. SALUTA'RIS (H. B. et Kunth, l. c. p. 132.) pedicels axillary, solitary, 1-flowered, shorter than the leaves, puberulous; leaves ovate-oblong, obtuse, rather membranous, reticulated, glabrous, shining; branchlets rather hairy; calyx quinquefid. ♄. S. Native near Carichana, on the banks of the Orinoco, where it is called *Guayava-Arayan.* Leaves 2 inches long, and an inch broad. Petals ciliated, length of stamens. Berry nearly globose, 2-celled, about the size of a sloe. Seeds bony, solitary, or numerous in the cells. A decoction of the root of this species is considered good against hæmorrhages.

Salutary Myrtle. Sh. 4 to 6 ft.

8 M. CALOPHY'LLA (H. B. et Kunth, l. c. p. 133.) pedicels axillary, 1-flowered, solitary, or twin, shorter than the leaves, bibracteolate at the apex; leaves elliptic-oblong, acute, running into the petiole at the base, coriaceous, veinless, shining, and are as well as the branchlets glabrous; calyx 5-cleft. ♄. S. Native on the banks of the Orinoco, near Maypures. Leaves 2 inches long. Pedicels 10-14 lines long, when bearing the fruit. Flowers as large as those of *M. commùnis.* Berry nearly globose, 2-celled, about the size of a sloe. Embryo probably like that of *M. commùnis.*

Beautiful-leaved Myrtle. Sh. 6 to 8 ft.

9 M. U'GNI (Molin. chil. ed. gall. p. 133.) pedicels axillary, 1-flowered, a little recurved, rather longer than the leaves, bearing each 2 linear bracteoles under the flower; leaves ovate, acute, glabrous; calyx 5-cleft, with the lobes reflexed. ♄. G. Native of Chili, where it is called *U'gni,* and by the Spaniards *Murtilla.* Feuill. obs. 3. p. 44. t. 31. Lam. dict. 4. p. 412. Petals almost like those of *M. commùnis.* Fruit red, musky, nearly globose, 8-seeded, compressed. The natives of Chili express the juice from the fruit and mix it with water, to which it gives a beautiful red colour. It forms a very refreshing drink, and has something of the odour of rosemary.

Ugni Myrtle. Sh. 2 to 3 ft.

10 M.? ARA'YAN (H. B. et Kunth, l. c. p. 133.) pedicels axillary, solitary, 1-flowered, a little shorter than the leaves, bibracteolate under the flower; leaves ovate-oblong, acute, membranous, reticulated, glabrous, shining; branchlets hairy; calyx 5-cleft. ♄. S. Native of Peru, at Gonzanama, at the elevation of 3000 feet, where it is called, along with some other species, *Arayan.* Leaves 20-22 lines long. Flowers size of those of *M. commùnis.* Berry globose, red, 2-celled; cells 1-seeded.

Arayan Myrtle. Sh. 6 to 8 ft.

11 M. MULTIFLÒRA (Juss. herb. Jaume, in Duham. ed. nov. 1. p. 208.) pedicels solitary, axillary, elongated, and in terminal racemes; flowers 5-cleft; leaves ovate-orbicular, mucronate, opaque, coriaceous, hairy on the petioles, margins, and nerves on both surfaces, as well as the branchlets and peduncles. ♄. S. Native of Chili and Peru. Leaves 8-9 lines long and 6-7 broad, green above, and white beneath. Pedicels 6 inches long, glabrous at the apex, as well as the calyxes, but hairy at the base. Fruit and seeds unknown. Perhaps the same as *M. Lùma,* Molin. chil. 173. but *M. Lùma* of Spreng. syst. appears to be different. The bark is astringent, and possesses the same qualities as that of *M. ùgni.*

Many-flowered Myrtle. Shrub.

12 M.? GOLTHEA'NA (Mart. herb. ex D. C. prod. 3. p. 240.) pedicels 1-flowered, 3 times shorter than the leaves, bearing 2 acute bracteoles at the apex: lower ones axillary and solitary; upper ones in umbellate fascicles; leaves oval, acuminated, rather coriaceous, quite glabrous, shining; tube of calyx globose, with 5 oblong-oval lobes. ♄. S. Native of Demerara, and of Brazil at Rio Janeiro. Leaves 4 inches long, 15-16 lines broad, opaque, dotted beneath. Peduncles 9 lines long. Flowers large. Petals 7-9 lines long. Staminiferous disk broad, as in *Psidium.* Ovarium globose, 2-3-celled. Stamens very numerous, shorter than the petals. Fruit globose, yellowish, 5-celled. Seeds many, oblong.

Goethe's Myrtle. Shrub.

13 M.? E'LEGANS (D. C. prod. 3. p. 240.) glabrous; pedicels axillary, 1-flowered, solitary, about equal in length to the leaves; bracteas small under the flowers; lobes of calyx 4, broad, acutish; tube obovate; leaves lanceolate, attenuated at both ends, acute, stiff, opaque; branches tetragonal. ♄. S. Native of Brazil, in the province of Minas Geraes. Psídium élegans, Mart. herb. Habit almost of *M. commùnis* var. *Romàna.* In habit it comes near *Eugènia Pìa;* but neither the flower-bud nor fruit has been seen, and therefore the genus is very doubtful.

Elegant Myrtle. Shrub.

14 M.? FASCICULA'RIS (D. C. l. c.) pedicels 1-flowered, 4-7-together, axillary, a little shorter than the leaves, bearing 2 linear bracteoles under the flowers; leaves oval-oblong, acute at both ends, full of pellucid dots, clothed with velvety pubescence when young, as well as the calyxes; calyx 5-lobed; lobes very obtuse. ♄. S. Native of Cayenne. Flowers and leaves rising in fascicles from the axils of the old leaves, as in *Pỳrus.* Pedicels 6 lines long. Fruit and seeds unknown. Limb of calyx 5-cleft, not 5-parted.

Fascicled-flowered Myrtle. Shrub.

15 M.? BRACHYSTE'MON (D. C. l. c.) pedicels 1-flowered, axillary, 3-5-together, 3 times shorter than the leaves, bearing 2 ovate bracteoles under the flowers; leaves ovate, glabrous, bluntly somewhat acuminated; calyx 5-cleft; branchlets rather downy. ♄. S. Native of St. Domingo and Porto Rico, in hedges. Eugènia Patrìsii, Spreng. in herb. Balb. but not of Vahl. Leaves an inch long, and 6 lines broad. Pedicels 3-5 lines long. Flowers small. Stamens 20, shorter than the petals. Fruit and seeds unknown.

Short-stamened Myrtle. Shrub.

SECT. II. RHODOMY'RTUS (from ῥοδον, *rhodon,* a rose, and *μυρ-*

roc, *myrtos*, a myrtle, a red myrtle; in reference to the flowers being red). D. C. prod. 3. p. 240. Flowers rose-coloured. Seeds flat, compressed, disposed in two series in each cell. According to Salisbury, this section is sufficient to form a distinct genus.

16 M. TOMENTÒSA (Ait. hort. kew. 2. p. 159) peduncles 1-3-flowered, bearing 2 ovate bracteoles under each flower, shorter than the leaves, and are, as well as the branches and calyxes, velvety; leaves ovate, velvety above in the young state, clothed with hoary tomentum beneath, 3-nerved, with the lateral nerves almost marginal; calyx 5-cleft. ♄. G. Native of China, Cochinchina, and among the Nellygerry Mountains in the East Indies, and in the Island of Junkseilon, ex Salisb. Curt. bot. mag. t. 250. Lois. herb. amat. t. 267. M. canéscens, Lour. coch. p. 311.—Pluk. alm. t. 372. f. 1. Petals rose-coloured, longer than the stamens and style, velvety on the outside. Fruit ovate, 3-celled. Seeds compressed, 2 series in each cell. Embryo as in *M. commùnis* according to Kunth. There is a smoother variety of this species which goes under the name of *M. affinis* in the gardens.

Tomentose Myrtle. Fl. June, July. Clt. 1776. Sh. 2 to 6 ft.

17 M.? SPECTA'BILIS (Blum. bijdr. p. 1083.) peduncles crowded, axillary, 1-flowered, shorter than the leaves; calyx silky, 4-cleft; leaves ovate-oblong, 3-nerved, bluntly acuminated, acutish at the base, coriaceous, glabrous, greyish silvery beneath. ♄. S. Native of Java, in the province of Bantam. Fruit unknown.

Showy Myrtle. Shrub.

† *In the following species the seeds, fruit, and number of the parts of the flower being unknown, it is therefore doubtful whether any of them belong to the genus. Many of them on future examination may prove to belong to the genus Mýrcia, especially those natives of South America.*

* *Pedicels axillary, 1-flowered.*

18 M.? LINIFÒLIA (Spreng. syst. 2. p. 479.) pedicels axillary, 1-flowered, usually solitary, shorter than the leaves; leaves petiolate, linear, obtuse, nerveless, glabrous, flat beneath. ♄. S. Native of the West Indies. The rest unknown. Perhaps the same as *Eugènia leptospermoìdes.*

Flax-leaved Myrtle. Shrub.

19 M.? TENUIFÒLIA (Smith in Lin. trans. 3. p. 280.) pedicels axillary, solitary, 1-flowered, shorter than the leaves; leaves linear, mucronate, with revolute margins, pubescent beneath; calyxes glabrous; petals pubescent. ♄. G. Native of New Holland. Leaves an inch long, and one line broad. Flowers white, one-half smaller than those of *M. commùnis.* Fruit and seeds unknown.

Fine-leaved Myrtle. Clt. 1824. Shrub 3 to 6 ft.

20 M. GRA'MMICA (Spreng. syst. 2. p. 480.) pedicels 1-flowered, usually solitary, capillary, shorter than the leaves; leaves oblong, attenuated at both ends, obtuse, full of parallel veins, and are, as well as the branches, glabrous. ♄. S. Native of Brazil.

Written-leaved Myrtle. Shrub.

21 M.? LU'RIDA (Spreng. l. c.) pedicels 1-flowered, usually solitary, stiff, shorter than the leaves, stipulate at the base; leaves sessile, lanceolate, cuspidate, quite glabrous on both surfaces, reticulately veined. ♄. S. Native of Monte Video.

Lurid Myrtle. Shrub.

22 M.? OVA'LIS (Spreng. syst. 2. p. 479.) pedicels 1-flowered, usually solitary, exceeding the leaves; leaves oval, veiny, glabrous; branches covered with fuscous villi. ♄. S. Native of Brazil.

Oval-leaved Myrtle. Shrub.

23 M.? HE'YNII (Spreng. l. c. p. 248.) pedicels axillary, 1-flowered, usually solitary, length of the petioles, bracteate at the base, and bibracteolate at the apex; leaves elliptic, obtuse, coriaceous, full of pellucid dots, clothed with rusty tomentum when young, as well as the branchlets and pedicels. ♄. S. Native of the East Indies. Mýrtus latifòlia, Roth, nov. spec. p. 232. but not of Aublet. Leaves 3 inches long, and 2 inches broad. Petioles 2 lines long. Fruit, seeds, and number of the lobes of calyx unknown.

Var. β, confèrta (D. C. prod. 3. p. 241.) pedicels 3-5-together; flowers a little smaller than those of the species. Roth, l. c.

Heyne's Myrtle. Shrub.

24 M.? ERYTHROXYLOÌDES (H. B. et Kunth, nov. gen. amer. 6. p. 149.) flowers 3-6-together, axillary, and terminal, 4-5-petalled; leaves elliptic, emarginate, reticulated, coriaceous, glabrous, shining; branchlets rather hairy. ♄. S. Native of South America, near Cumana. Flowers, fruit, and seeds unknown.

Erythroxylum-like Myrtle. Shrub.

** *Peduncles axillary, 2-3 or many-flowered.*

25 M. LU'CIDA (Lin. spec. p. 674.) peduncles usually 3 flowered; flowers 5-petalled, nearly sessile, disposed into a tapering lanceolate spike. ♄. S. Native of Surinam.

Shining Myrtle. Shrub or tree.

26 M.? SELLO'I (Spreng. syst. 2. p. 482.) peduncles capillary, 3-flowered, shorter than the leaves; flowers 5-cleft; leaves oblong, attenuated at both ends, bluntish, opaque, pale and veiny beneath. ♄. S. Native of Brazil.

Sello's Myrtle. Shrub.

27 M. VESTÌTA (Spreng. syst. add., p. 193.) leaves lanceolate, acute, veiny, clothed with woolly tomentum, as well as the branchlets; peduncles very short, nearly opposite; flowers 4-cleft. ♄. S. Native of Brazil, at Rio Grande.

Clothed Myrtle. Shrub.

28 M. MEGAPOTA'MICA (Spreng. l. c.) leaves lanceolate-spatulate, obscurely veined, clothed with yellowish silky down beneath; peduncles aggregate, shorter than the leaves; flowers quadrifid. ♄. S. Native of Brazil, at Rio Grande.

Rio Grande Myrtle. Shrub.

29 M. TRIFLÒRA (Spreng. l. c. but not of Jacq.) peduncles straight, bracteate, 3-flowered, about equal in length to the leaves; flowers crowded, 5-cleft; leaves ovate-lanceolate, acute, glabrous, shining above, and reticulated with veins beneath. ♄. S. Native of Monte Video.

Three-flowered Myrtle. Shrub.

30 M. RUSCIFÒLIA (Willd. spec. 2. p. 970.) peduncles axillary, short, crowded, many-flowered, pubescent; leaves roundish-elliptic, quite glabrous, and full of pitted dots above. ♄. S. Native of the East Indies. Leaves almost the size of those of *Rùscus aculeàtus*, but a little larger and more blunt; when young ornamented with rufescent pili. Flowers and fruit unknown.

Butcher's-broom-leaved Myrtle. Shrub.

*** *Peduncles many-flowered, corymbose, or in branched panicles.*

31 M.? FÍRMA (Spreng. syst. 2. p. 487.) panicles axillary, opposite, trichotomous, tomentose, rather shorter than the leaves; leaves ovate-elliptic, coriaceous, large, rufescent, glabrous, veiny. ♄. S. Native of Brazil. The rest unknown.

Firm Myrtle. Shrub.

32 M.? A'NCEPS (Spreng. neue. entd. 2. p. 170. syst. 2. p. 487.) panicles axillary, erect, about equal in length to the leaves; leaves lanceolate, nearly sessile, coriaceous, shining, full of parallel veins, discoloured beneath; branches 2-edged, quite smooth. ♄. S. Native of Brazil.

Two-edged-branched Myrtle. Shrub.

33 M.? DIOICA (Lin. spec. 675.) peduncles axillary and terminal, trichotomously panicled, length of the leaves; leaves oblong; flowers dioecious. ♄. S. Native of South America. M. dioica, Spreng. syst. 2. p. 486. is probably different from the plant of Lin.

Dioecious Myrtle. Shrub.

34 M. FU'LVA (Spreng. syst. 2. p. 487.) panicle terminal; flowers crowded; leaves oblong-lanceolate, glabrous, as well as the branches. ♄. S. Native of Japan. Berry 2-3-celled; cells 1-seeded. Branches and buds alternate. Leaves solitary, twin or tern. Said to be allied to *Photinia*, and most probably belongs to the one-styled Rosaceous plants.

Fulvous Myrtle. Shrub.

35 M.? UMBRACTÍCOLA (H. B. et Kunth, nov. gen. amer. 7. p. 258.) racemes axillary, bipartite; branchlets glabrous; leaves on short petioles, lanceolate-oblong, very much acuminated, acutish at the base, coriaceous, shining, with revolute margins, puberulous on both surfaces. ♄. S. Native in shady places on the banks of the Orinoco, near Maypures. Calyx globose. Ovarium 2-celled; cells biovulate. The number of petals and the fabric of the seeds are unknown.

Shaded Myrtle. Shrub.

36 M.? MA'XIMA (Molin. chil. p. 173.) peduncles many-flowered; leaves alternate, nearly oval; trunk large. ♄. G. Native of Chili.

Large Myrtle. Shrub 6 to 10 ft.

37 M.? LÆ'VIS (Thunb. fl. jap. 198.) peduncles terminal, umbellate; calyx 5-toothed; leaves ovate, acuminated, acutely serrated, veiny, attenuated at both ends, coriaceous, shining above, reticulated with veins beneath, and clothed with fulvous villi, as well as the panicles and branches. ♄. S. Native of Brazil. The rest unknown.

Smooth Myrtle. Shrub.

38 M. PSIDIOI'DES (Desv. in Hamilt. prod. fl. ind. occ. p. 44.) peduncles axillary and terminal, crowded, and are, as well as the calyxes, pubescent; leaves somewhat ovate-lanceolate, acuminated, full of parallel nerves, pubescent beneath. ♄. S. Native of the West Indies. Perhaps a species of *Mýrcia*.

Guava-like Myrtle. Shrub.

39 M. UMBELLA'TA (Desv. l. c. p. 45.) flowers axillary and terminal, in umbellate fascicles; calyx campanulate, 5-toothed; stem dichotomous, divaricate; branches rather cinereous; leaves ovate, acuminated, glabrous, veiny, nearly sessile. ♄. S. Native of Guiana. Perhaps a species of *Mýrcia*.

Umbellate-flowered Myrtle. Shrub.

40 M. CAULIFLÒRA (Mart.) trunk and branches excorticated, and bearing the flowers; leaves lanceolate, long-acuminated, acute at the base, quite glabrous; flowers crowded; berry globose, of a violaceous purple colour. ♄. S. Native of Brazil.

Stem-flowering Myrtle. Shrub.

N. B. M. Chinénsis, Lour. 8. p. 313. is a species of *Symplòca* according to Desv. in herb. mus. par. not probably distinct from Symplòca Sínica, Ker. bot. reg. t. 710.

Cult. All the species of *myrtle* grow well in a mixture of sandy loam and peat; and cuttings not too ripe strike root readily either in sand or mould.

XXVIII. MY'RCIA (a surname of Venus). D. C. dict. class. hist. nat. vol. xi. and diss. (1826.) D. C. prod. 3. p. 242.—Mýrtus species of Lin. and others.

LIN. SYST. *Icosándria, Monogýnia.* Tube of calyx globose, rarely ovate (f. 122. *a.*); limb 5-parted. Petals 5 (f. 122. *b.*). Stamens numerous, free. Ovarium 2-3-celled; cells many-ovulate. Berry 1-2-celled, when mature 1-3-seeded. Seeds rather globose, with a smooth testa. Cotyledons foliaceous, corrugately contortuplicate.--Little trees or shrubs, natives of the West Indies and South America. Leaves opposite, quite entire, full of pellucid dots or opaque, furnished with nerves like those of *Mýrtus.* Peduncles axillary and almost terminal, panicled, many-flowered. Flowers white. The species are disposed geographically, in consequence of not being sufficiently known, and therefore there are not more obvious characters as yet known for distributing them into sections.

§ 1. *Sphærocárpæ* (from σφαιρα, *sphaira*, a sphere, and καρπος, *karpos*, a fruit; in reference to the fruit of all the species being spherical). *D. C. prod. 3. p. 243. Fruit or tube of calyx spherical.*

* *Species natives of the West Indies.*

1 M. PUNCTA'TA (D. C. prod. 3. p. 243.) peduncles axillary, opposite, about equal in length to the leaves, 3-flowered; flowers 5-cleft, middle flower on each peduncle sessile, lateral ones pedicellate; bracteoles setaceous; leaves oblong, bluntish, dotted on both surfaces, tender, silky, glabrous in the adult state. ♄. S. Native of the Island of Santa Cruz, not in the East Indies, as it is incautiously written by Persoon. Mýrtus punctàta, Spreng. syst. 2. p. 482. Eugènia punctàta, Vahl. symb. 3. p. 64. Calyx 5-lobed. Petals 4, ex Vahl. but in all probability this is wrong, as it is impossible that the calyx can be 5-lobed, and the petals only 4 in number.

Dotted-leaved Myrcia. Shrub 3 to 6 ft.

2 M.? BALBISIA'NA (D. C. prod. 3. p. 243.) peduncles axillary, longer than the leaves, cymosely-corymbose, bifid, and are, as well as the compressed branches, full of dots; flowers 5-cleft, sessile in the forks of the corymb, the others pedicellate; bracteoles linear; leaves oval, obtuse, glabrous, full of pellucid dots. ♄. S. Native of Guadaloupe. Peduncles sometimes 2, concrete, teretish, ending in 4 bifid 5-flowered branchlets. Calyx dotted, with a silky tube, and a 5-lobed obtuse glabrous limb. Seeds unknown.

Balbis's Myrcia. Shrub 4 to 6 ft.

3 M. DIVARICA'TA (D. C. l. c.) racemes axillary, panicled; pedicels opposite, divaricate; flowers 5-cleft; leaves oval-lanceolate, attenuated at both ends, hardly veined, full of pellucid dots, and are, as well as the branches, glabrous. ♄. S. Native of St. Domingo and Martinique.—Plum. ed. Burm. t. 208. f. 1. Eugènia divaricàta, Lam. dict. 3. p. 203. Mýrtus laurifòlia, Hort. par. Mýrtus divaricàta, Ham. prod. fl. ind. occ. p. 45. Berry ovoid, dark blue, 1-seeded. Allied to *E. virgultòsa*, but distinct.

Divaricate Myrcia. Shrub 4 to 6 ft.

4 M. SORÒRIA (D. C. l. c.) peduncles axillary, shorter than the leaves, downy, having the flowers crowded in racemes at their tops; tube of calyx short, villous, with roundish pubescent lobes; leaves ovate-lanceolate, long and bluntly acuminated, full of pellucid dots, and reticulately veined: adult leaves glabrous on both surfaces; petioles and branches terete and downy. ♄. S. Native of the Island of Trinidad. Sieb. fl. trin. no. 111. Very like *M. Haynеàna*, but differs in the flowers being more crowded, in the leaves being much more distinct, full of pellucid dots, and the branches are terete not gradually compressed. Fruit unknown.

Sister Myrcia. Shrub 5 to 10 ft.

5 M. DEFLE'XA (D. C. prod. 3. p. 244.) peduncles length of leaves, twin in the upper axils of the leaves, and therefore 4 subumbellate and terminal, panicled, many-flowered; flowers 5-cleft; pedicels twin, and are, as well as the branches, villous; leaves elliptic, acuminated, full of pellucid dots, rather shining above, somewhat coriaceous, girded by a marginal nervule. ♄ S. Native of St. Domingo. Eugènia deflèxa, Poir. suppl. 3

p. 124. Lobes of calyx roundish, full of pellucid dots. Style and all the parts of the inflorescence velvety. Leaves rather villous when young, adult ones glabrous, except on the nerves on the under surface, 2 inches long, and 9 lines broad, deflexed. Young fruit ovate. Cotyledons corrugated. Panicles twin in the axils of the upper leaves.

Deflexed Myrcia. Shrub 2 to 3 ft.

6 M.? THOMASIA'NA (D. C. l. c.) peduncles axillary and terminal, opposite, racemose, usually 6-flowered; pedicels opposite, 1-flowered, furnished with one bractea at the base of each; flowers 5-cleft; leaves elliptic, acuminated, opaque, shining above, and full of impressed dots on both surfaces, as well as the branches. ♄. S. Native of the Island of St. Thomas, ex herb. Deless. Peduncles, bracteas, and calyxes puberulous when examined by a lens. Stamens length of petals. Fruit and seeds unknown.

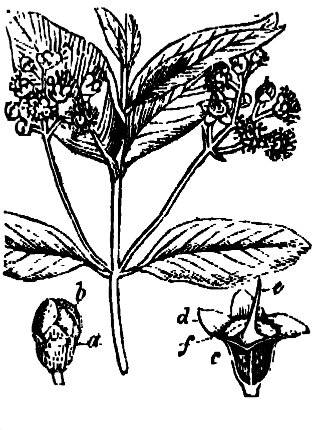
St. Thomas Myrcia. Shrub 6 to 10 feet.

7 M. CORIA'CEA (D. C. prod. 3. p. 243.) peduncles terminal, panicled, glabrous, longer than the leaves; branchlets distant, opposite, bearing 1-3 flowers at the apex; flowers 5-cleft, nearly naked; leaves obovate or elliptic-roundish, obtuse, coriaceous, opaque, with somewhat revolute margins, shining on both surfaces, full of impressed dots above, and are, as well as the branches, glabrous. ♄. S. Native of the Caribbee Islands. —Plum. ed. Burm. t. 208. f. 2. Pluck. alm. 155. f. 3. Mýrtus coriàcea, Vahl, symb. 2. p. 59. Mýrtus cotinifòlia, Poir. dict. 4. p. 410. Mýrtus àcris β, Swartz, prod. and Mýrtus coriàcea, Swartz, fl. ind. p. 912.? but the flowers are said to be 4-cleft. Bracteoles hardly any under the flowers. Berry globose, size of black pepper. Seeds 1-2, nearly globose. Cotyledons foliaceous, corrugately complicated.

Coriaceous-leaved Myrcia. Clt. 1759. Shrub 4 to 6 ft.

8 M. A'CRIS (D. C. l. c.) peduncles axillary and terminal, trichotomous, corymbose, compressed, longer than the leaves; flowers 5-cleft; leaves elliptic, obtuse, convex, coriaceous, quite glabrous, reticulated above from elevated veins, full of very fine pellucid dots. ♄. S. Native of the West Indies, in mountain woods and pastures. Hook. bot. mag. 3153. Mýrtus àcris, Swartz, fl. ind. occ. 2. p. 909. Mýrtus caryophyllàta, Jacq. Caryophýllus racemòsus, Mill. dict. Mýrtus àcris, Coll. hort. ripul. p. 19. but not of Sieb.—Pluk. alm. t. 155. f. 3. Berry oblong, according to Swartz. Allied to *Eugènia Piménta*, but differs in the flowers being always 5-cleft. In Jamaica this tree is commonly called *wild cinnamon* or *wild clove* tree. It is a handsome tree, of a pyramidal form. The timber is very hard, red, and weighty, capable of being polished, and used for mill cogs. The leaves have a very sweet aromatic smell, and on account of their agreeable astringency often used in sauce. The flowers are small and white, with a slightly reddish tinge. The berries are round, and are as large as peas, and have an aromatic smell and taste, which renders them agreeable for culinary purposes. The tree grows in Antigua, Jamaica, and Barbadoes, and fills the woods with the fragrant smell of its leaves, resembling that of cinnamon.

FIG. 122.



Sharp-tasted Myrcia, Wild cinnamon or Wild clove. Fl. May, July. Clt. 1759. Tree 20 to 40 ft.

9 M. PIMENTOÌDES (D. C. l. c.) peduncles axillary and terminal, trichotomously panicled; flowers 5-cleft, those in the forks sessile, the rest pedicellate; leaves ovate, coriaceous, opaque, shining; branchlets acutely tetragonal, and are, as well as the pedicels, glabrous. ♄. S. Native of the West India Islands, and now cultivated in the East Indies. Mýrtus piménta latifòlia, Roxb. hort. beng. p. 37. Mýrtus citrifòlia, Poir. dict. 4. p. 410. Div. ab. Eugènia citrifòlia of the same author. As variable a plant as *Eugènia Piménta*, the leaves lanceolate and acuminated, ex Poir., but oval and obtuse in the specimens, some collected in Guadaloupe, and others in the botanic garden at Calcutta, but it differs from *Eugènia Piménta* in the branches being acutely tetragonal. The leaves, berries, and flower-buds have a hot taste, and a fragrant smell, like those of *M. àcris*, and are used for culinary purposes.

Pimento-like Myrcia. Fl. May. Clt. ? Tree.

10 M. LEPTO'CLADA (D. C., prod. 3. p. 244.) peduncles axillary and subterminal, loosely panicled, glabrous, length of the leaves; pedicels 1-flowered, short; flowers 5-cleft; leaves elliptic-oblong, acuminated, full of pellucid dots, and are glabrous, as well as the branches. ♄. S. Native of St. Domingo. Very like *M. multiflòra*. Leaves 3 inches long, and an inch broad. Flowers small. Lobes of calyx 4, 2 obtuse, and 2 acutish. Berry globose, 1-seeded. Seeds shining. Cotyledons foliaceous, corrugately plicate.

Slender-branched Myrcia. Shrub 5 to 6 ft.

11 M. SPLE'NDENS (D. C. l. c.) peduncles axillary and terminal, panicled, and are as well as the branches villous; buds very villous; leaves ovate-elliptic, acuminated, full of large pellucid dots, glabrous, shining above, areolate with prominent and anastomosing veins; flowers small, 5-cleft. ♄. S. Native of St. Domingo and Guadaloupe, among shrubs on the mountains. Mýrtus spléndens, Swartz, fl. ind. occ. 2. p. 907. Eugènia periplocifòlia, Jacq. coll. 2. p. 108. t. 4. Eugènia microcárpos, Lam. dict. 3. p. 201. Eugènia laxiflòra, Poir. suppl. 3. p. 123.? Leaves an inch and a half long. Berry globose, scarlet. Seeds 2, hemispherical. Cotyledons corrugated. There are varieties of this plant with the panicles either longer or shorter than the leaves, and the flowers either 4 or 5-cleft.

Var. β, Mìni (D. C. l. c.) peduncles shorter than the leaves; flowers 4-cleft. ♄. S. Native of Cayenne. Eugènia Mìni, Aubl. guian. 1. p. 498. t. 197. Perhaps a variety of *M. multiflòra*, but according to the figure it comes nearer to *M. spléndens*. Perhaps two species are confused under the name. Perhaps Eugènia pàtens of Poir. suppl. 3. p. 124. is referrible to this plant.

Splendent Myrcia. Clt. 1803. Tree 12 to 20 feet.

12 M. MULTIFLÒRA (D. C. l. c.) peduncles axillary and terminal, paniculate, longer than the leaves, and are, as well as the branches, glabrous; leaves oval, bluntly acuminated, membranous, full of pellucid dots, with the veins rather prominent on both surfaces, and confluent near the margin. ♄. S. Native of Cayenne. Eugènia multiflòra, Rich. in act. soc. hist. nat. par. 1792. p. 110. Lam. dict. 3. p. 302. Mýrtus multiflòra, Spreng. syst. 2. p. 485. but not of Jaume. Allied to *M. spléndens*, but differs in the flowers being small, glabrous, and 5-cleft. Fruit globose. Seeds 1-2, large, with a hard testa. Cotyledons foliaceous, corrugated.

Many-flowered Myrcia. Shrub.

13 M. FA'LLAX (D. C. l. c.) panicles subterminal; rachis compressed; immature fruit ovate, but when mature globose; leaves glabrous, shining, elliptic, ending in a linear, obtuse, abrupt acumen, having the lateral veins hardly prominent and confluent at the margins. ♄. S. Native of French Guiana. Eugènia fállax, Rich. act. soc. hist. nat. par. 1792. p. 100. Leaves full of pellucid dots. Pedicels pubescent. Lobes of calyx rounded at the base, smoothish, permanent, but the tube is white and downy. Seed 1. Style hooked, according to Leblond.

Fallacious Myrcia. Shrub 5 to 6 ft.

14 M. SYLVA'TICA (D.C. l. c.) racemes panicled, axillary and terminal, solitary; flowers 5-cleft, pubescent, 1-3 on the branches, middle one sessile; leaves elliptic-ovate, long-acuminated, somewhat ciliated, full of impressed dots above, downy when young, as well as the branches. ♄. S. Native of Guiana, in woods. Mýrtus sylvática, Meyer, esseq. p. 191. Styles said to be 3. Fruit and seeds unknown.

Wood Myrcia. Shrub 4 to 6 ft.

15 M. PLATY'CLADA (D. C. l. c.) peduncles axillary and subterminal, panicled, longer than the leaves, and are, as well as the branches, compressed, and consequently 2-edged; flowers 5-cleft; leaves obovate, obtuse, somewhat coriaceous, opaque, glabrous, rather cuneated at the base. ♄. S. Native of French Guiana. Leaves 2 and 2½ inches long, and 12-15 lines broad. Petioles 3 lines long. Young branches clothed with adpressed down, as well as the petioles, nerves, and peduncles. Fruit and seeds unknown.

Broad-branched Myrcia. Shrub.

16 M. DIVE'RGENS (D. C. prod. 3. p. 245.) panicle terminal, many-flowered, having its branches divaricating; calyx 5-cleft; leaves oval, acuminated, opaque, and are, as well as the branches, glabrous. ♄. S. Native of Cayenne. Leaves 3 inches long, and an inch and a half broad. Flowers small. Fruit and seeds unknown.

Diverging Myrcia. Shrub.

17 M. GUIANE'NSIS (D. C. l. c.) peduncles axillary, 1-3-flowered, slender, shorter than the leaves; flowers 5-cleft, bibracteolate at the base; leaves oval, bluntish, on short petioles, glabrous, full of pellucid dots. ♄. S. Native of Guiana, on the Serpent Mountains. Eugènia Guianénsis, Aubl. guian. 1. p. 506. t. 201. Mýrtus Guianénsis, Ham. prod. fl. ind. occ. no. 45. Berry roundish, red, 1-seeded, about the size of a red currant. Seeds unknown.

Guiana Myrcia. Shrub 3 to 4 ft.

18 M. BRACTEOLA'RIS (D. C. l. c.) peduncles axillary, opposite, rather villous, in fascicled racemes; flowers crowded, bracteolate, 5-cleft; leaves ovate-elliptic, long-acuminated, shining above, and are, as well as the branches, glabrous. ♄. S. Native of Cayenne. Mýrtus bracteolàris, Poir. dict. 4. p. 411. Mýrtus Stoùpyi, Spreng. syst. 2. p. 484. Cotyledons large, foliaceous, plicately wrinkled, ex Kunth, not. in mem. soc. hist. nat. par. 1824. p. 325.

Bracteolate-flowered Myrcia. Shrub 4 to 6 ft.

19 M. CA'RNEA (D. C. l. c.) racemes panicled, axillary and terminal, rather tomentose, twice shorter than the leaves; flowers 1-3 on the tops of the branches of the panicle, middle one sessile; calyx 5-cleft, tomentose; leaves oblong-lanceolate, acuminated. ♄. S. Native of Guiana, near Essequibo. Mýrtus cárnea, Meyer, esseq. p. 191. Said to be allied to *Eugènia virgultòsa*. Petals pubescent, and the anthers flesh-coloured. Fruit and seeds unknown. Perhaps the same as *M. Coumèta* according to Sprengel.

Flesh-coloured-anthered Myrcia. Shrub 4 to 6 ft.

20 M. COUME'TA (D. C. l. c.) peduncles axillary and subterminal, racemosely panicled; branchlets 3-flowered; flowers 5-cleft, all pedicellate; leaves broad, ovate, acuminated, glabrous, on short petioles, full of pellucid dots. ♄. S. Native of Guiana, in woods at the river Sinemari. Eugènia Coumèta, Aubl. guian. 1. p. 497. t. 195. Mýrtus Coumèta, Spreng. syst. append. 2. p. 488. Berry roundish, white, crowned by the teeth of the calyx, which are acute, 1-celled, 1-seeded. Seed thick, roundish. Cotyledons unknown. *Coumeta* is the Guiana name of the shrub.

Coumeta Myrcia. Shrub 4 to 6 ft.

21 M.? TOMENTÒSA (D. C. l. c.) peduncles axillary, longer than the leaves, racemosely panicled; branches, calyxes, and leaves clothed with villous tomentum; flowers 5-cleft; leaves ovate, nearly sessile, full of pellucid dots. ♄. S. Native of Guiana, on the banks of the river Sinemari. Eugènia tomentòsa, Aubl. guian. 1. p. 504. t. 200. Mýrtus Aublètii, Spreng. syst. 2. p. 486. Stamens longer than the petals. Fruit and seeds unknown.

Tomentose Myrcia. Shrub 3 to 4 ft.

22 M. FERRUGÍNEA (D. C. l. c.) peduncles terminal, paniculately corymbose, bracteolate, clothed with rusty velvety down; leaves oval-elliptic, acute at the base, and acuminated at the apex, glabrous above, but clothed with rusty velvety down beneath, but they at length become glabrous on both surfaces; calyx 5-cleft. ♄. S. Native of French Guiana. Eugènia ferrugínea, Poir. suppl. 3. p. 124. Mýrtus ferrugínea, Spreng. exclusive of the synonymes. Leaves nearly like those of *Eugènia chrysophýlla* or *E. chrysophylloìdes*, but it differs in the inflorescence. Fruit globose, glabrous, 2-3-seeded. Seeds large, angular, roundish. Cotyledons thickish, corrugated.

Rusty Myrcia. Shrub 4 to 6 ft.

23 M. CRASSINE'RVIA (D. C. l. c.) peduncles axillary, solitary, or twin, panicled, shorter than the leaves: flowers bluntly 5-lobed; leaves oval, abruptly acuminated, feather-nerved, and girded by a marginal nerve, coriaceous, opaque, shining above, clothed with rufous velvety down beneath, as well as the panicles and branchlets. ♄. S. Native of French Guiana. M. latifòlia, Forsyth in herb. L'Her. Lateral nerves of leaves thick and prominent beneath. Fruit nearly globose, crowned, at length glabrous, 1-seeded. Seed roundish. Cotyledons foliaceous, corrugately plicate.

Thick-nerved-leaved Myrcia. Shrub.

24 M. BRACTEA'TA (D. C. l. c.) peduncles axillary, 3-flowered, bearing opposite, leafy bracteas in the middle and at the base of the flowers, shorter than the leaves; leaves ovate-lanceolate, tapering into an elongated acumen, with rather revolute, ciliated margins, having the middle nerve hairy on both surfaces; branches hispid; calyxes villous. ♄. S. Native of Cayenne and Brazil. Eugènia bracteàta, Rich. act. soc. hist. nat. par. 1792. p. 110. Mýrtus bracteàta, Mart. herb. Leaves 2 inches long, and 9-10 lines broad, shining. Tube of calyx ovate. Style inflexed. Bracteas coloured, according to Richard. Flowers 5-cleft, rarely 4-cleft. The fruit is that of *Mýrcia*, according to the specimen.

Bracteate Myrcia. Shrub.

* * *Species natives of Brazil.*

† *Fruit nearly globose, 1-3-celled.*

a. *Leaves on long or short petioles, never cordate at the base.*

25 M. HAYNEA'NA (D. C. prod. 3. p. 246.) peduncles axillary, shorter than the leaves, racemose or subpanicled, hairy; tube of calyx with a short, villous tube, and 5 roundish pubescent lobes; leaves oval-oblong, acuminated, full of pellucid dots, reticulately veined, glabrous in the adult state, except on the nerves beneath as well as the branches, which are rather hairy; buds silky. ♄. S. Native of Brazil, at Mato-Virga. Mýrtus Hayneàna, Mart. herb. Leaves 3 inches long and an inch broad. Petioles 1-2 lines long. There are some black bristles at the axils of the leaves, which are almost stipular. Branchlets compressed. Fruit unknown. The shrub agrees with *M. soròria* on the one hand, and with *M. bracteàta* on the other.

Hayne's Myrcia. Shrub.

26 M. MYAPÒRINA (D. C. l. c.) peduncles axillary, opposite, racemose, 5-9-flowered, almost bractless, about equal in length to the leaves; fruit globose, crowned by the lobes of the calyx, which are bluntish; leaves oblong, obtuse, or nearly obovate, dotted on both surfaces, nearly nerveless and almost glabrous, even

when young, as well as the branchlets. ♄. S. Native of Brazil. Mýrtus punctàta, Mart. mss. but not of Spreng. A shrub, about 5 or 6 feet high, with erectly spreading branches. Fruit at first scarlet, but at length dark purple. Leaves 15 lines long. Seeds 2-3, smooth.

Myaporum-like Myrcia. Sh. 4 to 6 ft.

27 M. SALICIFÒLIA (D. C. l. c.) peduncles axillary, few-flowered, racemose, rather shorter than the leaves, glabrous; fruit globose, crowned by the lobes of the calyx, which are 5 and obtuse; leaves lanceolate-linear, attenuated at both ends, full of pellucid dots, glabrous in the adult state, but pubescent when young, as well as the branches. ♄. S. Native of Brazil, at Rio Tapura. Mýrtus salicifòlia, Mart. herb. Leaves 2 inches long and 4 lines broad. Fruit the size of a pea. Seeds not seen. Flowers unknown.

Willow-leaved Myrcia. Sh. 4 to 6 ft.

28 M. DAPHNOÌDES (D. C. l. c.) peduncles axillary, longer than the leaves, panicled, clothed with rufous hairs; lobes of calyx 5, roundish, ciliated in the young state; leaves oblong, obtuse, cuneated at the base, opaque, stiff, crowded, rather villous on both surfaces when young, but in the adult state glabrous above and puberulous beneath; branchlets clothed with rufous down. ♄. S. Native of Brazil, near Camabuao. Branches short, spreading, very leafy, when young sometimes compressed. Leaves an inch and a half long, but hardly half an inch broad, full of impressed dots on the upper surface when old. Racemes nearly 2 inches long. Fruit unknown.

Daphne-like Myrcia. Sh. 6 to 10 ft.

29 M. NIGRE'SCENS (D. C. l. c.) peduncles axillary, nearly terminal, panicled, divaricately branched, longer than the leaves; branches and flowers quite glabrous; leaves oval-oblong, attenuated at the base, obtuse at the apex, opaque, stiff, almost nerveless, except the middle nerve, quite glabrous on both surfaces. ♄. S. Native of Brazil, at the river Amazon. Mýrtus nigréscens, Mart. herb. Leaves 2 inches long, and 8-12 lines broad, of an obscure green colour. Petioles 2-3 lines long, wrinkled, having the epidermis separating, as if it were transversely. Branches white. Lobes of calyx 5, roundish, deciduous, rather irregular. Fruit unknown.

Blackish Myrcia. Sh. 4 to 8 ft.

30 M. BANISTERIÆFÓLIA (D. C. l. c.) peduncles axillary, opposite, twice trifid, a little shorter than the leaves; leaves elliptic, bluntish, membranous, opaque, glabrous above, but villous beneath from adpressed rufescent down, as well as the branchlets, peduncles, and flowers. ♄. S. Native of Brazil, in fields near Yta in the province of St. Paul. Mýrtus banisteriæfòlia, Mart. herb. Leaves an inch and a half long, and 9 lines broad, of an obscure green. Flowers small, 5-cleft. Fruit unknown.

Banisteria-leaved Myrcia. Sh. 4 to 6 ft.

31 M. PALU'STRIS (D. C. l. c.) peduncles axillary, panicled, longer than the leaves; flowers crowded at the tops of the branchlets, and are as well as the bracteas downy; leaves oval, cuneated at the base, obtuse, opaque, glabrous above, paler beneath and dotted, puberulous on the nerves. ♄. S. Native of Brazil, in marshes in the province of St. Paul. Mýrtus palústris, Mart. herb. Leaves an inch and a half long and an inch broad. Petioles 2 lines long. Panicle 2 inches long, pubescent. Lobes of calyx 5, obtuse. Habit almost of *M. banisteriæfòlia.*

Marsh Myrcia. Sh. 4 to 6 ft.

32 M. HEBEPE'TALA (D. C. l. c.) peduncles axillary, nearly terminal, racemosely panicled, and are as well as the calyxes and branches hairy; calyx bluntly 5-lobed; leaves oblong, somewhat acuminated, with a few pellucid dots, clothed with adpressed, silky down in the young state, but glabrous above and rather hairy beneath in the adult state. ♄. S. Native of Brazil. Mýrtus pseudo-caryophýllus, Gomez? ex herb. Mart. Leaves 3 inches long and an inch broad. Petiole 3 lines long. Flower-bud globose. Petals pubescent on the outside. Fruit unknown.

Hairy-petalled Myrcia. Sh. 4 to 8 ft.

33 M. ERIOCA'LYX (D. C. prod. 3. p. 247.) peduncles axillary, racemosely panicled, longer than the leaves, and are as well as the panicles clothed with velvety villi; calyx 5-cleft, very villous; leaves elliptic, oblong, with revolute margins, rather coriaceous, opaque, glabrous above, but velvety beneath. ♄. S. Native of Brazil, in woods in the district of the diamonds. Leaves an inch long and 5-6 lines broad, nerveless above, nerved beneath: with 2 small, nearly abortive ones, produced from the axils of the racemes. Bracteas foliaceous, deciduous.

Woolly-calyxed Myrcia. Sh. 4 to 6 ft.

34 M. PUBE'SCENS (D. C. l. c.) peduncles axillary, panicled, rather shorter than the leaves, or longer; bracteas, calyxes, and young leaves clothed with adpressed, somewhat rufescent down; leaves oval, obtuse, full of pellucid dots while young: but opaque and glabrous on the upper surface, and clothed with rufescent down on the under surface in the adult state; lobes of calyx 5, obtuse. ♄. S. Native of Brazil, in elevated fields, in the province of Minas Geraes. Leaves 30 lines long, and 12 lines broad. Panicle 1½ to 3 inches long. Fruit unknown.

Pubescent Myrcia. Sh. 4 to 6 ft.

35 M.? MACRO'CHLAMYS (D. C. l. c.) peduncles axillary, and nearly terminal, few-flowered; branchlets and bracteas clothed with velvety tomentum; tube of calyx turbinate, shorter than the lobes, which are oblong; bracteoles 2, inserted at the base of the calyx; leaves oval, obtuse, reticulately veined, when young rather villous, full of pellucid dots, but glabrous, stiff, and opaque in the adult state. ♄. S. Native of Brazil, in the desert of Bahia. Shrub 10 feet. Leaves pale, 18 lines long and 9 broad. Petioles 2-3 lines long. Peduncles 9-10 lines long. Flower-bud globose. Staminiferous torus broad. Fruit unknown.

Long-cloaked Myrcia. Sh. 10 ft.

36 M. RU'FIPES (D. C. l. c.) panicles axillary, longer than the leaves, and terminal, many-flowered, clothed with velvety, rufous down as well as the branchlets; calyx with a glabrous subglobose tube, and 5 ovate lobes, which are clothed with rufescent down; leaves oval, obtuse, full of pellucid dots when young, clothed with rufous villi on the nerve, but in the adult state glabrous on both surfaces. ♄. S. Native of Brazil, in the provinces of the mines. Mýrtus rùfipes, Mart. herb. Leaves 2 inches long, and an inch broad. Petioles 2 lines long. Bracteas and bracteoles almost wanting. Bark usually separating from the epidermis, which is rufous.

Rufous-petioled Myrcia. Sh. 4 to 6 ft.

37 M. CAMPE'STRIS (D. C. l. c.) peduncles panicled, many-flowered, axillary, and terminal, longer than the leaves; calyx and branchlets densely clothed with rufous down; bracteoles setaceous; leaves oval-oblong, with rather revolute margins, opaque, glabrous above, puberulous on the nerve beneath. ♄. S. Native of Brazil, in fields, in the provinces of the mines. Mýrtus campéstris, Mart. herb. Very like *M. rùfipes*, but differs in the leaves being narrower and in the bracteas being elongated. The leaves are sometimes disposed 3 in a whorl. Fruit unknown.

Field Myrcia. Sh. 4 to 6 ft.

38 M. SCHRANKIA'NA (D. C. l. c) peduncles axillary, twice or thrice longer than the leaves, rather pubescent, panicled, and rather corymbose at the apex; calyx with a glabrous tube, and 5 somewhat ciliated lobes; leaves oval, nearly sessile, full of pellucid dots when young, with the margin and nerve villous: but opaque and glabrous in the adult state; branches clothed

with rufous villi. ♄. S. Native of Brazil, in the province of Minas Geraes, in the desert called the Certao. Mýrtus Schrankiàna, Mart. herb. Leaves 10-12 lines long, and 4-5 broad. A shrub 3-4 feet high, with dense branches. Peduncles 2 inches long. Lobes of calyx obtuse. Fruit unknown.

Schrank's Myrcia. Sh. 3 to 4 ft.

39 M. exsu'cca (D. C. l. c.) peduncles axillary and terminal, panicled, longer than the leaves; bracteas and calyxes ciliated while young; leaves elliptic or obovate, obtuse, membranous, full of pellucid dots, glabrous except on the nerves, margins, and petioles, which are rather puberulous; branchlets puberulous. ♄. S. Native of Brazil, in fields. Mýrtus Duárti and M. exsúcca, Mart. herb. Leaves pale, an inch and a half long, 8-10 lines broad. Fruit unknown.

Dry Myrcia. Sh. 4 to 6 ft.

40 M.? leucophlæ'a (D. C. l. c.) leaves oval, acute, with a few pellucid dots, glabrous; peduncles axillary, and nearly terminal, racemosely panicled, shorter than the leaves, and are as well as the buds clothed with rufous velvety down; flower-buds obovate, small, glabrous; lobes of calyx 5, very short. ♄. S. Native of Brazil, in the province of Bahia, in woods. Mýrtus leucophlæ'a, Mart. herb. Branches white, separating from the epidermis. Leaves 3 inches long, and half an inch broad. Petioles 2-3 lines long. Racemes 15 lines long. Fruit small.

White-juiced Myrcia. Sh. 4 to 6 ft.

41 M. Linkia'na (D. C. prod. 3. p. 248.) peduncles axillary, nearly terminal, panicled, shorter than the leaves, and are as well as the branches clothed with soft velvety villi; calyx with a villous tube, and 5 roundish, smoothish lobes; leaves oblong, acuminated, full of pellucid dots, membranous, narrowed at the base, with the margins revolute, glabrous above, but clothed with soft velvety down beneath. ♄. S. Native of Brazil, in woods in the province of Rio Janeiro, near Retiro. Mýrtus Linkiàna, Mart. herb. Leaves 3-4 inches long and 10-17 lines broad. Flowers small. Bracteas small, deciduous.

Link's Myrcia. Sh. 4 to 6 ft.

42 M. exi'mia (D. C. l. c.) panicles axillary, a little shorter than the leaves, many-flowered, densely clothed with velvety short tomentum, as well as the calyxes, branchlets, and young leaves; lobes of calyx 5, obtuse; leaves oval-oblong, acuminated, stiff, opaque, reticulately veined, in the adult glabrous above, and velvety beneath; branchlets somewhat compressed. ♄. S. Native of Brazil, in the province of Minas Geraes, in the desert. Leaves pale, 4 inches long, and 1½ and 2 inches broad, on short velvety petioles. A beautiful tree, about 30 feet high.

Choice Myrcia. Tr. 30 ft.

43 M. cordiæfòlia (D. C. l. c.) peduncles axillary and nearly terminal, panicled, shorter than the leaves, hairy; calyx clothed with silky villi, with 5 very blunt lobes; leaves ovate, obtuse, opaque, stiff, glabrous above, and a little blistered, velvety beneath: with the nerves reticulated, very prominent, and areolate. ♄. S. Native of Brazil, in the province of St. Paul. Mýrtus cordiæfòlia, Mart. herb. Leaves bluntish at the base, 9 inches long and 4-5 inches broad. Petioles 7 lines long. Flower-bud globose, downy. Bark of the branches rufous. Fruit unknown.

Var. β, minor; leaves acutish, one half smaller than those of the species.

Heart-leaved Myrcia. Shrub.

44 M. vesti'ta (D. C. l. c.) panicle terminal, branched, many-flowered; branches, bracteas, and calyxes, densely clothed with tomentum; calycine lobes 5, obtuse; leaves elliptic, acutish, almost sessile, opaque above, and rather villous, but densely clothed with hoary tomentum beneath, opposite or alternate. ♄. S. Native of Brazil, in the provinces of the mines, in elevated fields. Mýrtus vestìta, Mart. herb. Petals oval-orbicular. Leaves 2 inches long and an inch broad. Fruit unknown.

Var. β, obtusifòlia (D. C. l. c.) leaves broader and blunter; panicle rather rufescent. ♄. S. Native of Brazil.

Clothed Myrcia. Sh. 5 to 10 ft.

45 M. specta'bilis (D. C. l. c.) peduncles axillary and nearly terminal, paniculately corymbose, compressed, a little shorter than the leaves, and are as well as the bracteas and calyxes clothed with somewhat silky velvety down; leaves oval-oblong, acuminated, full of pellucid dots, rather villous from deciduous down on the upper surface, and rather hairy on the nerves and nervules beneath. ♄. S. Native of Brazil, in woods in the province of Rio Janeiro. Mýrtus spectábilis, Mart. herb. Leaves 7 inches long and 2 inches broad, on very short petioles, with the nerves reticulately veined. Flowers in fascicles, on the ultimate branchlets of the panicle. Petals, when in the bud, as well as the calyx, clothed with silky down on the outside. Fruit unknown.

Shewy Myrcia. Sh. 4 to 6 ft.

46 M. macrophy'lla (D. C. l. c.) peduncles axillary, and nearly terminal, one half shorter than the leaves, panicled; pedicels distant, hardly pubescent; fruit obovate-globose, smoothish, crowned by the calycine lobes, which are roundish and connivent; leaves elliptic-oblong, acute, or shortly acuminated, full of pellucid dots, rather membranous, glabrous above and reticulately veined, rather pubescent on the nerves and veins beneath. ♄. S. Native of Brazil, at Coari. Leaves 9 inches long, and 2½ inches broad, standing on short pubescent petioles. Leaf-buds downy. Branches terete, glabrous.

Long-leaved Myrcia. Sh. 4 to 6 feet.

47 M. magnoliæfòlia (D. C. l. c.) peduncles axillary and nearly terminal, panicled, one half shorter than the leaves, compressed, downy; flowers crowded on the ultimate branches; tube of calyx clothed with white villi, but the calycine lobes are orbicular and smoothish; leaves oval-oblong, acutish, stiff, opaque, shining above, clothed with velvety pubescence on the under surface, as well as the branchlets: with the nerves parallel, and the veins reticulated between them. ♄. S. Native of Brazil, at the Rio Negro. Leaves somewhat downy beneath, 5-6 inches long, 1½ to 2 inches broad, standing on petioles, which are 1-2 lines long. Flower-bud nearly globose. Fruit unknown.

Var. β; leaves short-acuminated; fruit globose, glabrous.

Magnolia-leaved Myrcia. Sh. 5 to 10 ft.

48 M. macroca'rpa (D. C. prod. 3. p. 249.) panicle compound, terminal, glabrous, longer than the leaves; fruit globose, depressed, crowned by the short, obtuse lobes of the calyx; leaves elliptic, acutish, coriaceous, opaque, shining above, and quite glabrous on both surfaces, as well as the branches. ♄. S. Native of Brazil, on Mount Formosa, in the province of Rio Janeiro. Allied to *M. Neesiàna*. Branches white. Leaves 4 inches long and 1½ broad. Fruit 6 lines broad, and 4 lines long, glabrous, 2-seeded. Seeds with a smooth testa. Cotyledons corrugated.

Long-fruited Myrcia. Shrub.

49 M. Neesia'na (D. C. l. c.) peduncles axillary, racemose, few-flowered, pubescent, about half the length of the leaves; fruit ovate-globose, scabrous, crowned by the lobes of the calyx, which are ovate and obtuse; leaves oval-oblong, terminating in a short, blunt acumen each, opaque, glabrous on both surfaces; branchlets hairy. ♄. S. Native of Brazil, in woods at the river Amazon. Mýrtus Neesiàna, Mart. herb. Leaves 4-5 inches long, and 1½ broad, standing on petioles, which are 3 lines long. Calyx pubescent when in flower. Fruit size of a large pea, but obovate. Seeds 1-2.

Nees's Myrcia. Tr. 20 to 30 ft.

50 M. Maragna'na (D. C. l. c.) peduncles disposed in a

terminal panicle, and are, as well as the branches and calyxes, glabrous; limb of calyx 5-parted, short, deciduous; fruit globose, 2-3-seeded; leaves oval, bluntly acuminated, attenuated at the base, coriaceous, opaque, quite glabrous, smooth above. ♄. S. Native of Brazil, in the province of Maragnon. Mýrtus Maragnàna, Mart. herb. Leaves 24-28 lines long, and 8-9 lines broad, standing on petioles 1-2 lines long. Panicle hardly longer than the leaves.

Maragnon Myrcia. Shrub.

51 M. SEPIA'RIA (D. C. l. c.) panicles axillary and terminal, many-flowered; peduncles compressed, rather pubescent, longer than the leaves; calycine lobes obtuse; leaves oval-oblong, bluntly acuminated, stiff, with a few scattered, pellucid dots, shining above, and glabrous on both surfaces, as well as the branchlets. ♄. S. Native of Brazil, in the province of Bahia. Mýrtus sepiària, Mart. herb. Leaves 24-28 lines long, and 8-9 lines broad, standing on petioles 1-2 lines long. Lower peduncles 2 inches long, all near together, so as to form a terminal panicle. Bracteas small, obtuse, pubescent as well as the calyxes, when young.

Hedge Myrcia. Shrub.

52 M. LITTORA'LIS (D. C. l. c.) panicles axillary and terminal, many-flowered, longer than the leaves, clothed with adpressed pubescence; calycine tube clothed with white down; calycine lobes very short, hardly distinct, obtuse, at length spreading; leaves oval, obtuse, opaque, stiffish, nearly veinless, except the middle nerve, glabrous on both surfaces in the adult state, but rather downy when young, as well as the branchlets. ♄. S. Native of Brazil, in the province of Bahia, among bushes. Mýrtus littoràlis, Mart. herb. Leaves nearly 2 inches long, and an inch broad. Petioles hardly a line long. Branches compressed, but in the adult state terete and white.

Shore Myrcia. Shrub.

53 M. PUBIFLÒRA (D. C. l. c.) peduncles axillary and nearly terminal, compressed, longer than the leaves, disposed in a branched panicle at the apex, downy as well as the flowers; leaves elliptic, somewhat oblong, obtuse, coriaceous, opaque, glabrous on both surfaces in the adult state, but when young downy beneath; branches pubescently villous. ♄. S. Native of Brazil, on the mountains in the provinces of the mines, at Serro Frio. Branches naked, in consequence of the epidermis being deciduous. Leaves 2½ inches long and an inch broad. Bracteas fucescent, concave, deciduous. Flower-bud hairy, nearly globose. Calyx 5-cleft in the young state. Fruit unknown.

Downy-flowered Myrcia. Shrub.

54 M. HIRTIFLÒRA (D. C. l. c.) peduncles axillary or terminal, opposite, and disposed in a terminal panicle; bracteas and calyxes very hairy; calycine lobes short, acute; petals glabrous; leaves elliptic-oblong, bluntly and shortly acuminated at the apex, membranous, full of pellucid dots, glabrous on both surfaces as well as the branches. ♄. S. Native of Brazil, in the province of Bahia, on the high mountain called Serra das Lages. Leaves about 3 inches long and 15-18 lines broad. Petioles 2 lines long. Fruit unknown.

Hairy-flowered Myrcia. Shrub.

55 M. CASSINOÌDES (D. C. l. c.) peduncles axillary and nearly terminal, racemose, clothed with velvety tomentum, longer than the leaves; fruit globose, muricated, pubescent, crowned by the lobes of the calyx, which are rather villous, very obtuse and conniving; leaves elliptic or oblong, obtuse, stiff, opaque, crowded, clothed with velvety villi on both surfaces when young, as well as the branchlets, but glabrous on the upper surface in the adult state. ♄. S. Native of Brazil, in the provinces of the mines. Leaves glabrous, rather rufescent when young, from 1-2 inches long, and 9-10 lines broad. Fruit the size of a pea. Seeds 2-3. Cotyledons corrugated.

Cassine-like Myrcia. Tr. 10 to 15 ft.

56 M. VENULÒSA (D. C. prod. 3. p. 250.) peduncles axillary or terminal, panicled, velvety, longer than the leaves; fruit globose, glabrous, rather muricated; calycine lobes broad, obtuse, short; leaves oblong, bluntish, somewhat cuneated at the base, opaque, reticulately veined on both surfaces, glabrous, and shining above, but clothed with dense, short, velvety tomentum beneath, as well as on the branchlets. ♄. S. Native of Brazil, in the province of St. Paul. Mýrtus venulòsa, Mart. herb. Leaves an inch and a half long and 5-6 lines broad. Peduncles 2 inches long. Fruit the size of a pea, within the bearded limb of the calyx. Seeds 2. Cotyledons corrugated.

Var. β, Capoeirénsis (D. C. l. c.) leaves elliptic-oblong, less reticulated than in the species, and the fruit is less muricated. ♄. S. Native of Brazil, in Capoeira. Perhaps a proper species.

Veiny-leaved Myrcia. Shrub.

57 M. ELÆODE'NDRA (D. C. l. c.) peduncles axillary, and nearly terminal, racemosely panicled, pubescent when young, about equal in length to the leaves; calycine lóbes 5, very blunt, smoothish; leaves oblong-lanceolate, obtuse, full of pellucid dots, rather stiffish, glabrous on both surfaces; petioles and branches densely clothed with soft rufescent down. ♄. S. Native of Brazil. A tree 15-20 feet high, with loose, spreading branches. Leaves pale, rather glaucous, 2 inches long, and 9-10 lines broad. Flowers distant on the racemes. Lower branches of peduncle 3-flowered, upper ones 1-flowered. Fruit unknown.

Elæodendron-like Myrcia. Tr. 15 to 20 ft.

58 M. TÓRTA (D. C. l. c.) peduncles axillary, racemose, 7-9-flowered, length of leaves, nearly bractless; fruit globose, crowned by the lobes of the calyx, which are short and roundish; leaves oblong, obtuse, full of pellucid dots, somewhat attenuated at the base, and glabrous on both surfaces, as well as the branchlets. ♄. S. Native of Brazil, on Serra Branca. Mýrtus tórta, Mart. herb. Leaves 2 inches long, and 9 lines broad, standing on petioles 1-2 lines long. Racemes an inch and a half long. Fruit glabrous, dark purple, shining. A tree 10-12 feet high, with twisted branches. Bark thick, greyish, chinky.

Twisted Myrcia. Tr. 10 to 12 ft.

59 M. SUBALPE'STRIS (D. C. l. c.) peduncles axillary and nearly terminal, racemosely panicled, longer than the leaves, glabrous; fruit globose, crowned by the lobes of the calyx, which are short, obtuse, and connivent; leaves elliptic-oblong, obtuse at both ends, opaque, stiffish, glabrous above, but velvety from short tomentum beneath. ♄. S. Native of Brazil, in the provinces of the mines. Mýrtus subalpéstris, Mart. herb. Shrub 3 feet. Branches erect, terete. Fruit black, glabrous. Seeds 2, with a smooth testa. Cotyledons corrugated. Fruit unknown.

Alp Myrcia. Shrub 3 feet.

60 M. MYRTILLIFÒLIA (D. C. l. c.) peduncles axillary, longer than the leaves, paniculately corymbose, few-flowered, and are as well as the calyxes glabrous; bracteoles nearly wanting; branchlets rather pubescent; leaves oval, coriaceous, pale, glabrous, full of pellucid dots when young, reticulately veined beneath, smoothish in the adult state, opaque, and therefore dotless. ♄. S. Native of Brazil, in the province of Bahia. Mýrtus myrtillifòlia, Mart. herb. Very like *M. ramulòsa*, but differs in the leaves being more coriaceous, pale; in the racemes being more crowded and corymbose, with hardly any bracteoles.

Myrtle-leaved Myrcia. Tr. 20 to 30 ft.

61 M.? RAMULÒSA (D. C. l. c.) racemes axillary, 3-5-flowered, about the length of the leaves; bracteoles setaceous, under the pedicels, and shorter than them; calycine lobes short; leaves oval, full of pellucid dots, membranous, reticulately veined, glabrous, but rather villous on the nerve beneath, and on the margins and petioles; branches compressed, clothed with velvety

hairs beneath. ♄. S. Native of Brazil. Mýrtus virgultòsa, Mart. herb. but not of Swartz. Flowers small, glabrous. Fruit unknown. Leaves 5-6 lines long, 4-5 lines broad.

Var. β, multiflòra (D. C. l. c.) racemes panicled, 12-20-flowered, longer than the leaves. Perhaps distinct from var. *α*.

Branched Myrcia. Sh. 4 to 6 ft.

62 M. AMAZÓNICA (D. C. l. c.) peduncles shorter than the leaves, rather hairy, racemosely panicled; fruit nearly spherical, glabrous, crowned by the lobes of the calyx, which are short and obtuse; leaves elliptic-oblong, bluntly acuminated, opaque, stiffish, reticulately veined, glabrous on both surfaces; branchlets pubescent. ♄. S. Native of Brazil, on the banks of the river Amazon. Mýrtus Amazónica, Mart. herb. Leaves nearly 3 inches long and 1 broad; petioles 2 lines long. Fruit 1-seeded, and globose; 2-seeded and somewhat didymous; or 3-seeded and bluntly 3-sided. Seeds with a smooth testa. Cotyledons corrugated. Flowers unknown.

Amazon Myrcia. Sh. 4 to 6 ft.

63 M. FENESTRA′TA (D. C. prod. 3. p. 251.) peduncles axillary, rather panicled, one half shorter than the leaves, rather hairy; fruit ovate-globose, smoothish, crowned by the lobes of the calyx, which are small and bluntish; leaves nearly sessile, ovate, obtuse at the base and somewhat cordate, acuminated at the apex, full of pellucid dots; lateral nerves at equal distances, and blistered between the veins: middle nerve hispid beneath; branchlets 2-edged, rather hairy. ♄. S. Native of Brazil, on the banks of rivers, at Ega. Mýrtus fenestràta, Mart. Leaves 3 inches long and 1½ inch broad. Seeds 2. Cotyledons corrugated. Fruit unknown.

Windowed Myrcia. Sh. 4 to 6 ft.

64 M. PERTU′SA (D. C. l. c.) peduncles axillary, twice shorter than the leaves, panicled, somewhat compressed; calyxes pubescent, obtusely 5-lobed; leaves oblong, long-acuminated, somewhat attenuated at the base, full of pellucid dots, glabrous on both surfaces; branchlets terete, hardly pubescent. ♄. S. Native of Brazil. Allied to *M. fenestràta*, but the branches are not 2-edged, and the leaves are one half narrower, nearly all glabrous, or bearing small pili on the nerves beneath. Flowers nearly of *M. pseùdo-mini*. Fruit unknown.

Pertuse-leaved Myrcia. Sh. 4 to 6 ft.

65 M. LEUCODE′NDRON (D. C. prod. 3. p. 251.) peduncles axillary, and nearly terminal, panicled, clothed with minute, adpressed pubescence, equal in length to the leaves; calycine lobes glabrous, roundish, rather irregular; leaves oval-oblong, somewhat acuminated, membranous, full of pellucid dots, rather puberulous when young as well as the branchlets, but glabrous in the adult state. ♄. S. Native of Brazil. A tree 30 feet high, with the bark of the branches white. Leaves 2½ inches long, 9-10 lines broad. Petioles 1-2 lines long. Flowers almost of *M. nigréscens*. Fruit unknown.

White-tree Myrcia. Tr. 30 ft.

66 M. SPHÆROCA′RPA (D. C. l. c.) peduncles axillary, cymosely panicled, a little longer than the leaves; fruit globose, crowned by the lobes of the calyx, which are short and obtuse; leaves elliptic, cuneated at the base, bluntly acuminated at the apex, full of pellucid dots, quite glabrous on both surfaces, as well as the branches and panicles. ♄. S. Native of Brazil. Habit of *Eugènia Candolleàna*, but differs in the peduncles being longer, in the fruit being globose, and in the flowers being 5-cleft. Leaves nearly 2 inches long and 8-9 lines broad; petioles 2 lines long. Fruit one half smaller than a pea.

Round-fruited Myrcia. Sh. 4 to 6 ft.

67 M. OBLONGA′TA (D. C. l. c.) peduncles axillary, longer than the leaves, panicled at the apex, smoothish; lobes of calyx small, roundish; fruit globose; leaves oblong, obtuse, coriaceous, with a few pellucid dots, and are as well as the branchlets quite glabrous; lateral nerves almost wanting. ♄. S. Native of Brazil, in woods, in the province of St. Paul. Mýrtus oblongàta, Mart. herb. Very nearly allied to *M. sphærocárpa*, and *M. élegans*. Flowers unknown. Leaves nearly 2 inches long and 6 lines broad. Floral leaves hardly an inch long. Seeds with a smooth testa. Cotyledons contortuplicate.

Oblong Myrcia. Tree.

68 M. E′LEGANS (D. C. l. c.) panicles axillary and terminal, loose, twice the length of the leaves, and are as well as the flowers glabrous; bracteas linear-oblong; bracteoles almost wanting; fruit globose, crowned by the lobes of the calyx, which are short and obtuse; leaves oval, obtuse, opaque, stiff, and are as well as the branches glabrous, beset with impressed dots on the upper surface, when young pilose. ♄. S. Native of Brazil, in the province of Para. Mýrtus élegans, Mart. herb. Leaves 2 inches long, 10-14 lines broad. Petioles 2 inches long. Flowers small. Fruit size of a pea. Seeds 2. Cotyledons corrugated. Allied to *M. Amazónicum.*

Elegant Myrcia. Shrub.

69 M. CAMARÆA′NA (D. C. l. c.) peduncles axillary and nearly terminal, hardly longer than the leaves, panicled, and are as well as the flowers glabrous; fruit spherical, dotted; calycine lobes deciduous after flowering; leaves oval, bluntly and shortly acuminated, full of pellucid dots, hardly veiny, glabrous on both surfaces as well as the branchlets. ♄. S. Native of Brazil, in the province of Bahia, near Enginhoda Ponte. Mýrtus Camaræàna, Mart. herb. Leaves 2 inches long and 1 broad. Fruit about the size of a pea, marked with a circular areola. Seeds 2, with a friable smooth testa. Cotyledons contortuplicate.

Camara's Myrcia. Tr. 10 to 15 ft.

70 M. SPIXIA′NA (D. C. l. c.) peduncles axillary, loosely panicled, longer than the leaves; bracteas and bracteoles almost wanting; leaves elliptic-obovate, rather cuneated at the base, obtuse at the apex, reticulately veined, with a few pellucid dots, rather membranous, quite glabrous on both surfaces, as well as the branches, panicles, and flowers. ♄. S. Native of Brazil, at the river Amazon. Leaves 2 inches long and an inch broad. Petioles hardly 2 lines long. Panicle 3-4 inches long. Flowers small. Lobes of calyx obtuse. Style exserted. Fruit unknown.

Spix's Myrcia. Shrub.

71 M. COSTA′TA (D. C. prod. 3. p. 252.) panicles axillary and terminal, many-flowered, length of the leaves, hardly pubescent; tube of calyx clothed with white pubescence; lobes of calyx bluntish, smoothish; leaves ovate, acuminated, full of pellucid dots, membranous, glabrous on both surfaces, feather-nerved and reticulately veined. ♄. S. Native of Brazil, near Bahia. Mýrtus costàta, Mart. herb. Allied to *M. pseùdo-mìni.* Leaves 2 inches long and an inch broad. Petioles 2-3 lines long. Flowers small. Bracteas oblong, deciduous, acute, under the pedicels. Fruit unknown.

Ribbed-leaved Myrcia. Tr. 10 to 12 ft.

72 M. POLYA′NTHA (D. C. l. c.) peduncles panicled, axillary and terminal, crowded, equal in length to the leaves, glabrous, as well as the calyxes and branchlets; leaves ovate, bluntly acuminated, coriaceous, full of pellucid dots, quite glabrous on both surfaces, smooth on the upper surface, and full of impressed dots. ♄. S. Native of Brazil, in the deserts in the province of Bahia. Mýrtus polyántha, Mart. herb. Leaves 15-18 lines long, and 8-9 broad. Flowers small. Allied to *M. ambígua* and *M. pseudo-mìni*, but quite glabrous. Fruit unknown.

Many-flowered Myrcia. Shrub.

73 M. AMBÍGUA (D. C. l. c.) peduncles panicled, axillary and terminal, longer than the leaves, and are, as well as the calyxes and branchlets, pubescent; leaves oval, acuminated, with a few pellucid dots, having the veins hardly prominent, smoothish above, and full of impressed dots, glabrous on both surfaces. ♄. S.

Native of Brazil, in the provinces of the mines. Eugènia Mìni var. ? Mart. herb. Intermediate between *M. pseùdo mini* and *M. multiflòra.* Inflorescence of *M. multiflòra*, but rather downy. Fruit unknown.

Var. β, pauciflòra (D. C. l. c.) leaves rather narrower; panicles shorter, few-flowered. ♄. S. Native of Brazil. Perhaps the same as *Eugènia Mìni ?* Mart. herb.

Ambiguous Myrcia. Shrub.

74 M. PSEU'DO-MINI (D. C. l. c.) peduncles axillary, opposite, panicled, longer than the leaves or shorter; calyx and buds villous; leaves elliptic-oblong, gradually acuminated, shining above, hardly reticulated, full of pellucid dots when examined by a lens; flowers small, 5-cleft. ♄. S. Native of Brazil, at Rio Janeiro. Eugènia Mìni, Mart. herb. Very like the plant figured by Aublet, but differs in the flowers being 5-cleft. Leaves hardly reticulated above, at length nearly smooth; lower ones small, roundish, shorter than the peduncles; upper ones large, rather longer than the peduncles. Petioles 2 lines long. Fruit ovate-globose, blackish, 2-seeded, crowned by the lobes of the calyx, which are very blunt, and somewhat conniving. Seeds smooth. Cotyledons contortuplicate.

False-mini Myrcia. Shrub.

75 M. CORYMBÒSA (D. C. l. c.) panicles terminal, oppositely branched, subcorymbose; bracteas and bracteoles almost wanting; leaves oval, bluntly acuminated, opaque, quite glabrous, as well as the branches, panicles, and flowers. ♄. S. Native of Brazil, at Rio Tapura. Leaves 3 inches long, and 15-18 lines broad. Petioles hardly 2 lines long. Flowers small, quinquefid. Fruit unknown.

Corymbose-flowered Myrcia. Shrub.

76 M. LAURIFÒLIA (D. C. l. c.) panicles axillary and nearly terminal, shorter than the leaves or longer, glabrous, as well as the flowers; bracteas linear-oblong; calycine lobes roundish; leaves oval, obtuse, stiff, opaque, nearly veinless except the middle nerve, and are, as well as the branches, glabrous. ♄. S. Native of Brazil, in the province of Para. M. laurifòlia, Mart. herb. Leaves pale, 2 inches long, nearly one inch broad. Petioles 2 lines long. Flowers small. Fruit unknown.

Laurel-leaved Myrcia. Shrub.

77 M. PA'LLENS (D. C. l. c.) peduncles panicled, axillary and nearly terminal, a little longer than the leaves, and are, as well as the calyxes and branchlets, glabrous; leaves exactly oval, obtuse at both ends, glabrous, glaucous, full of pellucid dots, as well as being dotted with brown beneath. ♄. S. Native of Brazil, in the provinces of the Mines. Mýrtus tórta, Mart. herb. Leaves 9-10 lines long, and 5-6 lines broad, finely veined. Bracteoles small, setaceous; lobes of calyx obtuse. Shrub twisted, 10 feet high. Fruit unknown.

Pale Myrcia. Shrub 10 ft.

78 M. DECÓRTICANS (D. C. l. c.) peduncles axillary and nearly terminal, rather longer than the leaves, panicled, rather hairy; lobes of calyx orbicular, white, and are, as well as the tube, glabrous; leaves ovate-elliptic, short-acuminated, full of pellucid dots when young, opaque stiffish and glabrous in the adult state; branchlets puberulous, separating from the epidermis. ♄. S. Native of Brazil. Mýrtus decorticàta, Mart. herb. Leaves hardly acute, 3 inches long, and 1½ inch broad, with somewhat revolute margins. Petioles 1-2 lines long, at length transversely subrimose. Petals 5, orbicular. Seeds 2, according to Martius.

Decorticated Myrcia. Tree 10 ft.

79 M. LASÍOPUS (D. C. prod. 3. p. 253.) peduncles axillary and terminal, crowded into a panicle, many-flowered, longer than the leaves, and are, as well as the bracteas, hairy; calyxes glandular, bluntly 5-lobed; leaves ovate, obtuse at both ends, coriaceous, opaque, glabrous, as well as the branches. ♄. S. Native in fields in the provinces of the Mines. Eugènia lasíopus, Mart. herb. Allied to *M. pubéscens* on the one hand, and to *M. decorticàta* on the other. Leaves an inch and a half long. Petioles a line long. Flowers small, crowded. Fruit unknown. There are varieties of this species with very blunt, and acutish leaves, which are obtuse at the base, but hardly cordate.

Hairy-peduncled Myrcia. Shrub 8 to 10 ft.

80 M. DURIU'SCULA (Mart. herb. ex D. C. prod. 3. p. 253.) peduncles panicled, axillary and nearly terminal, rather shorter than the leaves, and are, as well as the bracteas, hispid; calyxes glandular, glabrous, bluntly 5-lobed; leaves broad, ovate, obtuse at both ends, coriaceous, opaque, and are, as well as the branches, glabrous. ♄. S. Native of Brazil, in the province of Bahia. Perhaps merely a variety of *M. lasiopus*, but the panicles are shorter and less hairy.

Hardish Myrcia. Shrub 8 to 10 ft.

81 M. PRUNIFÒLIA (D. C. l. c.) peduncles supra-axillary, equal in length to the leaves or longer, panicled, and are, as well as the branchlets, clothed with soft hairs; calyx with a villous globose tube, and ovate ciliated spreadingly reflexed lobes; leaves oval or ovate or obovate, full of pellucid dots, membranous, glabrous on the upper surface in the adult state. ♄. S. Native of Brazil, in the province of Minas Geraes. Mýrtus prunifòlia, Mart. herb. A very variable species, or many are confused under this name.

Var. α, angústior (D. C. l. c.) leaves oval, attenuated at both ends; panicle villous, with its branches compressed and divaricating.

Var. β, obovàta (D. C. l. c.) leaves broadly obovate; panicle pubescent, sparingly branched, equal in length to the leaves; fruit globose, irregularly hollowed out into empty cells, but this is probably occasioned by insects.

Var. γ, ovàta (D. C. l. c.) leaves broadly ovate, rather opaque; panicle hardly pubescent, longer than the leaves; fruit didymous, globose. Seeds 2, with a brittle testa. Cotyledons contortuplicate.

Plum-leaved Myrcia. Shrub.

82 M.? CURATELLÆFÒLIA (D. C. l. c.) panicle corymbose, nearly terminal; peduncles compressed, clothed with canescent velvety down; fruit globose, velvety, crowned by the calycine lobes, which are short, broad, and spreading; leaves obovate, obtuse, somewhat cuneated at the base, membranous, opaque, smoothish above, and clothed with canescent velvety down beneath. ♄. S. Native of Brazil, in fields at Taubate, in the province of St. Paul. Mýrtus curatellæfòlia, Mart. herb. Fruit divided into many empty cells inside.

Curatella-leaved Myrcia. Shrub 4 to 6 ft.

83 M.? PILÒSA (D. C. l. c.) peduncles axillary, twice the length of the leaves, racemose or somewhat panicled, and are, as well as the branches and calyxes, hairy; calyx with a globose tube, and ovate, acute, ciliated, spreadingly reflexed lobes; leaves oblong or somewhat ovate, rather opaque, clothed with villi when in a young state, but glabrous on the upper surface in the adult state, and velvety beneath, but at length smoothish. ♄. S. Native of Brazil. Mýrtus pilòsa, Mart. herb. Fruit globose, crowned by the spreading calyx, divided inwardly into 15-20 compartments, some of them empty, and some of them filled with seeds. Seed with a hard testa. This species is very doubtful; it is probably a *Mýrtus* or a *Mýrcia*, or a new genus, or the fruit is probably deformed by insects.

Pilose Myrcia. Shrub 4 to 6 ft.

84 M. SERI'CEA; erect, much branched; leaves oblong, acuminated, glabrous above, and clothed with white silky down beneath, on short petioles; racemes panicled, axillary; peduncles and branches tomentose. ♄. S. Native of Maranham, in Brazil.

Silky Myrcia. Shrub 6 to 8 ft.

85 M. læ'vis; branched; leaves oblong, acuminated, glabrous on both surfaces; racemes panicled, terminal, and axillary. ♄. S. Native of Maranham, in Brazil.

Smooth Myrcia. Shrub 6 to 8 ft.

86 M. ferrugínea; branched; leaves oblong, acuminated, coriaceous, canescent above, rusty beneath; racemes panicled, axillary, and terminal. ♄. S. Native of Maranham, in Brazil.

Rusty Myrcia. Shrub 6 to 8 ft.

87 M. pube'scens; branched; leaves oblong, acuminated, pubescent above, and silky beneath; racemes panicled, axillary and terminal, pubescent. ♄. S. Native of Maranham, in Brazil.

Pubescent Myrcia. Shrub 4 to 6 ft.

88 M. angu'sta; leaves narrow, ovate-lanceolate, glabrous on both surfaces; racemes panicled, axillary and terminal. ♄. S. Native of Maranham, in Brazil.

Narrow-leaved Myrcia. Shrub 4 to 6 ft.

b. *Leaves sessile, cordate at the base.*

89 M. subcorda'ta (D. C. l. c.) peduncles compressed, axillary, nearly terminal, panicled, disposed in a kind of corymb, glabrous, as well as the calyxes; leaves sessile, bluntly cordate, broadly ovate, obtuse, coriaceous, opaque, glabrous on both surfaces in the adult state, but when young covered with deciduous down beneath. ♄. S. Native of Brazil, in the provinces of the Mines. Calycine lobes broad, obtuse, short. Fruit globose, crowned by the circular calyx. Seeds shining, very aromatic. Cotyledons contortuplicate. Leaves 12-15 lines long, and 10-12 lines broad. Flowers unknown.

Subcordate-leaved Myrcia. Shrub 3 to 4 ft.

90 M. varia'bilis (D. C. prod. 3. p. 254.) peduncles axillary and nearly terminal, longer than the leaves, panicled, and are, as well as the branches, glabrous and somewhat compressed; leaves sessile, half stem-clasping, cordate, coriaceous, dotless, glabrous, reticulately veined, with the veins elevated on the upper surface. ♄. S. Native of Brazil, in the provinces of the Mines. Mýrtus variábilis, Mart. herb. Calycine lobes broad, obtuse, glabrous. Allied to *M. dealbàta*, and having its leaves and branchlets clouded with white as in that species; and is perhaps merely a variety of it with different formed leaves.

Var. α, ovatifòlia (Mart. herb.) leaves ovate-lanceolate, bluntly acuminated. ♄. S. Leaves an inch and a half long, and 8-9 lines broad.

Var. β, intermèdia (Mart. herb.) leaves ovate, bluntish. ♄. S. Leaves an inch long, and 6-7 lines broad.

Var. γ, nummulària (D. C. l. c.) leaves nearly orbicular, somewhat emarginate at the apex. ♄. S. Leaves nearly an inch broad, and about the same in length.

Variable Myrcia. Shrub.

91 M. dealba'ta (D. C. l. c.) peduncles axillary and terminal, panicled, longer than the leaves, and are, as well as the bracteas, glabrous, but sprinkled with white powder; leaves sessile, cordate, half stem-clasping, coriaceous, stiff, reticulately veined, glabrous, pale. ♄. S. Native of Brazil, in the province of Minas Geraes. Mýrtus dealbàta, Mart. herb. Leaves an inch long, and 5 lines broad, dotless. Calycine lobes broad, when young rather ciliated when examined by a lens, but at length glabrous, acutish. Petals roundish, glandular. Inflorescence nearly as in *M. exsúcca*. Fruit unknown.

Whitened Myrcia. Shrub.

92 M. racemulòsa (D. C. l. c.) peduncles axillary, racemose, twice the length of the leaves, 3-7-flowered, glabrous; branchlets hairy; leaves sessile, cordate, obtuse, coriaceous, quite glabrous, reticulately veined, dotted, rather opaque. ♄. S. Native of Brazil, in the provinces of the Mines. Mýrtus racemulòsa, Mart. herb. Leaves 3-4 lines long, and 3 lines broad, margined by a nerve. Flowers small, glabrous. Calycine lobes short, broad, blunt, glandular. A very distinct species, with the habit of *Bæ'ckea*. Inflorescence nearly as in *M. ramulòsa*. Fruit unknown.

Racemulose-flowered Myrcia. Shrub 2 to 3 ft.

93 M. scutulífera (D. C. l. c.) peduncles axillary and nearly terminal, panicled, glabrous, many-flowered, 4 times the length of the leaves; leaves sessile, cordate-ovate, reticulately veined, coriaceous, opaque, glabrous; branchlets rather hairy. ♄. S. Native of Brazil, in fields in the provinces of the Mines. Mýrtus scutulífera, Mart. herb. Very like *M. racemulòsa*, but the flowers are more numerous but similar, the leaves are also similar, but longer, and the branchlets less hairy. It is probably only a variety of it.

Saucer bearing Myrcia. Shrub.

94 M. albo-tomentòsa (D. C. l. c.) peduncles axillary and terminal, panicled, longer than the leaves, and are, as well as branches and bracteas, hairy; calyxes very hairy; leaves sessile, cordate, ovate, bluntish, coriaceous, opaque, glabrous above, densely clothed with velvety tomentum beneath. ♄. S. Native of Brazil, at the river St. Francisco, in the provinces of the Mines. Mýrtus albo-tomentòsa, Mart. herb. Leaves 8-10 lines long, and 7-9 lines broad, when young villous beneath. Calycine lobes blunt. Fruit unknown.

White-tomentose Myrcia. Shrub.

95 M. lasia'ntha (D. C. l. c.) peduncles axillary and nearly terminal, collected into a panicle, intermixed with leaves, and are, as well as the branchlets and calyxes, very hairy; leaves sessile, half stem-clasping, cordate, ovate, acutish, coriaceous, opaque, villous beneath, smooth and glabrous above. ♄. S. Native of Brazil, [illegible] the provinces of the Mines. Mýrtus lasiántha, Mart. herb. Leaves 5-6 lines long, and 4-5 broad, crowded, somewhat reticulately veined, and villous on the upper surface. Panicle clothed with soft hairs, many-flowered. Calycine lobes broad, bluntish. Fruit unknown.

Woolly-flowered Myrcia. Shrub.

§ 2. *Oocárpæ* (from ωον, *oon*, an egg, and καρπος, *karpos*, a fruit; in reference to the shape of the fruit). D. C. prod. 3. p. 254. *Fruit ovate or oblong.*

96 M. Be'rberis (D. C. l. c.) peduncles panicled, axillary or terminal, shorter than the leaves; fruit oblong, rather elliptic, crowned by the short obtuse calycine lobes; leaves elliptic, terminated in a long abrupt acumen each, coriaceous, when young full of pellucid dots, but in the adult state opaque, and shining above, quite glabrous on both surfaces, as well as the branchlets and panicles. ♄. S. Native of Brazil, at the river Tapura; and of French Guiana. Mýrtus Bérberis, Mart. herb. Leaves 4 inches long, and hardly an inch and a half broad. Petioles 2-3 lines long. Panicle 2-3 inches long. Bracteoles small, deciduous. Fruit 3 lines long, 1-seeded. Cotyledons corrugated.

Berberry-like Myrcia. Shrub.

97 M. Formosia'na (D. C. prod. 3. p. 255.) peduncles panicled, rather shorter than the leaves, axillary or nearly terminal; fruit ovate, crowned by the lobes of the calyx, which are short and obtuse; leaves elliptic-oblong, gradually acuminated, coriaceous, opaque above, shining a little on both surfaces, and quite glabrous, as well as the panicles and branchlets, which are compressed. ♄. S. Native of Brazil, in the province of St. Paul, in woods on the mountains. Very nearly allied to *M. Bérberis*, but differs in the leaves being gradually, not abruptly acuminated, and in the fruit being more ovate. Seed one. Cotyledons corrugated.

Formosa Myrcia. Shrub.

98 M. ROSTRA'TA (D. C. l. c.) peduncles axillary, racemose, shorter than the leaves, 5-7-flowered; pedicels distant, opposite; calyx bluntly 5-lobed, clothed with adpressed down; fruit obovate; leaves lanceolate, much acuminated, full of pellucid dots, shining above and glabrous on both surfaces, as well as on the branchlets. ♄. S. Native of Brazil, in the province of St. Paul. My'rtus rostràta, Mart. herb. Leaves stiffish, 3 inches long, and 7-8 lines broad. Peduncles an inch long. Fruit 4 lines long, crowned by the calyx. Seeds unknown.

Beaked Myrcia. Tree 10 to 12 ft.

99 M. ERÍOPUS (D. C. l. c.) peduncles panicled, axillary, a little longer than the leaves, and are, as well as the branches, hispid; tube of calyx oblong, hispid; leaves oval-oblong, acuminated, when young full of pellucid dots, clothed with long silky velvety down, opaque in the adult state, and smoothish. ♄. S. Native of Brazil, in the province of Rio Janeiro, in woods. My'rtus eríopus, Mart. herb. Leaves 1½ inch long, and 6 lines broad. Petioles 2 lines long. Calycine lobes short, obtuse.

Woolly-peduncled Myrcia. Shrub 8 to 10 ft.

*** *Species natives of Columbia.*

100 M. UMBELLULÍFERA (D. C. prod. 3. p. 255.) peduncles 3-6-flowered, solitary or twin, or 2-4 seated on a short common peduncle; flowers rather umbellate, with the middle one usually sessile; calyxes 5-cleft; leaves elliptic, obtuse at both ends, somewhat emarginate at the apex, coriaceous, reticulated, glabrous, rather silvery beneath; branchlets finely tomentose. ♄. S. Native of Cumana, in cultivated places. My'rtus umbellulífera, H. B. et Kunth, nov. gen. amer. 6. p. 135. Flowers about the size of those of *Cratæ'gus oxyacántha*. Stamens about 140 in number. Ovarium 2-3-celled; cells 4-6-ovulate. Fruit and seeds unknown.

Umbel-bearing Myrcia. Shrub.

101 M.? CLUSIÆFÒLIA (D. C. l. c.) panicles axillary, depauperated, equal in length to the leaves; calyx 5-cleft; leaves elliptic, rounded at the apex, and sometimes emarginate, running down into the petioles, coriaceous, reticulated and shining, and are, as well as the branches, glabrous. ♄. S. Native of South America. My'rtus clusiæfòlia, H. B. et Kunth, nov. gen. amer. 6. p. 138. Leaves about 2 inches long, and about 17-21 lines broad. Petioles 3-4 lines long. Fruit globose, about the size of a pea, few-seeded. Seeds unknown. Said to be like *M. Piménta* and *M. coriàcea.*

Clusia-leaved Myrcia. Shrub.

102 M.? POLYA'NTHA (D. C. l. c.) panicles axillary and terminal, branched; branchlets 1-3-flowered, compressed, clothed with fine silky down; leaves oblong, acuminated, acute at the base, obsoletely reticulated, coriaceous, glabrous above and shining, puberulous beneath, as well as on the branchlets. ♄. S. Native of South America, on the banks of the rivers Atabapo and Orinoco. My'rtus polyántha, H. B. et Kunth, nov. gen. amer. 6. p. 140. t. 545. Ovarium 2-celled; cells 2-ovulate. Fruit and seeds unknown.

Many-flowered Myrcia. Shrub.

103 M.? COMPLICA'TA (D. C. l. c.) panicles axillary and terminal, branched; branchlets 1-3-flowered, compressed, clothed with fine silky down; leaves oblong, acuminated, rounded at the base, complicated, coriaceous, glabrous, shining, and are, as well as the branches, puberulous. ♄. S. Native of New Granada, at San Felipe. My'rtus complicàta, H. B. et Kunth, nov. gen. amer. 6. p. 141. Ovarium 2-celled; cells 2-ovulate as in *M. polyántha.* Said to be allied to *M. defléxa* of Poir.

Complicated-leaved Myrcia. Shrub 8 to 10 ft.

104 M. COCCOLOBÆFÒLIA (D. C. l. c.) panicles axillary, depauperated, compressed, glabrous, about equal in length to the leaves; calyx 4-5-cleft; leaves roundish-ovate, obtuse, rounded at the base, coriaceous, reticulated, shining, and are, as well as the branches, glabrous. ♄. S. Native of New Granada, near Ibague. My'rtus coccolobæfòlia, H. B. et Kunth, nov. gen. amer. 6. p. 139. Flowers unknown. Berry nearly globose, glabrous, red, 3-celled, acid; cells few-seeded. Embryo like that of *M. bracteolàris.*

Coccoloba-leaved Myrcia. Shrub 5 ft.

105 M. BILLARDIA'NA (D. C. l. c.) pedúncles axillary, panicled, glabrous, about equal in length to the leaves; flowers 5-lobed; leaves oblong, acuminated, acute at the base, on very short petioles, membranous, reticulated, glabrous. ♄. S. Native of New Andalusia, on Mount Cocollar. My'rtus Billardiàna, H. B. et Kunth, nov. gen. amer. 6. p. 139. t. 544. Flowers unknown. Berry nearly globose, 1-2-seeded. Cotyledons foliaceous, corrugated. Radicle long, descending. Calyx 4-lobed from the figure, but from the description 5-lobed.

La Billardier's Myrcia. Shrub 10 to 12 ft.

106 M.? MÓLLIS (D. C. prod. 3. p. 256.) panicles axillary and terminal, branched, clothed with fuscescent tomentum; calyx 5-cleft; leaves oblong, acuminated, rounded at the base, coriaceous, reticulated, glabrous above and shining, but clothed with pubescent tomentum beneath, and on the branches. ♄. S. Native of New Granada, near Pasto. My'rtus móllis, H. B. et Kunth, nov. gen. amer. 6. p. 141. Flowers hardly known. Fruit and seeds unknown. Said to be allied to *Eugènia defléxa.*

Soft Myrcia. Shrub 8 to 12 ft.

107 M. ACUMINA'TA (D. C. l. c.) panicles axillary, solitary and terminal, tern, branched, exceeding the leaves; calyx 4-5-cleft; leaves ovate-oblong, long-acuminated, obtuse at the base, reticulated, coriaceous, shining, pubescent on the nerve, but when young silky. ♄. S. Native of New Granada, between Mariquita and St. Anna. My'rtus acuminàta, H. B. et Kunth, nov. gen. amer. 6. p. 141. Ovarium turbinate, 2-celled; cells 2-seeded. Embryo like that of *M. bracteolàris.*

Acuminated-leaved Myrcia. Shrub 8 to 10 ft.

108 M.? HUMBOLDTIA'NA (D. C. l. c.) panicles axillary, solitary, somewhat branched, divaricate, clothed with rusty tomentum, shorter than the leaves; calyxes 5-parted; leaves ovate-oblong, terminating in a narrow acumen, acute at the base, coriaceous, reticulated, shining, puberulous beneath; branches tomentose. ♄. S. Native on the banks of the Orinoco. My'rtus defléxa, H. B. et Kunth, nov. gen. amer. 6. p. 142. Leaves 6-7 inches long, and 2 inches broad. Ovarium 2-celled; cells 2-seeded. In the immature seeds the cotyledons are foliaceous, complicated, and perhaps afterwards corrugated.

Humboldt's Myrcia. Shrub 8 to 10 ft.

109 M. XYLOPIOÌDES (D. C. l. c) peduncles axillary, cymosely panicled, shorter than the leaves; leaves lanceolate, terminating in a narrow acumen each, obtuse at the base, on short petioles, membranous, reticulated, downy beneath, as well as on the branches. ♄. S. Native of New Granada, near the town of Buga, in the province of Popayan. My'rtus xylopioìdes, H. B. et Kunth, nov. gen. amer. 7. p. 257. t. 657. Calyx 5-lobed. Fruit elliptic, 1-seeded. Cotyledons fleshy, corrugated.

Xylopia-like Myrcia. Shrub 8 to 10 ft.

110 M.? LONGIFÒLIA (D. C. l. c.) glabrous; leaves on very short petioles, large, oblong, acuminately cuspidate, somewhat cordate, coriaceous, very shining; calyx 5-toothed; drupe pear-shaped, 1-seeded. ♄. S. Native in woods on the banks of the Orinoco. My'rtus longifòlia, H. B. et Kunth, nov. gen. amer. 7. p. 258. Drupe 2-celled; cells 1-seeded. Structure of the flowers and seeds unknown.

Long-leaved Myrcia. Shrub 8 to 10 ft.

**** *Uncertain species.*

111 M. MELASTOMOÌDES (D. C. l. c.) peduncles axillary, panicled, shorter than the leaves; leaves ovate, acutish, strongly 3-nerved, sessile, very opaque and glabrous. ♄. S. Native of Tobago. Flowers 5-cleft. Margin of calyx permanent, usually 5-toothed. Fruit nearly globose, 1-seeded. Seeds large, shining. Cotyledons foliaceous, corrugated.

Melastoma-like Myrcia. Shrub 5 to 10 ft.

112 M.? TRIA'NTHA (D. C. l. c.) peduncles axillary, 3-5-flowered, shorter than the leaves; flowers 5-cleft, middle one sessile, lateral ones pedicellate; bracteas linear at the base of the calyx; leaves ovate-lanceolate, acute, full of pellucid dots; branchlets tetragonal, rather pubescent. ♄. S. Native country unknown. Leaves nearly of *M. commùnis var. Romàna*. Lobes of calyx acute. Fruit and seeds unknown.

Three-flowered Myrcia. Tree 10 to 15 ft.

113 M.? VERNICÒSA (D. C. l. c.) peduncles axillary, 3-5-flowered, a little longer than the leaves; calyx bluntly and repandly 5-toothed; leaves oval, obtuse at both ends, nearly sessile, shining on both surfaces, and as if they were varnished above; branches and peduncles glabrous. ♄. S. Native of South America. Leaves 20 lines long, and 12-14 broad, when young furnished with pellucid dots, but opaque in the adult state. Pedicels opposite, distant. Fruit and seeds unknown.

Varnished-leaved Myrcia. Shrub 6 to 12 ft.

Cult. All the species of *Mýrcia* are very like the common *myrtle* when in flower; they grow best in a mixture of loam, peat, and sand; and young cuttings will root readily if planted in a pot of sand, with a hand-glass over them.

XXIX. CALYPTRA'NTHES

(from καλυπτρα, *calyptra*, a veil, and ανθος, *anthos*, a flower; in allusion to the operculum of the flower). Swartz, prod. fl. ind. occ. p. 917. t. 15. St. Hil. pl. usual. bras. t. 14. D. C. prod. 3. p. 256.--Chytracùlia and Suzy'gium, P. Browne, jam. 239. and 240.—Chytràlia, Adans. jam. p. 80.—Calyptránthes, Juss. dict. 6. p. 274. but not of Pet. Th. nor Blume.

LIN. SYST. *Icosándria, Monogýnia.* Tube of calyx obovate; limb entire before flowering, but circumcised at the base at the time of flowering, constituting a lateral deciduous operculum. Petals wanting, or 2 or 3 small. Stamens numerous; filaments capillary; anthers small, round, 2-celled. Style one. Stigma simple. Ovarium 2-3-celled; cells 2-seeded in the central angle. Berry 1-celled from abortion, 1-4-seeded.—Small trees, natives of the West Indies and Brazil. Leaves feather-veined. Peduncles axillary, many-flowered. Mature seeds not well known, but they are probably similar to those of *Mýrcia*.

1 C. OBSCU'RA (D. C. prod. 3. p. 257.) leaves oval, acuminated, stiff, shining above, full of pellucid dots beneath, quite glabrous, as well as the branches, on short petioles; flowers 2-5 together, axillary, on short pedicels. ♄. S. Native of Brazil. Psídium obscùrum, Mart. herb. Calyx with an obovate tube, having the limb irregularly ruptured after flowering. Allied to *C. rígidum.*

Obscure Calyptranthes. Shrub.

2 C. RÍGIDA (Swartz, prod. p. 80. fl. ind. occ. p. 923.) arborescent; leaves ovate, acute, convex, stiff, glabrous; peduncles axillary, simple, usually 3-flowered, glabrous. ♄. S. Native of Jamaica, on the higher mountains. Flowers small, white, nearly sessile on the tops of the peduncles. Berry minute, roundish, 1-seeded.

Stiff Calyptranthes. Tree 12 to 15 ft.

3 C. CHYTRACU'LIA (Swartz, prod. p. 79. fl. ind. occ. p. 921.) arboreous; leaves ovate, attenuated at the apex, stiffish, glabrous; peduncles axillary and terminal, trichotomous, panicled, and are, as well as the flowers, clothed with rufous velvety down. ♄. S. Native of Jamaica, St. Thomas, and Guadaloupe, on the mountains. Chytracùlia arbòrea, P. Browne, jam. 239. t. 37. f. 2. My'rtus chytracùlia, Lin. amœn. 5. p. 398. Flowers small, glomerate, white. Berry dry, 1-seeded. Eugènia pállens, Poir. suppl. 3. p. 122. The specific name is derived from χυτρα, a vessel, in reference to the operculum of the flower.

Chytraculia Calyptranthes. Fl. March, May. Clt. 1778. Tree.

4 C. SYZY'GIUM (Swartz, prod. p. 79. fl. ind. occ. p. 919.) arborescent; leaves ovate, obtuse, stiff; peduncles axillary, trichotomous, many-flowered, glabrous. ♄. S. Native of Jamaica, in arid calcareous places by the sea side. Suzy'gium fruticòsum, Lin. amœn. 5. p. 398. Flowers on short pedicels. Berry roundish, black, 3-4-seeded. The specific name is derived from συζυγος, coupled, in reference to the manner in which the leaves are united in pairs.

Coupled Calyptranthes. Fl. May, July. Clt. 1779. Shrub 10 to 12 feet.

5 C. MARTIUSIA'NA (D. C. l. c.) leaves oval, attenuated at the base, bluntish at the apex, rather opaque, having the lateral nerves confluent at their tops, reticulated, glabrous on both surfaces, as well as on the branches; peduncles compressed, trifid at the apex, with the ramifications bearing 3 sessile approximate, bibracteate flowers at the apex. ♄. S. Native of Brazil, in woods on the road to Felisbert. Leaves 4 inches long, and 2 inches broad. Peduncles diverging, 1½ inch long. Lateral pedicels 4 lines long, and the middle one 6 lines long. Bracteoles glabrous, deciduous. Calyx villous. Flower-bud ovate, acute, separating transversely into a conical operculum. Stamens numerous. Fruit unknown.

Martius's Calyptranthes. Tree.

6 C.? ERIÓPODA (D. C. l. c.) leaves ovate, hardly petiolate, obtuse, coriaceous, opaque, glabrous; peduncles axillary, or nearly terminal, solitary or twin, a little branched, somewhat racemosely spicate, shorter than the leaves, hairy from rufous villi; calyx villous; fruit globose, crowned by the neck of the calyx. ♄. S. Native of Brazil. My'rcia eríopus, Mart. herb. Fruit like that of *Mýrcia*, but the calyx agrees with *Calyptránthes.* Leaves 15-18 lines long, and 10-12 lines broad.

Woolly-footed Calyptranthes. Tree.

7 C. PULCHE'LLA (D. C. l. c.) leaves obovate, cuneated at the base, obtuse at the apex, coriaceous, dotted beneath, when young full of pellucid dots, glabrous on both surfaces, and on the branches; peduncles axillary, angular, a little shorter than the leaves, bearing 5-9 flowers. ♄. S. Native of Brazil, in the provinces of the Mines. Flowers 3, approximate on the tops of the peduncles. Flower-bud obovate, furnished with small rufous pili at the base. Leaves 15-16 lines long, and 7-9 lines broad.

Pretty Calyptranthes. Tree.

8 C. DE'NSA (D. C. l. c.) leaves oval, acutish at the base, stiff, opaque, and are, as well as the branchlets, glabrous; peduncles axillary and terminal, corymbosely panicled, and are, as well as the branchlets, angular; fruit globose, crowned by the short truncate tube of the calyx. ♄. S. Native of Brazil, in the provinces of the Mines. Leaves nearly like those of *C. Chytracùlia*, an inch long, and 6 lines broad. Fruit 2-seeded. Embryo pseudo-monocotyledonous. Flower-bud not seen.

Dense-flowered Calyptranthes. Tree.

9 C. CONCÍNNA (D. C. prod. 3. p. 258.) leaves elliptic-oblong, cuneated at the base, bluntish at the apex, full of pellucid dots, white from villi beneath, as well as on the branches, opaque in the adult state, and glabrous on both surfaces; peduncles axillary, opposite, bearing 3-5 flowers at the apex, in a kind of umbel. ♄. S. Native of Brazil. Leaves 2 inches long, 10 lines broad, nearly like those of *Mýrcia oblongàta.* Peduncles

15 lines long. Flowers larger than any other of the species. Fruit unknown.

Neat Calyptranthes. Tree.

10 C. NIGRICANS (D. C. l. c.) shrubby; leaves obovate, obtuse, stiff, opaque, and are, as well as the branches, glabrous; peduncles axillary or terminal, equal in length to the leaves, somewhat panicled. ♄. S. Native of Brazil. Leaves hardly petiolate, 2-3 inches long, and 15-18 lines broad. Flowers small. Flower-bud obovate, mucronate, blackish, as well as the whole plant.

Blackish Calyptranthes. Tree.

11 C.? LORANTHIFÒLIA (D. C. l. c.) leaves elliptic, obtuse, rather coriaceous, opaque, clothed with adpressed pubescence, as well as the branchlets, but glabrous above; peduncles twin, opposite, panicled, rising from the base of the branchlets, and are, as well as the flowers, clothed with adpressed rufous down. ♄. S. Native of Brazil, in fields in the province of St. Paul. Leaves 2 inches long, and 15 lines broad. Petioles 2-3 lines long. Racemes 2 inches long. Flowers tern, and as if they were operculated, from the bracteoles cohering at the apex.

Loranthus-leaved Calyptranthes. Tree.

12 C. CUSPIDA'TA (Mart. herb. ex D. C. prod. 3. p. 258.) leaves oval, narrowly acuminated, opaque, rather membranous, glabrous on both surfaces, as well as on the branches; peduncles axillary and terminal, loosely panicled, compressed, and are, as well as the calyxes, velvety from adpressed short rufous down. ♄. S. Native of Brazil, in the province of Rio Negro, in woods. Leaves 6 inches long, and 2 inches broad. Panicle shorter than the leaves, usually much branched from the base. Flower-bud obovate, dotted. Fruit unknown.

Cuspidate Calyptranthes. Tree.

13 C. LU'CIDA (Mart. herb. ex D. C. l. c.) leaves elliptic-oblong, acuminated at both ends, petiolate, full of pellucid dots, glabrous on both surfaces, as well as on the branches, shining above; peduncles axillary, twin, panicled, a little shorter than the leaves, and are, as well as the calyxes, glabrous. ♄. S. Native of Brazil, in the province of Bahia. A tree 20 feet high, with white bark. Branchlets angular. Leaves about 2 inches long, and 9 lines broad.

Shining Calyptranthes. Tree 20 ft.

14 C. AROMA'TICA (St. Hil. pl. usul. bras. t. 14.) shrubby; leaves connate, oblong-elliptic, quite glabrous; peduncles axillary or terminal, twin, elongated, panicled. ♄. S. Native of Brazil, in woods about Rio Janeiro. Petals 2-3, small, greenish. The flower-buds are whitish and aromatic, and are used in Brazil as a succedaneum for cloves. An oil might be obtained from them equal to oil of cloves.

Aromatic Calyptranthes. Shrub.

15 C. PANICULA'TA (Ruiz et Pav. fl. per. syst. p. 131. prod. p. 74. t. 13.) leaves lanceolate-oblong, bluntly acuminated; racemes panicled, terminal. ♄. S. Native of Peru, in groves. Flowers very fragrant. Operculum conical. Berry 2-4-celled. A species not sufficiently known. Ruiz et Pav. fl. per. 4. t. 424.

Panicled Calyptranthes. Shrub 10 to 12 ft.

16 C.? LATERIFLÒRA (D. C. prod. 3. p. 258.) spikes simple, rising from the old trunk or branches, villous; bracteas ovate, acute, concave, lower ones sessile; flowers sessile in the axils of the bracteas; leaves oblong, acuminated, opaque, quite glabrous on both surfaces. ♄. S. Native of Brazil, in the provinces of the Mines. Spikes 3-4 inches long, pedunculate, 11-15-flowered; flowers opposite, axillary, bibracteate. Flower-bud nearly globose, very villous, at length ruptured at the apex, not 4-5-lobed as in *Mýrtus* and *Eugènia*, and not truly calyptrate as in *Calyptránthes*. Perhaps a new genus, but the expanded flowers, as well as the fruit, are unknown.

Side-flowering Calyptranthes. Tree 20 to 30 ft.

17 C.? BULLA'TA (D. C. l. c.) branches minutely pubescent; leaves broad-lanceolate, obtuse, more or less blistered. ♄. S. Native of Honduras. My'rtus bullàta, Salisb. prod. 354. This species is hardly known.

Blistered Calyptranthes. Shrub 12 to 14 ft.

Cult. See *Mýrcia* for culture and propagation, p. 847.

XXX. SYZY'GIUM (the name is derived from συζυγος, *syzygos*, coupled; in allusion to the manner in which the branches and leaves are united by pairs). Gærtn. fruct. 1. p. 166. t. 33. but not of Browne. D. C. prod. 3. p. 259.—Opa, Lour. fl. coch. 309.—Calyptránthes spec. Willd.—Eugènia spec. Lam. Roxb. —Calyptránthus, Blume, bijdr. p. 1089.

LIN. SYST. *Icosándria, Monogýnia.* Tube of calyx obovate; limb nearly entire or repandly lobed. Petals 4-5, roundish, joined into a calyptra, and as if they were forming a convex membranous circumcised operculum. Stamens numerous, free. Style one; stigma simple. Ovarium 2-celled; cells few-ovulate. Berry 1-celled, 1 or few-seeded. Seeds globose. Cotyledons large, thick, half hemispherical. Radicle small, inserted beneath the middle of the cotyledons, and concealed by them.—Trees or shrubs, natives of the Old World within the tropics. Leaves opposite, glabrous. Peduncles axillary and terminal, cymosely corymbose. This genus differs from *Calyptránthes* in the operculum being formed from the petals, not from the calyx; from *Caryophýllus* in the tube of the calyx being obovate or turbinate, not cylindrical, and with the lobes hardly distinct; and from *Eugènia* in the cotyledons being less closely conferruminated, and in the petals cohering into a calyptra.

§ 1. *Fruit globose or subglobose.*

1 S. GUINEE'NSE (D. C. prod. 3. p. 259.) leaves oblong-elliptic, acuminated at both ends, shining above and reticulated beneath; cymes trichotomous, corymbose, terminal; calyx 5-toothed. ♄. S. Native of Guinea and Senegal. Calyptránthes Guineénsis, Willd. spec. 2. p. 974. This species is intermediate between *Jambòsa* and *Syzy'gium.* Fruit unknown.

Guinea Syzygium. Tree.

2 S. LATIFÒLIUM (D. C. l. c.) leaves broadly ovate, obtuse at both ends, somewhat emarginate at the apex, coriaceous, reticulated, on very short petioles; flowers nearly sessile, in lateral fascicles. ♄. S. Native of the Mauritius. Calyptránthes, Sieb. fl. maur. 2. no. 98. in this the leaves are 9 inches long and 5 broad.

Broad-leaved Syzygium. Tree.

3 S. OBOVA'TUM (D. C. l. c.) leaves obovate or oval, obtuse, coriaceous, on short petioles, feather-nerved, and somewhat reticulated; cymes numerous, on long peduncles, disposed in a terminal panicle; calyxes repand. ♄. S. Native of the Mauritius. Eugènia obovàta, Poir. suppl. 3. p. 124. My'rtus obovàta, Spreng. syst. 2. p. 436. Calyptránthes Pollícina, Willem. maur. p. 29. Calyptránthes, Sieb. fl. maur. no. 99. Leaves 5 inches long, and 3 inches broad. Berry globose, larger than a pea. Seeds 2, hemispherical. Cotyledons fleshy, conferruminated.

Obovate-leaved Syzygium. Tree.

4 S. PANICULA'TUM (D. C. l. c.) leaves oval, acuminated, feather-nerved, silky; cymes numerous, rather crowded, disposed in a terminal panicle; calyx repand. ♄. S. Native of the Island of Bourbon, where it is called *Bois à écorce blanche.* S. paniculàtum, Gærtn. fruct. 1. p. 166. t. 33.? Jambolifera péndula, Lin. ex Steud. Eugènia paniculàta, Lam. dict. 3. p. 199. Branches with white bark. Petioles 5 lines long. Leaves 2 inches long, and an inch broad.

Panicled Syzygium. Tree.

5 S. CYMÒSUM (D. C. l. c.) leaves ovate-lanceolate, acuminated, hardly feather-nerved, coriaceous; cymes axillary and

terminal, panicled; calyx rather repand. ♄. S. Native of the Mauritius and Bourbon. Eugènia rhodomèlea, Comm. Eugen. cymòsa, Lam. dict. 3. p. 199. My'rtus cymòsa, Spreng. Eug. nigréscens, Poir. suppl. 3. p. 123.? Branches brownish red. Leaves like those of the preceding species, but the flowers are larger.

Cymose-flowered Syzygium. Tree.

6 S. GLOMERA'TUM (D. C. prod. 3. p. 259.) leaves ovate, obtuse, coriaceous, on very short petioles, reticulately veined, one-nerved; cymes nearly terminal, crowded with flowers, corymbose; calyx hardly repand. ♄. S. Native of the Mauritius, where it is called *Bois de pomme.* Eugènia glomeràta, Lam. dict. 3. p. 199. My'rtus glomeràta, Spreng. no. 69. My'rtus coriàcea, Sieb. fl. maur. 2. no. 102. and probably the My'rtus àcris, Sieb. l. c. no. 101. exclusive of the synonyme of Swartz. Eugènia contrácta, Poir. suppl. 3. p. 125.

Glomerated Syzygium. Tree.

7 S. JAMBOLA'NUM (D. C. l. c.) leaves oval or obovate, feather-nerved, coriaceous; cymes panicled, loose, lateral and terminal; calyxes quite entire. ♄. S. Native of the East Indies. Jambolàna, Rumph. amb. 1. t. 42. Jambolifera pedunculàta, Houtt. pfl. syst. 1. p. 462. t. 7. f. 1. Eugènia Jambolàna, Lam. dict. 3. p. 198. Calyptránthes Jambolàna, Willd. spec. 2. p. 975. and in Ust. neu ann. 2. p. 23. Blum. bijdr. 1091. Petioles 5-6 lines long. Fruit black, esculent. It is commonly called *Java-plum.*

Var. α; leaves acuminated. Eugènia Jambolàna, Roxb.

Var. β; leaves elliptic, tapering to both ends. Eugènia Jambolàna, Roxb. and Rumph.

Var. γ; leaves obovate, very obtuse. Perhaps Eugènia obtusifòlia, Roxb. hort. beng. p. 37.

Jambolan Syzygium. Clt. 1796. Tree.

8 S. INOPHY'LLA (D. C. prod. 3. p. 260.) leaves ovate-elliptic, acuminated at both ends, coriaceous, shining, reticulately veined; cymes axillary and terminal, corymbose; pedicels 3-flowered; flowers sessile; calyx quite entire. ♄. S. Native of the East Indies. Eugènia inophy'lla, Roxb. hort. beng. no. 37.

Veiny-leaved Syzygium. Tree.

9 S. CARYOPHYLLIFÒLIUM (D. C. l. c.) leaves ovate-elliptic, acuminated at both ends, coriaceous, feather-nerved; peduncles lateral, in dense cymose panicles; calyx rather repand, with a transparent border. ♄. S. Native of the East Indies.—Pluk. alm. t. 274. f. 2.—Rheed. mal. 5. t. 29. Rumph. amb. 1. t. 41. My'rtus Cumìni, Lin. spec. 674. Eugènia caryophyllifòlia, Lam. dict. 3. p. 198. Eugen. corticòsa, Lour. coch. p. 309. Calyptránthes caryophyllifòlia, Blum. l. c. Petioles almost an inch long. Stamens short.

Clove-leaved Syzygium. Clt. 1822. Tree.

10 S. NERVÒSUM (D. C. l. c.) leaves oval-elliptic, attenuated at the base, acuminated at the apex, rather coriaceous, feather-nerved, lateral nerves rather prominent; peduncles lateral and terminal, cymosely panicled, loose; calyx quite entire. ♄. S. Native of the Moluccas. Eug. operculàta, Roxb. hort. beng. p. 37.

Nerved-leaved Syzygium. Tree.

11 S. VENÒSUM (D. C. l. c.) leaves elliptic, cuneated at the base, acuminated at the apex, rather coriaceous; lateral veins nearly regular, forming a marginal vein in front of the margin; panicles axillary and terminal, shorter than the leaves; calyx nearly entire. ♄. S. Native of Nipaul. Petioles 8-9 lines long. Leaves 4 inches long and 1½ broad.

Veiny-leaved Syzygium. Tree.

12 S. AREOLA'TUM (D. C. l. c.) leaves elliptic, cuneated at the base, acuminated at the apex, rather coriaceous, reticulately veined; areolæ regular at the margin, and as if they were constituting a double line; peduncles panicled, axillary and terminal, 3 or 4 times shorter than the leaves; calyx quite entire. ♄. G. Native of Nipaul. Flower-bud globose, somewhat depressed. Operculum corolline. Cupula truncate.

Areolate-veined Syzygium. Tree.

13 S. FRUTICÒSUM (D. C. l. c.) shrubby; leaves elliptic-ovate, acuminated, rather coriaceous, feather-veined; peduncles lateral, opposite or aggregate, loosely and corymbosely panicled. ♄. S. Native of Chittagong, in the East Indies. Flowers small. Operculum almost as in the first section, wholly dehiscent, but corolline, obtuse, and marcescent. Eugènia fruticòsa, Roxb. hort. beng. p. 37.

Shrubby Syzygium. Shrub 5 to 10 feet.

14 S. CARYOPHYLLÆ'UM (Gærtn. fruct. 1. p. 166. t. 33.?) leaves obovate, bluntish or emarginate, rather coriaceous, dotless; peduncles cymosely corymbose, trichotomous, terminal. ♄. S. Native of Ceylon. My'rtus caryophyllàta, Lin. spec. 675. Swartz, obs. 202. Calyptránthes caryophyllàta, Pers. ench. no. 4. Flowers small. Calyx obovate, repandly toothed. Operculum corolline.

Clove-like Syzygium. Tree.

15 S. ZEYLA'NICUM (D. C. l. c.) arboreous; leaves ovate, acuminated, coriaceous, shining above, and full of impressed dots beneath; peduncles nearly terminal, cymosely panicled. ♄. S. Native of Ceylon. My'rtus, Herm. zeyl. 435. with a good figure. My'rtus Zeylánica, Lin. spec. p. 675. Andr. bot. 619. Berry (ex Herm.) white and 1-seeded. Flowers small. Calyx with an oblong tube, and an evidently 5-lobed limb. Operculum corolline.

Ceylon Syzygium. Fl. June, July. Clt. 1798. Tree.

16 S. SPICA'TUM (D. C. l. c.) leaves ovate, acuminated, coriaceous, shining above, full of impressed dots; peduncles short, umbelliferous, crowded into a spicate ovate raceme; style exserted. ♄. S. Native of the East Indies. Eugenia spicàta, Lam. dict. 3. p. 201. Calyx turbinate, pruinosely glaucous, 5-cleft. Perhaps sufficiently distinct from *S. Zeylánicum.*

Spicate-flowered Syzygium. Tree.

17 S. ODORA'TUM (D. C. l. c.) leaves ovate-lanceolate, attenuated at the base, acute at the apex, rather coriaceous, dotless; peduncles terminal, cymosely corymbose; berry globose, crowned by the limb of the calyx, which is very entire. ♄. G. Native of Cochin-china, among bushes, and of China. O'pa odoràta, Lour. coch. p. 309. S. lùcidum, Gærtn. fruct. 1. p. 167. t. 33.?

Sweet-scented Syzygium. Shrub 4 to 6 feet.

18 S. RACEMÒSUM (D. C. prod. 3. p. 261.) leaves oblong-lanceolate, acuminated, full of parallel veins; peduncles umbellulate, racemose, axillary or terminal; fruit globose. ♄. S. Native of Java, on the mountains. Calyptránthus racemòsa, Blum. bijdr. p. 1089.

Racemose-flowered Syzygium. Tree.

19 S. LAXIFLÒRUM (D. C. l. c.) leaves oblong-lanceolate, acuminated at both ends, full of transverse parallel veins; panicles terminal or axillary, divaricate; pedicels subumbellate. ♄. S. Native of Java, in mountain woods. Calyptránthus laxiflòra, Blum. bijdr. p. 1090. Perhaps the same as *S. Zeylánicum.*

Loose-flowered Syzygium. Tree.

20 S. CORYMBÒSUM (D. C. l. c.) leaves oblong-lanceolate, acuminated at both ends, veined; corymb terminal, divaricate; pedicels subumbellate; young branches 4-sided; fruit nearly globose. ♄. S. Native of Java, on the mountains. Calyptránthus corymbòsa, Blum. bijdr. p. 1091.

Corymbose Syzygium. Tree.

§ 2. *Fruit oblong.*

21 S. PYRIFÒLIUM (D. C. l. c.) leaves elliptic-lanceolate, bluntly acuminated, full of parallel veins; corymbs trichotomous, terminal; pedicels usually 3-flowered; fruit oblong.

♄. S. Native of Java, on Mount Salak. Caly'ptranthus pyrifolia, Blum. l. c. Like S. caryophyllifòlium, but evidently distinct, in the corymbs being constantly terminal, and in the flowers being much larger.

Pear-leaved Syzygium. Tree 20 feet.

22 S. ROSTRA'TUM (D. C. l. c.) leaves broadly lanceolate, each with a long blunt acumen, shining, full of fine parallel veins; racemes axillary or terminal, solitary or crowded; pedicels 3-flowered; calyx obsoletely 4-toothed; fruit oblong. ♄. S. Native of Java, on high mountains. Calyptránthus rostràta, Blum. bijdr. p. 1092.

Beaked Syzygium. Tree.

23 S.? ACUMINATÍSSIMUM (D. C. l. c.) panicles terminal, corymbose; pedicels usually 3-flowered; calyx almost quite entire; petals 5-6, small; leaves lanceolate, very much acuminated, finely veined, coriaceous; fruit oblong. ♄. S. Native of Java, on the mountains. My'rtus acuminatíssima, Blume, l. c. p. 1088.

Acuminated Syzygium. Tree.

24 S.? MAGNOLIÆFÒLIUM (D. C. prod. 3. p. 261.) panicles terminal and axillary; flowers usually tern; calyx nearly entire; leaves elliptic-oblong, obtuse at the apex, narrow at the base, coriaceous, veined; fruit oblong. ♄. S. Native of Java, in the mountain woods in the province of Burangrang. My'rtus magnoliæfòlia, Blum. bijdr. p. 1088.

Magnolia-leaved Syzygium. Tree 20 feet.

† *Species not sufficiently known.*

25 S. METROSIDE'ROS (D. C. l. c.) leaves ovate, scattered, serrated; peduncles nearly terminal, somewhat racemose; petals pilose inside. ♄. G. Native of Cochin-china, in woods. O'pa Metrosidèros, Lour. coch. p. 309. exclusive of the synonyme of Rumph. Style bipartite. Berry 1-seeded, dry, crowned by the calyx. Perhaps belonging to a different genus.

Iron-wood Syzygium. Tree.

26 S. BELLU'TTA (D. C. l. c.) arboreous; leaves ovate, acute, shining; peduncles somewhat spicate, axillary and terminal; fruit globose. ♄. S. Native of Malabar. Bellutta-Kannelli, Rheed. mal. 5. t. 20. Pet. Th. dict. sci. nat. 4. p. 29.?

Bellutta-Kannelli Syzygium. Tree 20 feet.

27 S. MA'KUL (Gærtn. fruct. 1. p. 166. t. 33.) ♄. S. Native of Ceylon. Fruit unknown.

Makul Syzygium. Tree.

28 S. MYRTIFÒLIUM (D. C. l. c.) Eugènia myrtifòlia, Roxb. hort. beng. p. 37.

Myrtle-leaved Syzygium. Tree 20 feet.

29 S. HYPERICIFÒLIUM (D. C. prod. 3. p. 261.) My'rtus hypericifòlia, Salisb. prod. p. 354.

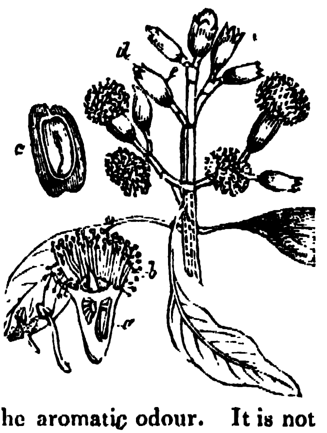
St. John's-wort-leaved Syzygium. Tree.

Cult. For culture and propagation see *Mýrcia*, p. 847.

XXXI. CARYOPHY'LLUS (The Arabs, who have been acquainted from all antiquity with the clove, called it Qarumfel, which the Greeks altered to *Caryophyllon.*) Tourn. inst. t. 432. Lin. gen. 669. Gærtn. fruct. 1. p. 169. t. 33. Blum. in litt. D. C. prod. 3. p. 261. My'rtus species, Kunth.—Eugènia species, Willd.

LIN. SYST. *Icosándria, Monogýnia.* Tube of calyx cylindrical (f. 123. *c.*); limb 4-parted (f. 123. *d.*). Petals 4, cohering together into a calyptra as in *Syzy'gium.* Stamens free (f. 123. *b.*), disposed in 4 bundles, inserted in a 4-angled fleshy concavity near the teeth of the calyx. Ovarium 2-celled (f. 123. *a.*); cells 20-ovulate. Mature berry 1-2-celled, 1-2-seeded. Seeds cylindrical or semi-ovate. Cotyledons thick, fleshy, concave on the outside, sinuated in various ways on the inside. Radicle rising from the centre of the cotyledons, straight, and hidden by them.—Trees. Leaves opposite, coriaceous, dotted. Cymes terminal or subcorymbose in the forks of the branches.

FIG 123.



1 C. AROMA'TICUS (Lin. spec. p. 735.) leaves ovate-oblong, acuminated at both ends; cymes many-flowered. ♄. S. Native of the Moluccas. Hook, bot. mag. 2749. and 2750.—Rumph. amb. 2. tt. 1, 2, 3. Blackw. t. 338. Eugènia caryophyllàta, Thunb. diss. p. 1. My'rtus caryophy'llus, Spreng. The dried flower-buds of this tree are the cloves of the shops, the clou de Giroffe of the French. Calyx dark purple. Petals pale purple.

Every part of the plant is covered with minute dots or glands, which contain the oil, that gives the aromatic odour. It is not easy to determine when the *clove* was first known to Europeans. J. Bauhin tells us, that the inhabitants of the Moluccas were hardly acquainted with its value, till some Chinese vessels visited their country, and transported many plants into China, and that they were thus the means of distributing them into other districts of India, into Persia and Arabia. Sir James Smith (in Rees' cycl.) suspects that it was brought into Greece from Arabia, and that the first distinct mention of it is made by Paulus Ægineta, a Greek physician of the seventh century, when it was used in food and in medicine; and the same author supposes it was the Carunfel of Serapion, and the Charumfel bellum of Avicenna, two Arabian physicians. The Moluccas being discovered by the Portuguese in 1511, and from that time, or very soon after, it may be imagined, that *cloves* came into common use in Europe. The *clove* is now cultivated in almost every part of Asia, where the soil and climate are suitable; and several of the West India Islands now possess this precious vegetable, as St. Vincent, Trinidad, Martinique, St. Kitts, and other French Islands. The French have introduced it into Bourbon and the Mauritius, through the medium of M. Poivre, their then Intendent of those islands, who sent two vessels in 1769 to the kings of Gueby and Patony, to procure the *clove* and other valuable spices, which now succeed better in those islands than in Amboyna. Plants were sent from the Mauritius to Cayenne about the year 1779, and in 1792 the plantation there contained 2500 trees, which bore cloves equal to those of the East Indies, and fetched a higher price in France than those from the Moluccas.

The cloves of commerce are the unexpanded flowers, the corolla forming a ball or sphere on the top, between the teeth of the calyx; thus with the narrow base of the germ tapering downwards, giving the appearance of a nail; hence the Dutch call it *naghel;* the Spaniards *clavo;* the Italians *chiodo;* and the French *clou,* from which the English *clove* is derived.

The uses of cloves are sufficiently known, particularly in domestic economy, as a seasoning in various dishes, and to give flavour to wines and spirits. In medicine they are esteemed tonic and exhilarating, powerfully stimulating on the muscular fibres, but dangerous to bilious persons. These properties, and their acrid and burning taste, depend on the essential oil. Cloves yield, by distillation with water, about one-seventh of their weight of volatile oil. When the alcoholic extract is freed from the volatile oil by distillation with water, the oil that arises proves mild, and the resin that remains insipid. Its pungency, therefore, seems to depend upon a combination of these principles. The Dutch oil of cloves is extremely hot, fiery, and of a reddish brown colour, but is greatly adulterated both with fixed oils and resin of cloves; for the genuine oil, when recently distilled, is comparatively mild and colourless. It is heavier than water, and rises in distillation with some difficulty. It is hot and caustic, and therefore employed in the cure of toothache. It is also employed by perfumers.

The cloves are gathered by hand, or beaten with reeds, so as to fall upon cloths which are placed under the trees to receive them, and dried by fire, or, what is better, in the sun. The fully-formed berries are preserved in sugar, and eaten after dinner, to promote digestion. *Clove* trees being difficult to transplant, the seeds are usually sown where the trees are intended to remain, for if the roots are once injured it is seldom they recover.

Aromatic or Common Clove. Clt. 1796. Tree 20 to 40 ft.

2 C. ELLÍPTICUS (Labill. sert. caled. p. 64. t. 63.) leaves ovate or elliptic, obtuse; cymes 3-flowered. ♄. G. Native of New Caledonia.

Elliptic-leaved Clove. Shrub 3 to 4 feet.

3 C. ANTISE'PTICUS (Blum. in litt. ex D. C. prod. 3. p. 262.) leaves oblong-lanceolate, bluntly acuminated, full of fine pellucid veins; corymbs axillary and terminal; pedicels umbellate; calyx tubular, bluntly 5-toothed. ♄. S. Native of Java, in the province of Buiten-Zorg, at Mount Pantjor. Calyptránthus aromática, Blum. bijdr. p. 1092.

Antiseptic Clove. Tree.

4 C. FASTIGIA'TUS (Blum. in litt. ex D. C. prod. 3. p. 262.) leaves cuneate-oblong, bluntish, full of fine, transverse, parallel veins; corymbs terminal, fastigiate; pedicels 3-flowered. ♄. S. Native of Java, in woods, in the western parts. Calyptránthus fastigiàta, Blum. bijdr. p. 1090. This plant appears to be allied to *Caryophýllus*, in the calyx or ovarium being cylindrical, and in the limb of the calyx being bluntly and evidently 4-lobed.

Fastigiate Clove. Tree 30 to 40 feet.

5 C. FLORIBU'NDUS (Blum. in litt. ex D. C. l. c.) leaves oval-oblong, bluntish, attenuated at the base, almost veinless, shining; corymbs terminal, trichotomous, divaricate; pedicels 3-flowered. ♄. S. Native of Java, in woods on Mount Salak. Calyptránthus floribúnda, Blum. l. c. p. 1091. This is distinguished from the first species in the leaves being broader, stiffer, and in the corymbs being divaricate and dense-flowered.

Bundle-flowered Clove. Tree 30 to 40 feet.

Cult. All the species of clove require a strong dry heat to flourish well, except *C. ellípticus*, which is a green-house plant. A mixture of loam and peat is the best soil for them. Ripened cuttings of them will root if planted in a pot of sand, with a hand-glass over them, in a moist heat. All the species are difficult to preserve through the winter in our stoves.

XXXII. ACME'NA (one of the names of Venus). D. C. dict. class. vol. xi. not. 1826. prod. 3. p. 262.

LIN. SYST. *Icosándria, Monogýnia.* Tube of calyx turbinate; limb truncate, somewhat involute in the young state. Petals 5, small, distant, some of them sometimes abortive. Stamens numerous, free. Style terete, short. Berry globose or oval, 1-seeded. Seed roundish, thick. Cotyledons conferruminated.—Shrubs. Leaves opposite, glabrous, quite entire. Cymes 3-flowered, disposed in a terminal panicled thyrse. Flowers white.

1 A. FLORIBU'NDA (D. C. prod. 3. p. 262.) leaves full of pellucid dots, oval-lanceolate, acuminated at both ends. ♄. G. Native of New Holland. Metrosidèros floribúnda, Smith, in Lin. trans. 3. p. 267. Vent. malm. t. 75. Myrtàcea, Sieb. nov. holl. no. 598. Ovarium 3-celled. Stamens hardly twice the length of the petals.

Var. β, elliptica (D. C. l. c.) leaves elliptic, acuminated. ♄. G. Native of New Holland. Eugènia ellíptica, Smith, l. c. p. 281. Sims, bot. mag. 1872. Eugènia Smíthii, Poir. Mýrtus Smíthii, Spreng. syst. no. 121. Berry globose, white. Calyx not toothed on the margin. Petals unknown.

Bundle-flowered Acmena. Fl. May, Sept. Clt. 1790. Sh. 4 to 6 ft.

2 A. KINGII; leaves elliptic, coriaceous, acuminated, glabrous, tapering to the base; panicle terminal, with trichotomous peduncles, and 3-flowered pedicels. ♄. G. Native of New Holland. Calyx truncate. (v. s. in herb. Lamb.)

King's Acmena. Fl. May, Sept. Clt. 1793. Shrub 4 to 8 ft.

3 A.? PARVIFLÒRA (D. C. l. c.) leaves opaque, oval-lanceolate, acuminated. ♄. S. Native of the Moluccas. Flowers 3-times smaller than those of *A. floribúnda*, but similar. Fruit unknown. Perhaps a species of *Syzýgium*.

Small-flowered Acmena. Shrub 4 to 6 feet.

Cult. For culture and propagation see *Tristània*, p. 813.

XXXIII. EUGE'NIA (in honour of Prince Eugene of Savoy, who was a protector and encourager of botany, and possessed a botanic garden). Mich. nov. gen. t. 108. Lin. gen. no. 616. exclusive of some species. D. C. prod. 3. p. 262.—Gréggia, Gærtn. fruct. 1. p. 168. t. 33.—Mýrtus species, Swartz, Kunth. Olýnthia, Lindl. coll. no. 19. in a note.

LIN. SYST. *Icosándria, Monogynia.* Tube of calyx roundish; limb 4-parted, even to the ovarium. Petals 4. Stamens numerous, free. Ovarium 2-3-celled; cells many-ovulate. Berry nearly globose, crowned by the calyx, when mature 1-celled, but rarely 2-celled. Seeds 1-2, large, roundish. Embryo pseudo-monocotyledonous. Cotyledons very thick, and conferruminated. Radicle very short, hardly distinguishable.—Trees or shrubs, for the most part natives of the West Indies and South America. Leaves and inflorescence sometimes that of *Mýrtus* and sometimes that of *Mýrcia*.

* *Peduncles axillary, 1-flowered.*

1 E. MICHE'LII (Lam. dict. 3. p. 203.) pedicels axillary, 1-flowered, usually solitary, shorter than the leaves; leaves ovate-lanceolate, glabrous; calyx 4-cleft; limb reflexed; berry torose. ♄. S. Native of Brazil and about Demerara, also cultivated in Martinico, under the name of *Cerisier de Cayenne*. Jacq. obs. 3. p. 3. Eugènia, Mich. nov. gen. t. 108. Till. pis. t. 44. Mýrtus Brasiliàna, Lin. spec. p. 674. Plínia rùbra, Lin. fil. suppl. p. 253. Curt. bot. mag. t. 473. Fruit edible, torulose, adhering to the calyx. Cotyledons conferruminated, ex Kunth. Perhaps the *Plinia*, Plum. gen. t. 11. which is the *Plínia pinnàta* of Lin. 735.

Micheli's Eugenia. Shrub 12 to 14 feet.

2 E. LIGU'STRINA (Willd. spec. 2. p. 962.) pedicels 1-flowered, usually solitary, elongated, rising from the axils of the leaves or bracteas, bractless under the flowers; leaves lanceolate, obtuse, rather concave, shining above, glabrous on both surfaces, as well as on the flowers. ♄. S. Native of the West Indies, Mýrtus cerásina, Vahl. symb. 2. p. 57. Mýrtus ligústrina, Swartz, fl. ind. occ. p. 835. Fruit black, 2-seeded, crowned by the calyx. Embryo with conferruminated cotyledons.

Privet-like Eugenia. Fl. Aug. Clt. 1798. Shrub 2 to 4 ft.

3 E. SUBTERMINA'LIS (D. C. prod. 3. p. 263.) pedicels 1-flowered, solitary, rising from the axils of the upper leaves, opposite, slender, 3-times shorter than the leaves; bracteoles small, acute, 2 under each flower; fruit globose; calycine lobes bluntish; leaves oblong, acuminated at both ends, opaque, nerveless, and are as well as the branchlets glabrous. ♄. S. Native of Brazil, at the river Ilheos. Leaves 2 inches long and 5 lines broad. Petioles 2 lines long. Pedicels 7-8 lines long.

Subterminal Eugenia. Shrub 4 to 6 feet.

4 E. PÌA (D. C. l. c.) pedicels 1-flowered, solitary, elongated, rising from the axils of the bracteas and leaves; leaves lanceolate, bluntish, shining above, glabrous on both surfaces, as well as on the flowers; branchlets hairy. ♄. S. Native of Brazil, in the province of Minas Geraes, at Serra de Piedado. Mýrtus Pìa, Mart. ined. Very like *E. ligústrina*, but the branches are

tomentose or hairy, and the fruit 4-seeded. Cotyledons conferruminated. Habit of *Mýrtus*.

Pia Eugenia. Shrub 4 to 6 feet.

5 E. SESSILIFÒLIA (D. C. l. c.) pedicels axillary, solitary, 1-flowered, opposite, slender, bractless at the apex, 3-times shorter than the leaves; fruit globose, crowned by the calycine lobes, which are oblong and acutish; leaves sessile, attenuated at both ends, oblong, full of pellucid dots, and are as well as the branches glabrous. ♄. S. Native of Brazil, in the province of Bahia. Mýrtus sessilifòlia, Mart. herb. Lobes of calyx 3 lines long. Pedicels 7-9 inches long. Leaves 3 inches long and 1 inch broad. Seeds thick, pseudo-monocotyledonous.

Sessile-leaved Eugenia. Tree.

6 E. SPARSIFLÒRA (D. C. l. c.) pedicels 1-flowered, solitary, one half shorter than the leaves, opposite, bractless at the apex, rising from the lower part of the branchlets, in the axils of the scales or leaves; fruit globose; leaves oval, acuminated, obtuse at the base, glabrous on both surfaces as well as the branches. ♄. S. Native of Brazil, near Almada, in the province of Bahia. Mýrtus sparsiflòra, Mart. herb. Pedicels slender, 9 inches long. Calycine lobes 4, oval. Leaves 3-4 inches long, and 15 lines broad. Petioles 4 lines long. Seeds unknown.

Scattered-flowered Eugenia. Tree 20 feet.

7 E. LA'XA (D. C. l. c.) pedicels axillary, solitary, 1-flowered, very slender, shorter than the leaves; leaves oval, attenuated at the base, glabrous, acuminated at the apex; branchlets and young leaves clothed with rufous pubescence, but at length becoming glabrous; lobes of calyx 4, 2 larger and suborbicular; young fruit obovate. ♄. S. Native of Brazil, about Bahia, in the deserts. Mýrtus láxa, Mart. herb. Pedicels 12-20 lines long, straight, rising from the axils of the upper leaves. Bracteas none, or very small. Leaves 3 inches long and 1 inch broad, full of pellucid dots. Immature fruit 1-seeded. Allied to *E. Patrisii*, but the fruit is obovate, not globose.

Loose Eugenia. Tree 10 to 20 feet.

8 E. INOCA'RPA (D. C. prod. 3. p. 264.) pedicels axillary, 1-flowered, shorter than the leaves; calycine lobes 4, ovate; fruit globose, fibrous inside, 2-seeded; leaves ovate, attenuated at the base, acuminated at the apex, glabrous; branchlets clothed with rufous down, furnished with stipula-formed scales. ♄. S. Native of Brazil, at Rio Negro. Mýrtus inocárpus, Mart. herb. Leaves 3 inches long and 1½ inch broad. Petioles short. Fruit full of tubercular dots, about the size of a plum, with fibry, acid-sweet flesh. Pedicels few, 7 lines long. Seeds 2, convex on one side and flat on the other.

Nerved-fruited Eugenia. Tree 20 feet.

9 E. INVOLUCRA'TA (D. C. l. c.) pedicels axillary, 1-flowered, solitary, with large, foliaceous, deciduous bracteas under the flower; floral leaves smaller than the rest; calycine lobes 4, ovate-oblong, reflexed; leaves elliptic, petiolate, attenuated at both ends, when young rather villous and full of pellucid dots, but glabrous and opaque in the adult state; branches compressed. ♄. S. Native of Brazil. A small tree, with erect, spreading branches. Pedicels 5 lines long. Bracteoles 5 lines long. Sterile leaves 2 inches long. Petioles 4-5 lines long. Floral leaves smaller than the others.

Involucrated-flowered Eugenia. Shrub 6 to 8 feet.

10 E.? BRACTEA'TA (Ræusch. nom. ex D. C. prod. 3. p. 264.) pedicels axillary, solitary, 1-flowered, bibracteate under the flowers, villous; leaves elliptic, obtuse, glabrous, when young clothed with adpressed silky down; calyxes ciliated. ♄. S. Native of the East Indies. Mýrtus bracteà'a, Willd. spec. 2. p. 969. Fruit and seeds unknown.

Bracteate-flowered Eugenia. Clt. 1820. Shrub.

11 E. BALSA'MICA (Jacq. fragm. t. 45. f. 2.) pedicels lateral, solitary, 1-flowered, slender, rather villous, bearing 2 oval bracteoles under each flower; leaves ovate, bluntly acuminated, pale and dotted, glabrous; calyx rather villous. ♄. S. Native of Jamaica. My'rtus balsámica, Spreng. syst. 2 p. 481. Petals ciliated, one half shorter than the stamens. Bracteas usually at the origin of the petioles. Fruit and seeds unknown.

Balsam Eugenia. Clt. 1816. Tree 10 to 20 feet.

12 E. POHLIA'NA (D. C. prod. 3. p. 264.) pedicels axillary, solitary, rather longer than the leaves, some 1-flowered, and others 3-flowered; middle flower sessile. in the bifurcation, 2 lateral ones pedicellate; bracteoles subulate; calycine lobes 4, roundish, clothed with silky down on the outside, at length reflexed; leaves ovate, glaucous, dotted beneath, opaque, glabrous; petioles and branches clothed with rufous velvety down. ♄. S. Native of Brazil, in deserts, in the provinces of the mines. My'rtus Pohliàna, Mart. herb. Allied to *E. Sellowiàna* and *E. càna*, but in consequence of the pedicels being 1 or 3-flowered, it is an intermediate plant between the first and fourth sections. Leaves 9-10 lines long and 5 lines broad. Peduncles 10-11 lines long. Flowers about the size of those of *Mýrtus commùnis*. Fruit unknown.

Pohl's Eugenia. Tree 20 feet.

13 E. SELLOWIA'NA (D. C. l. c.) pedicels axillary, solitary, 1-flowered, bearing 2 subulate bracteoles; calyxes and branchlets clothed with velvety hoary down; leaves ovate-oblong, acuminated, full of pellucid dots, velvety above in the young, but in the adult state glabrous above, pubescent and reticulately nerved beneath. ♄. S. Native of Brazil, in the provinces of the mines, in the deserts. My'rtus Sellowiàna, Mart. herb. A crooked tree, about 10 feet high. Leaves 2 inches long and 7-8 lines broad, spreading, not reflexed. Pedicels 4-10 lines long, rising from the axils of the upper leaves. Allied to *E. càna*.

Sello's Eugenia. Shrub 10 feet.

14 E. CA'NA (D. C. l. c.) pedicels axillary, solitary, 1-flowered, opposite, somewhat divaricate, bearing 2, subulate, rather alternate bracteas above the middle; calyx clothed with hoary velvety down; leaves ovate-oblong, acuminated, deflexed, opaque, when young pubescent above, but at length glabrous, and clothed with hoary velvety down beneath. ♄. S. Native of Brazil, in the provinces of the mines. My'rtus càna, Mart. herb. Species allied to *E. Sellowiàna*, but very distinct. Calycine lobes ovate, obtuse, reflexed. Pedicels 6-7 lines long. Leaves an inch long; floral ones smaller.

Hoary Eugenia. Tree 10 to 15 feet.

15 E.? RÒSEA (D. C. l. c.) pedicels axillary, 1-flowered, shorter than the leaves, bearing 2 oblong bracteas under the flowers; branches, calyxes, and bracteas clothed with hairy tomentum; leaves oblong, attenuated at both ends, with revolute margins, smaller ones villous on both surfaces, adult ones glabrous above, but clothed with velvety tomentum beneath; lobes of calyx large, broadly ovate, obtuse. ♄. S. Native of Brazil, among rocks. Psídium ròseum, Mart. herb. A bush, with numerous procumbent branches. Flowers rose-coloured, 4-cleft, with a broad, staminiferous disk, as in *Psídium*. Leaves 2 inches long, and 4-7 lines broad. Pedicels 7 inches long. Fruit unknown.

Rose-coloured-flowered Eugenia. Shrub procumbent.

16 E. KUNTHIA'NA (D. C. l. c.) pedicels axillary, 1-flowered, 3 times shorter than the leaves, bibracteolate at the apex; ovarium ovate, small; calycine lobes 8, obtuse, constricted after flowering; leaves oblanceolate, coriaceous, rather glaucous, glabrous, hardly with any pellucid dots; branchlets downy above. ♄. S. Native of Brazil. My'rtus Kunthiàna, Mart. herb. Seed 1, elliptic-globose, pseudo-monocotyledonous. Pedicels 5-6 lines long.

Var. α; fruit red.

Var. β; fruit yellow.

Var. γ; leaves smaller; pedicels shorter, 2 lines long. ♄. S. Native of Brazil, in the province of Minas Geraes.

Kunth's Eugenia. Tree 10 to 15 feet.

17 E.? FŒ'TIDA (Pers. ench. 2. p. 29.) pedicels axillary, solitary, 1-flowered, bibracteolate under the flowers, hardly longer than the petioles; leaves ovate-lanceolate, bluntly acuminated, membranous; calyx 4-lobed. ♄. S. Native of Cayenne. My'rtus fœ'tida, Spreng. syst. 3. p. 481. Fruit globose, size of a pepper. Seeds unknown.

Var. α, *maleòlens* (Pers. ench. l. c.) pedicels solitary; leaves blunter, rather coriaceous. ♄. S. Native of the West Indies. E. fœ'tida, Vahl. herb.

Stinking Eugenia. Tree 10 feet.

18 E. ANGUSTIFÒLIA (Lam. dict. 3. p. 203.) pedicels axillary, solitary, or twin, 1-flowered, naked, 3-times shorter than the leaves; leaves linear, acute, with revolute edges, and are as well as the branches glabrous. ♄. S. Native of St. Domingo. Plum. ed Burm. t. 207. f. 2. My'rtus angustifòlia, Spreng. syst. 2. p. 479. not of Lin. M. rosmarinifòlia, Spreng. l. c. Stamens hardly longer than the petals. Fruit globose, red, few-seeded. Seeds compressed.

Narrow-leaved Eugenia. Tree 10 to 12 feet.

19 E.? ROSMARINIFÒLIA (Poir. suppl. 3. p. 129.) pedicels axillary, 1-flowered, usually solitary, shorter than the leaves; leaves small, linear, mucronate, with revolute edges, glabrous, above but villous on the under surface, as well as on the branches; calyx 4-cleft, obtuse. ♄ S. Native of the Caribbee Islands. My'rtus rosmarinifòlia, Pers. ench. 2. p. 30. Fruit and seeds unknown. Perhaps sufficiently distinct from *E. angustifòlia.*

Rosemary-leaved Eugenia. Shrub.

20 E. ALPIGE'NA (D. C. l. c.) pedicels axillary, solitary, 1-flowered, 6-times shorter than the leaves, bibracteolate at the apex; flowers and branches covered with canescent down; calycine lobes 4, ovate; leaves on short petioles, elliptic-oblong, hoary beneath, clothed with adpressed pubescence above, opaque, nerveless, except the middle nerve. ♄. S. Native of Brazil, on the mountains, in the provinces of the mines. My'rtus alpigèna, Mart. herb. Allied to *E. alpìna.* Branches crowded. Flowers small. Leaves an inch long and 4 lines broad, pubescent above while young, but at length nearly glabrous, full of impressed dots.

Alp-growing Eugenia. Tree 10 feet.

21 E. OBSCU'RA (D. C. l. c.) pedicels 1-2, axillary, very short, 1-flowered; bracteoles subulate, adnate to the tube of the calyx; leaves almost sessile, glabrous, ovate-lanceolate, bluntly acuminated; calyxes and petals pilose on the outside; branchlets hairy. ♄. S. Native of Maranham. My'rtus obscùra, Lindl. bot. reg. t. 1044. Petals acuminated. Bracteas inserted immediately under the lobes of the calyx, in which it differs from all the other species.

Obscure Eugenia. Clt.? Shrub 4 to 6 feet.

22 E. MYRTIFÒLIA (D. C. prod. 3. p. 265.) pedicels axillary, 1-flowered, one half shorter than the leaves, almost bractless at the apex; ovarium globose; calycine lobes 4, broad, obtuse, constricted after flowering; leaves oval, cuneated at the base, bluntish at the apex, pale beneath, hardly with any pellucid dots, and are as well as the branches glabrous. ♄. S. Native of Brazil, in the provinces of the mines. My'rtus tenélla, var. Mart. herb. Allied to *E. rígidum.* Young fruit many-celled. Seeds unknown. Leaves 8 lines long and 4 broad, almost sessile, shining above; lateral veins confluent at the apex.

Myrtle-leaved Eugenia. Shrub 2 feet.

23 E. ALPÌNA (Willd. spec. 2. p. 961.) pedicels axillary, solitary, 1-flowered, shorter than the leaves, thickish; leaves ovate, coriaceous, veinless, glabrous; branches usually in fours, erect, rusty. ♄. S. Native of Jamaica, on the tops of the Blue Mountains. My'rtus rígida, Swartz, in herb. Lher. My'rtus alpìna, Swartz, fl. ind. occ. p. 883. Berry dry, ovate, when mature 1-seeded. Seed oblong.

Alpine Eugenia. Shrub 4 to 6 feet.

24 E. WILLDENÒWII (D. C. l. c.) pedicels 1-flowered, filiform, solitary, or twin, axillary and lateral, bearing 2 subulate very short bracteas under the flowers; leaves oblong, acuminated, coriaceous, dotless, shining. ♄. S. Native of Ceylon. Said to be allied to *E. Michèlii* and *E. Patrísii.* Eugènia Zeylanica, Willd. spec. 2. p. 963. but not of Roxb. My'rtus Willdenòwii, Spreng. syst. 2. p. 480. exclusive of the var. from Porto Rico.

Willdenow's Eugenia. Shrub.

25 E. OBTU'SA (D. C. prod. 3. p. 266.) pedicels axillary, solitary, 1-flowered, a little shorter than the leaves; the bracteas under the flowers and the calycine lobes are oval-oblong and foliaceous; leaves oval, obtuse at both ends, glabrous, full of impressed dots on the upper surface, when young rufous beneath, but at length pale; branches and petioles clothed with rufous villi. ♄. S. Native of Peru. My'rtus obtùsa, Juss. herb. Leaves 5-6 lines long and 3 lines broad. Fruit nearly globose, 1-seeded. The bracteoles are larger than those in the allied species. Habit of *E. alpìna*, but the pedicels are longer, and the bracteoles are much larger and permanent.

Blunt-leaved Eugenia. Shrub.

26 E. PORTORICE'NSIS (D. C. l. c.) pedicels 1-flowered, slender, shorter than the leaves, axillary or lateral, bearing 2 ovate, puberulous bracteoles under the flowers; leaves ovate-elliptic, acuminated, membranous, dotless, and are as well as the branches glabrous; petals sub-ciliated. ♄. S. Native of Porto-Rico, on the edges of woods. Eugènia latifòlia, Spreng. in herb. Balb. Pedicels half an inch long, axillary, solitary, numerous, rising from the base of the branches in an irregular way. Bracteoles small, scale-formed at the origin of the petioles. Leaves nearly 3 inches long. Flowers small, glabrous. Ovarium globose. Fruit and seeds unknown.

Var. β, *brévipes* (D. C. l. c.) pedicels hardly 3-times longer than the petioles; leaves smaller, rather coriaceous. ♄. S. Native of Porto Rico. My'rtus Willdenòwii, var. Porto-Ricénsis, Spreng. ex herb. Balb. but exclusive of the synonymes. Fruit and seeds unknown.

Porto-Rico Eugenia. Tree.

27 E. PRODU'CTA (D. C. l. c.) pedicels 1-flowered, axillary, and lateral, solitary, or rather aggregate, naked, much shorter than the leaves; leaves coriaceous, quite glabrous, shining above, oval, drawn out into a long, linear, blunt acumen each; calyx 4-cleft. ♄. S. Native of Cayenne. Leaves oval, 3-4 inches long, and 2 inches broad, terminating in an acumen, which is an inch long and a line and a half broad. Berry globose, 1-seeded. Seed thick. Cotyledons fleshy, conferruminated.

Drawn-out-leaved Eugenia. Shrub.

28 E. CRASSIFÒLIA (D. C. prod. 3. p. 266.) pedicels axillary, 1-2-flowered, very short, thickish; fruit globose, crowned by the lobes of the calyx, which are deciduous; leaves oblong, coriaceous, acuminated at both ends, glabrous above, but covered with hairy down beneath; petioles as well as the branchlets rather velvety. ♄. S. Native of Brazil, in woods, in the province of St. Paul. My'rtus crassifòlia, Mart. herb. Seed 1, thick, rather horny, pseudo-monocotyledonous. Leaves 1½ inch long and ½ an inch broad. Petioles longer than the pedicels.

Thick-leaved Eugenia. Shrub.

29 E. FELISBE'RTI (D. C. l. c.) pedicels solitary, very short, 1-flowered, opposite, rising from the axils of the small bractea-formed leaves; bracteoles large, under the flowers; calyx villous, 4-cleft; leaves oblong, acuminated at both ends, full of pellucid dots, when young rather villous on both surfaces; nerves,

petioles, and branches clothed with adpressed villi. ♄. S. Native of Brazil, in woods on the road to Felisbert. My'rtus Felisbérti, Mart. herb. Leaves membranous, pale green, 4 inches long and an inch and a half broad. Petals roundish, hardly longer than the calyx. Stamens innumerable. Fruit unknown.

Felisbert Eugenia. Shrub.

30 E. PARVIFÒLIA (D. C. l. c.) pedicels axillary, 1-flowered, a little shorter than the leaves; bracteoles small; leaves oblong-linear, obtuse, acute, marked by the nerve above, which is impressed, dotted beneath, the rest veinless and glabrous. ♄. S. Native of Peru. My'rtus parvifòlia, Juss. herb. Flowers small. Very like the following species, but the leaves are a little larger, and not exactly linear, acute at the apex.

Small-leaved Eugenia. Shrub 2 to 3 feet.

31 E.? LEPTOSPERMOÌDES (D. C. l. c.) pedicels axillary 1-flowered, a little shorter than the leaves; bracteoles small; leaves oblong-linear, obtuse, nearly nerveless, dotted, glabrous. ♄. S. Native of Chili and Peru. Leaves 4-5 lines long, and a line broad. Flowers small. Fruit and seeds unknown. It agrees with the figure of Feuill. obs. 3. t. 31. and is not unlike *Myrtus U'gni.* My'rtus parvifòlia, Juss. herb.

Leptospermum-like Eugenia. Shrub 2 to 3 feet.

32 E. PATRÍSII (Vahl. ecl. amer. 2. p. 35.) pedicels 1-flowered, slender, axillary, solitary, and nearly terminal, in fours, naked under the flowers, bractless at the base; leaves elliptic, glabrous, acuminated at both ends. ♄. S. Native of French Guiana. My'rtus Patrísii, Spreng. syst. 2. p. 480. Pedicels an inch and a half long. Bracteas acute, short. Fruit globose, not torose. Staminiferous disk broad, nearly as in *Psidium.* Seeds very few. Cotyledons conferruminated? in the immature state. Allied to *Mýrtus ligústrina.*

Patris's Eugenia. Tree.

33 E. NEMORA'LIS (D. C. prod. 3. p. 267.) glabrous; pedicels axillary, 1-flowered, solitary, opposite, erect, equal in length to the petioles; bracteoles hardly any under the flowers; fruit elliptic; calycine lobes 4, broad, obtuse; leaves elliptic, abruptly and obsoletely apiculated, coriaceous, opaque. ♄. S. Native of Brazil. My'rtus nemoràlis, Mart. herb. Allied to *E. clinocárpa*, but differs in the fruit being erect and twice the size. Leaves 2 inches long and an inch broad.

Grove Eugenia. Shrub.

34 E. CLINOCA'RPA (D. C. l. c.) glabrous; pedicels axillary, 1-flowered, twice the length of the petioles, when in flower erect, and when in fruit deflexed; bracteoles small, under the flowers; fruit elliptic; lobes of calyx short, very blunt; leaves oval, rather oblong, attenuated at the base, obsoletely acuminated at the apex, rather coriaceous, full of pellucid dots. ♄. S. Native of Brazil, at the river Peruaguacu, in the province of Bahia, in woods. My'rtus clinocárpa, Mart. herb. Leaves 15-18 lines long and 6-8 lines broad. Young branches somewhat tetragonal. Fruit 1-seeded. Cotyledons conferruminated.

Bed-fruited Eugenia. Shrub.

35 E. BRASILIE'NSIS (Lam. dict. 3. p. 203.) pedicels 1-flowered, slender, rising from the axils of the scaly leaves, along the branches from velvety scaly buds; bracteoles none; calycine lobes reflexed; leaves oval or obovate-oblong, bluntish, coriaceous, quite glabrous. ♄. S. Native of Brazil. My'rtus Dombéyi, Spreng. syst. 2. p. 485.—E. bracteolàris, Lam. mss. in herb. Juss. Leaves shining above, 3 inches long, 1½ broad. Pedicels about equal in length to the floral leaves. Stamens hardly longer than the petals.

Brasilian Eugenia. Shrub.

36 E. REINWARDTIA'NA (D. C. l. c.) pedicels interpetiolar, 1-flowered, shorter than the leaves; leaves on short petioles, elliptic-oblong, bluntish, coriaceous, remote, smoothish. ♄. S. Native of the Moluccas. My'rtus Reinwardtiàna, Blum. bijdr. p. 1082. Calyx 4-cleft. Fruit roundish, and with the seeds nearly as in *Eugènia.*

Reinwardt's Eugenia. Shrub.

37 E. MARANHAOE'NSIS; branched; leaves oblong, coriaceous, acuminated, glabrous on both surfaces; pedicels axillary, 1-flowered. ♄. S. Native of Maranham, in Brazil.

Maranham Eugenia. Shrub 4 to 8 feet.

38 E. MYRTOÌDES; branched; leaves ovate, quite entire, acute, coriaceous, almost sessile; pedicels axillary, 1-flowered. ♄. S. Native of the western coast of Africa, on the Gold coast, particularly at Accra.

Myrtle-like Eugenia. Shrub 4 to 8 feet.

* * *Pedicels axillary, 1-flowered, twin, tern, or numerous.*

39 E.? PUNICÆFÒLIA (D. C. l. c.) pedicels axillary, 1-flowered, twin, much shorter than the leaves, bibracteolate under the flowers; leaves oblong, obtuse, acute at the base, rather coriaceous, shining, and are as well as the branches glabrous; calyx 4-cleft. ♄. S. Native near Cumana, on Mount Impossible. My'rtus punicæfòlia, H. B. et Kunth, nov. gen. amer. 6. p. 149. Leaves 2 inches long. Flowers the size of those of *Cratæ'gus oxyacántha.* Ovarium 2-celled. Berry nearly globose, red, 1-2-seeded. Said to be allied to *My'rtus ligústrina.*

Pomegranate-leaved Eugenia. Shrub 10 to 12 feet.

40 E. VISMIOÌDES (D.C. l. c.) pedicels 1-3, axillary, 1-flowered, much shorter than the leaves, bibracteolate, under the flowers; leaves oval, cuneated at the base, on very short petioles, bluntly attenuated at the apex, glabrous on both surfaces as well as on the branches, with a very few pellucid dots. ♄. S. Native of the Moluccas. Pedicels 4 lines long. Flower-bud globose. Lobes of calyx very blunt, roundish. Leaves 3 inches long and 1½ broad.

Vismia-like Eugenia. Shrub 6 to 8 feet.

41 E. SA'NCTA (D. C. l. c.) pedicels 1-3 together, axillary, 1-flowered, 4 times shorter than the leaves, bibracteolate under the flowers; leaves oval, almost sessile, bluntish at both ends, stiff, full of minute pellucid dots, glabrous on both surfaces; branches rather pubescent. ♄. S. Native of Brazil, in the province of Bahia, among bushes at the bottoms of the mountains. My'rtus sáncta, Mart. herb. Leaves pale green, 15 lines long, and 8-9 lines broad. Pedicels 3-4 lines broad, and are as well as the calyxes glabrous. Calycine lobes very blunt. Style hooked at the apex. Fruit unknown.

Holy Eugenia. Shrub 2 to 3 feet.

42 E. COARE'NSIS (D. C. l. c.) pedicels 1-3 together, 1-flowered, bibracteolate, under the flowers, 3 times shorter than the leaves; calycine lobes 4, obtuse; leaves oval, nearly sessile, bluntly somewhat acuminated, stiff, opaque, and are as well as the branches glabrous; lateral veins almost wanting. ♄. S. Native of Brazil, at Rio Negro. My'rtus Coarénsis, Mart. herb. Leaves an inch long and 6 lines broad. Pedicels 2-3 lines long. Flowers small. Fruit unknown.

Coari Eugenia. Shrub.

43 E. KOCHIA'NA (D. C. prod. 3. p. 268.) pedicels 1-3 together, 1-flowered, 3-times shorter than the leaves, bibracteolate at the apex; calycine tube obovate, with the lobes ovate; leaves oval-oblong, sessile, stiff, opaque, obtuse at both ends, almost veinless, and are as well as the obsoletely tetragonal branchlets, glabrous. ♄. S. Native of Brazil. My'rtus Kochiàna, Mart. herb. Leaves an inch long and 4 lines broad, erect. Nearly like those of *Phyllirǽa mèdia.* Pedicels 4 lines long. Flowers small.

Koch's Eugenia. Tree 20 to 30 feet.

44 E. STIGMATÒSA (D. C. l. c.) pedicels 1-3 together, axillary, 1-flowered, 3-times the length of the petioles, acutely bibracteolate, under the flowers; leaves oval, cuneated at the base, bluntly acuminated at the apex, glabrous, full of large pellucid

dots, which are rarely blackish beneath. ♄. S. Native of Brazil, in the desert of Bahia. My'rtus stigmatòsa, Mart. herb. Very nearly allied to *E. dipoda*. Pedicels 6 lines long. Leaves paler beneath, 2 inches long and an inch broad. Flowers small. Lobes of calyx roundish, reflexed; tube nearly globose. Fruit unknown.

Stigmatose Eugenia. Tree.

45 E. DÍPODA (D. C. prod. 3. p. 268.) pedicels 1-flowered, axillary, twin, shorter than the leaves, bibracteolate under the flowers; leaves elliptic-oblong, attenuated at both ends, with an obtuse acumen, and are as well as the branches glabrous. ♄. S. Native of French Guiana. Leaves 1½ inch long, and about the same in breadth, full of very minute pellucid dots. Pedicels 5 lines long. Berry ovate, 1-seeded. Cotyledons thick, conferruminated. Calycine lobes very blunt.

Var. β, brachypoda (D. C. l. c.) pedicels 3 lines long.

Two-pedicelled Eugenia. Shrub.

46 E. PRÓCERA (Poir. suppl. 2. p. 129.) pedicels 1-flowered, axillary, 2-4 together, shorter than the leaves, bibracteolate under the flowers; leaves ovate, bluntly acuminated, and are as well as the branchlets glabrous. ♄. S. Native of St. Domingo, in woods also of Martinique and Santa-Cruz. My'rtus prócera, Swartz, fl. ind. occ. p. 887. Branches twiggy. Leaves an inch and a half long. Petioles 3 lines long. Berry nearly globose, about the size of a pepper, 1-seeded. Cotyledons conferruminated. Fruit eatable.

Tall Eugenia. Tree 20 to 30 feet.

47 E. PSEU'DO-PSÍDIUM (Jacq. amer. 15. t. 93.) pedicels 1-flowered, shorter than the leaves, bibracteate under the flowers, lower ones axillary, solitary, upper ones nearly terminal, in fascicles; leaves ovate, acute, and are as well as the branches glabrous; fruit smooth, globose. ♄. S. Native of Martinico, in mountain woods, where it is called *Gouyavier bâtard*. My'rtus pseùdo-psídium, Spreng. syst. 2. p. 480. exclusive of the synonymes. Berry red, 1-seeded. Seed thick. Cotyledons conferruminated. Fruit eatable, and held in considerable esteem in the West Indies.

False-guava Eugenia. Tree 20 feet.

48 E. PSIDIOÌDES (D. C. prod. 3. p. 268.) pedicels thickish, axillary, 1-flowered, much shorter than the leaves, 4-8 in a fascicle, minutely bibracteolate under the flowers; leaves oval, shortly acuminated, coriaceous, with revolute margins, and are as well as the branchlets glabrous. ♄. S. Native of Cayenne. Very like *E. pseùdo-psidium*, but the leaves are more oval, and distinctly mucronately acuminated, coriaceous, with revolute edges; the pedicels are shorter, and hardly half an inch long. Fruit globose. Seed 1, large. Bracteoles small.

Guava-like Eugenia. Tree.

49 E. NÌGRA (D. C. l. c.) pedicels 3-4 together, axillary, 1-flowered, thickish, length of petioles; fruit globose; leaves oval, short-acuminated, coriaceous, opaque, shining above, glabrous on both surfaces, as well as on the branchlets. ♄. S. Native of Brazil, in the province of Para near Ega. My'rtus nìgra, Mart. herb. Branches terete. Leaves 5 inches long and 2 broad. Pedicels, when in fruit, hardly 3 lines long. Flowers unknown. Fruit half an inch in diameter. Calycine lobes deciduous, and therefore the fruit is marked with a somewhat tetragonal areola at the apex. Seeds 2, large.

Black Eugenia. Tree.

50 E. CITRIFÒLIA (Poir. suppl. 3. p. 129.) peduncles axillary, very short, branched; pedicels in fascicles, shorter than the petioles, bracteolate under the flowers; leaves elliptic-oblong, acuminated, coriaceous, shining, and are as well as the branches quite glabrous. ♄. S. Native of Cayenne. My'rtus Cayennénsis, Spreng. syst. 2. p. 480. Fruit small, according to Poiret, globose, and 1-seeded. Leaves 3-5 inches long.

Citron-leaved Eugenia. Shrub.

51 E. DYSENTE'RICA (D. C. prod. 3. p. 268.) pedicels axillary, solitary, 1-flowered, slender, shorter than the leaves, rather crowded on the short branches, bractless at the apex; calycine lobes ciliated, bearded at the apex; leaves ovate, obtuse, quite glabrous, on short petioles, rising with the flowers. ♄. S. Native of Brazil, in fields about Goyaz, where it is called *Cogaiteira*. My'rtus dysentérica, Mart. herb. trav. vol. 2. A twisted tree, leafless at the time of flowering. Branches glabrous, bearing 5-6 scales. Berry globose, depressed, furrowed, citron-coloured. Scales of buds ciliated.

Dysenteric Eugenia. Tree 10 to 20 feet.

52 E. MARTIUSIA'NA (D. C. prod. 3. p. 269.) pedicels 5-9 together, axillary, 1-flowered, about the length of the petioles; bracteoles 2, obtuse, connate under the flowers; fruit globose, 3-seeded; calycine lobes 4, small, obtuse; leaves oval, bluntish at both ends, coriaceous, opaque, and are as well as the branchlets glabrous. ♄. S. Native of Brazil, in woods in the province of Bahia. My'rtus Lindleyàna, Mart. herb. but not of Kunth. Leaves about 3 inches long, and about 2 broad. Petioles 3 lines long. Fruit the size of a pea. Seeds compressed, somewhat reniform. Cotyledons conferruminated.

Martius's Eugenia. Tree.

53 E. LONGIFÒLIA (D. C. l. c.) pedicels 3-5 together, 1-flowered, a little shorter than the petioles, bibracteolate at the apex; calyx with an obovate, somewhat turbinate tube, and 4 obtuse lobes; leaves elliptic-oblong, acuminated at both ends, and are as well as the branches glabrous; lateral nerves running into a vein, which is distant from the margin. ♄. S. Native of Brazil, in swampy shady places of woods, in the province of Bahia. My'rtus longifòlia, Mart. herb. A loose tree, with expanded branches. Leaves 9 inches long and 2½ inches broad. Petioles 4 lines long. Pedicels 3 lines long. Flowers small. Fruit unknown.

Long-leaved Eugenia. Tree.

54 E. LATIFÒLIA (Aubl. guian. 1. p. 502. t. 199.) pedicels axillary, usually tern, 1-flowered, length of the petioles, bibracteolate under the flowers; leaves broad-ovate, acute, reticulately veined, and are as well as the branches glabrous; fruit ovate. ♄. S. Native of French Guiana, on the edges of fields. My'rtus latifòlia, Spreng. syst. 2. p. 481. Leaves 10-11 inches long and 5-6 inches broad. Flowers white, sometimes 5-cleft, according to Aublet. Berry olive-formed, violaceous, 1-seeded. Seed thick.

Broad-leaved Eugenia. Clt. 1793. Shrub 6 to 7 feet.

55 E. UNDULA'TA (Aubl. l. c. p. 508. t. 202.) pedicels axillary, usually 3-together, 1-flowered, rather shorter than the petioles, bibracteolate under the flowers; leaves ovate-oblong, acuminated, with undulated margins, and are, as well as the branchlets, glabrous; fruit ovate. ♄. S. Native of Guiana, on the banks of the river Sinenari. My'rtus undulàta, Spreng. syst. 2. p. 482. Leaves 6-7 inches long, full of pellucid dots. Peduncles very short, branched. The flowers are said to be 5-cleft by Aublet, but in the figure they are drawn 4-cleft. Berry red, 1-seeded.

Waved-leaved Eugenia. Shrub 3 to 4 feet.

56 E.? ANASTOMÒSANS (D. C. l. c.) pedicels 1-flowered, axillary and lateral, 2-3-together, 3 times longer than the petioles, bibracteolate under the flowers; leaves oval, acute, membranous, glabrous; lateral nerves running into a vein, which is distant from the margin; calycine lobes very obtuse, 2 smaller than the rest. ♄. S. Native of French Guiana. Ovarium subglobose-ovate, 2-celled, few-seeded. Style filiform, long. Leaves 4-5 inches long, and 2 inches broad. Pedicels 6-7 lines long. Fruit and seeds unknown.

Anastomosing-veined Eugenia. [illegible] 15 feet.

57 E. MICROPÒRA (D. C. l. c.) pedicels axillary, 3-9 to-

gether, 1-flowered, length of the petioles, umbellate, refracted after flowering; fruit globose, depressed; calycine lobes 4, ovate; leaves oval, acuminated, petiolate, and are, as well as the branches, glabrous; lateral nerves running into a vein which is distant from the margin. ♄. S. Native of Brazil, at the river Amazon. My'rtus umbellàta, Mart. herb. but not of Spreng. Leaves 5 inches long and 2 broad, full of minute pellucid dots. Petioles 5 lines long. Pedicels 4 lines long. Seeds 1 to 3. Fruit orange-coloured.

Small-pored-leaved Eugenia. Tree.

58 E. PAUCIFLÒRA (D. C. l. c.) pedicels 1-3-together, axillary, 1-flowered, slender, three times the length of the petioles, acutely bibracteolate under the flowers; calycine lobes 4, roundish; leaves oval-oblong, acuminated at the apex, attenuated at the base, petiolate, full of minute pellucid dots, glabrous on both surfaces, as well as on the branchlets. ♄. S. Native of Brazil, in woods in the province of Minas Geraes. My'rtus species, Mart. herb. Flowers few, small. Torus nearly as in *Psidium.* Pedicels 6-7 lines long, very slender. Leaves 5 inches long and 15-18 lines broad.

Few-flowered Eugenia. Tree 10 feet.

59 E. HILARIA'NA (D. C. l. c.) pedicels axillary, 2-5-together, 1-flowered, longer than the petioles, bluntly bibracteolate under the flowers; fruit globose, crowned by the calycine lobes, which are 4, obtuse, and conniving; leaves linear-oblong, obtuse, attenuated at the base, stiff, opaque, on very short petioles, and are as well as the branches glabrous, with revolute edges. ♄. S. Native of Brazil, in the provinces of the Mines. Leaves 2 to 3 inches long, and half an inch broad. Petioles one line long. Pedicels 4 lines long. Fruit smaller than a pea.

St. Hilare's Eugenia. Shrub 4 to 5 feet.

60 E. FRUTICULÒSA (D. C. prod. 3. p. 27[illegible].) pedicels axillary, 1-flowered, longer than the petioles, lower ones solitary, upper ones 2-3 together, minutely bibracteolate under the flower; fruit ovate; calycine lobes obtuse; leaves oblong, cuneated at the base, obtuse at the apex, stiff, opaque, glabrous in the adult state, as well as on the branchlets, but when young clothed with adpressed down beneath. ♄. S. Native of Brazil, in the province of St. Paul. My'rtus fruticulòsa, Mart. herb. A small shrub, having the branches knotted at the base. Leaves nearly 2 inches long, and 4-5 lines broad. Pedicels 4 lines long. Fruit yellow. Seed one, large.

Shrubby Eugenia. Shrub 1 to 2 feet.

61 E. RUSCIFÒLIA (Poir. suppl. 3. p. 123.) pedicels axillary, solitary or the upper ones are aggregate, glabrous, longer than the petioles; leaves ovate, obtuse, coriaceous, glabrous, dotted beneath. ♄. S. Native of South America. My'rtus daphnoìdes, Spreng. syst. 2. p. 480. Fruit and seeds unknown. Perhaps the peduncles are one or many-flowered.

Butcher's-broom-leaved Eugenia. Shrub.

62 E.? OLEÆFÒLIA (D. C. prod. 3. p. 270.) pedicels 1-flowered, axillary, 4 in a fascicle, twice the length of the petioles, bibracteolate under the flowers; leaves oblong, obtuse, cuneated at the base, coriaceous, shining, and are, as well as the branches, glabrous; calyx 4-cleft. ♄. S. Native of South America, in the province of Jaen de Bracamoros, at the river Marannon. My'rtus oleæfòlia, H. B. et Kunth, nov. gen. amer. 6. p. 147. Pedicels 3 lines long. Berry 3-celled; cells 8-ovulate. Seeds unknown. Allied to *Eugènia buxifòlia.*

Olive-leaved Eugenia. Shrub 4 to 6 feet.

63 E. PISTACIÆFÒLIA (D. C. l. c.) pedicels 3-together, axillary, 1-flowered, twice the length of the petioles, minutely bracteate at the base, and bibracteate at the apex; tube of calyx globose; leaves ovate-lanceolate, obtuse at the base, bluntish at the apex, rather coriaceous, and are, as well as the branches, glabrous. ♄. S. Native of Brazil, in the provinces of Bahia. My'rtus pistaciæfòlia, Mart. herb. Leaves with a few pellucid dots, like those of the *Pistàchia.* Pedicels 3-4 lines long, rising from very short scaly branches. Flowers small. Fruit unknown.

Pistachia-leaved Eugenia. Tree 10 to 12 feet.

64 E. STICTOPE'TALA (Mart. herb. ex D. C. prod. 3. p. 270.) glabrous; pedicels 5-7, aggregate, 1-flowered, rising from the axils of the old leaves, sometimes upon a very short peduncle; bracteas 2, ovate, adpressed to the ovarium; lobes of calyx 4, ovate, nearly orbicular, full of glandular dots; leaves nearly sessile, ovate or oval, obtuse at both ends, coriaceous, opaque, reticulately nerved on both surfaces. ♄. S. Native of Brazil, in the interior provinces. Pedicels 5-6 lines long. Leaves 3 inches long and 1½ broad.

Dotted-petalled Eugenia. Shrub 4 to 6 feet.

65 E.? ERYTHROCA'RPA (D. C. prod. 3. p. 270.) pedicels 1-flowered, axillary, usually 5-together, racemosely umbellate, one half shorter than the leaves, furnished with one bractea at the base, 2 bracteoles under the flowers; leaves elliptic, obtuse, acute at the base, coriaceous, shining, and are, as well as the branches, glabrous; calyxes 4-cleft. ♄. S. Native of New Granada, near Honda. My'rtus erythrocárpa, H. B. et Kunth, nov. gen. amer. 6. p. 148. Leaves 12-14 lines long. Ovarium globose, 2-celled; cells 10-11-ovulate. Berry red. Seeds unknown.

Red-fruited Eugenia. Tree 6 to 8 feet.

66 E.? MAXIMILIA'NA (D. C. l. c.) pedicels axillary, 2-6-together, aggregate, bibracteolate under the flowers; leaves elliptic, attenuated, coriaceous, dotted, shining, quite glabrous. ♄. S. Native of Brazil, about Barada Vereda. My'rtus micrántha, Nees et Mart. in nov. act. bonn. 12. p. 51. but not Kunth. Bracteoles ciliated. Ovarium 2-celled, many-ovulate. Fruit and seeds unknown. Said to be allied to *Mýrcia bracteàta* and *M. lùcida.*

Maximilian's Eugenia. Shrub 3 to 4 feet.

67 E.? LAMBERTIA'NA (D. C. l. c.) pedicels 1-flowered, 5-6-together, axillary, much shorter than the leaves, minutely bibracteate under the flowers; leaves oval, acutish at both ends, with a very few dots, reticulately veined beneath, rather coriaceous, and are, as well as the branches, quite glabrous; calycine lobes ovate, obtuse. ♄. S. Native of the West Indies, in St. Vincent's. Petioles 3 lines long, hardly shorter than the pedicels. Leaves 4 inches long and 2 inches broad. Fruit ovate-globose, 1-seeded.

Lambert's Eugenia. Shrub.

68 E. PLURIFLÒRA (D. C. l. c.) glabrous; pedicels 1-flowered, hardly longer than the petioles, 5-7 from the axils of the old leaves, each bearing 2 ovate bracteas at the apex, which are adpressed to the ovarium; calycine lobes 4 ovate; leaves oval, coriaceous, obtuse, opaque, shining above, tubercularly dotted beneath. ♄. S. Native of Brazil, in the provinces of the Mines. Branches terete, robust. Leaves 1½ inch long. Petioles 2 lines long. Flowers small. Fruit unknown.

Many-flowered Eugènia. Shrub.

69 E. BAHIE'NSIS (D. C. prod. 3. p. 271.) pedicels 2-7-together, or rising from a short rachis, 1-flowered, a little longer than the leaves, minutely bibracteolate at the apex; leaves elliptic, somewhat acuminated, opaque, and are, as well as the branchlets, glabrous; lateral veins hardly prominent; calycine lobes 4, roundish. ♄. S. Native of Brazil, in the province of Bahia, in dense woods. My'rtus Lambertiàna, Mart. herb. Very nearly allied to *E. Lambertiàna,* but the leaves are a little narrower, more brown, never reticulated. Flowers double the size. Fruit unknown.

Bahia Eugenia. Tree 10 to 12 feet.

70 E.? PARKERIA'NA (D. C. prod. 3. p. 271.) pedicels 1-flow-

ered, 5-7-together, shorter than the leaves, rising from the axils of the bracteas, which are oblong, bearing 2 linear bracteoles under the flowers; leaves elliptic-acuminated, glabrous; calyx 4-cleft; bracteas and bracteoles ciliated. ♄. S. Native about Demerara and of the Island of Trinidad. Sieb. pl. trin. no. 245. Allied to *E. Patrísii* and *E. inæquifòlia*, but differs in the pedicels being in fascicles, 6-7 lines long. Leaves 2 inches long, full of pellucid dots. Fruit and seeds unknown.

Parker's Eugenia. Shrub.

71 E.? CORONA'TA (Vahl. ined. in herb. Puerari ex D. C. l. c.) pedicels 1-flowered, aggregate in the axils of the upper leaves, and much shorter than them, bearing 2 ovate bracteas under the flowers; leaves oval, bluntish at both ends, coriaceous, and are, as well as the branches, quite glabrous; calycine lobes 4, roundish. ♄. S. Native of Guinea. Leaves 1½ inch long, and 8-10 lines broad. Pedicels 3-4 lines long. Flowers smaller than those of *My'rtus commùnis*. Ovarium globose. Fruit and seeds unknown.

Crowned-fruited Eugenia. Shrub.

72 E.? ADENOCA'LYX (D.C. prod. 3. p. 271.) pedicels 3-5-together, 1 flowered, in fascicles, shorter than the petioles, glabrous; leaves broad, ovate, acuminated, coriaceous, full of pellucid dots; branches and flowers quite glabrous; calyx 4-cleft, obtuse, full of glandular dots; bracteoles 2 at the base of the calyx, very blunt, and somewhat connate. ♄. S. Native of Cayenne. Leaves, 4 inches long, 2½ broad; lower ones on the branches obtuse. Pedicels hardly 1½ line long. Fruit and seeds unknown.

Gland-calyxed Eugenia. Shrub.

73 E. BIMARGINA'TA (D. C. l. c.) pedicels 5-7-together, axillary, 1-flowered, much shorter than the leaves, bibracteolate under the flowers; calyx with an obovate tube, and bluntish short lobes; leaves ovate or ovate-oblong, sessile, somewhat cordate at the base, obtuse at the apex, coriaceous, stiff, opaque; marginal nerve double, outer one contiguous to the margin. ♄. S. Native of Brazil. My'rtus antidysentérica, Mart. herb. Leaves of the lower branches 15 lines long, and 11-12 lines broad; upper ones 20 lines long and 9 lines broad, with the margins of all reflexed. Pedicels 2 lines long.

Double-margined-leaved Eugenia. Shrub 4 to 8 feet.

74 E. VE'TULA (D. C. prod. 3. p. 271.) pedicels 1-3-together, 1-flowered, a little shorter than the leaves, glabrous, bibracteolate at the apex; calyx with a roundish tube and suborbicular lobes; leaves sessile, ovate, cordate at the base, obtuse at the apex, coriaceous, opaque, glabrous above, clothed with hoary velvety down beneath, as well as on the branchlets, but at length becoming naked. ♄. S. Native of Brazil, in the provinces of the Mines. My'rtus vétula, Mart. herb. Leaves 10-12 lines long and 1-9 broad. Pedicels 5-6 lines long. Calyx glabrous. Stamens shorter than the petals.

Old Eugenia. Shrub 4 to 6 feet.

75 E. MARÍTIMA (D. C. l. c.) pedicels 2-3-together, 1-flowered, hardly longer than the petioles, bibracteolate at the apex, rising from a very short rachis, in something like racemes; calyx with an obovate tube, and ovate-roundish lobes; leaves oval, bluntish, glabrous, opaque; lateral veins hardly evident at the apex. ♄. S. Native of Brazil, by the sea-side at Ilheos. My'rtus marítima, Mart. herb. Leaves 1½ inch long, and 9-10 lines broad. Pedicels 2-3 lines long. Flowers small.

Sea-side Eugenia. Shrub.

76 E. ROXBU'RGHII (D. C. l. c.) pedicels 1-flowered, axillary and lateral, aggregate or subracemose, much shorter than the leaves, bibracteolate under the flowers; leaves oval, bluntish, coriaceous, dotless, glabrous; calyxes and pedicels clothed with rusty pubescence. ♄. S. Native of the East Indies, in Silhet. Eugènia Zeylánica, Roxb. hort. beng. p. 92. but not of Willd. Fruit globose, 1-seeded, glabrous, about the size of a grain of pepper. Leaves 15 lines long, and 7-8 lines broad.

Roxburgh's Eugenia. Tree.

77 E. MÍNIMA (Blum. cat. hort. buit. p. 75.) pedicels crowded, axillary, 1-flowered, shorter than the leaves; calyx crenulated; leaves on short petioles, elliptic-lanceolate, glabrous, full of fine parallel stripes. ♄. S. Native of Java, in woods. My'rtus variegàta, Blum. bijdr. p. 1082. Fruit small, obovate, 1-seeded. Seeds of *Eugènia*. Calyx somewhat attenuated at the base.

Small Eugenia. Shrub 4 to 6 feet.

78 E. TENE'LLA (D. C. prod. 3. p. 272.) pedicels 1-3, very short, axillary, 1-flowered, minutely bibracteolate under the flowers; lobes of calyx 4, obtuse; leaves oval, obtuse, somewhat cuneated at the base, membranous, full of pellucid dots, veinless, except the middle nerve, glabrous; petioles and branchlets puberulous. ♄. S. Native of Brazil, on high mountains in the provinces of the Mines. My'rtus tenélla, Mart. herb. Habit almost of *E. alpina* and *E. obtùsa*, but truly different. Stamens and style exserted. Fruit unknown. Leaves 6-7 lines long, and 3 lines broad. Flowers small. Perhaps referrible to section iii.

Weak Eugenia? Shrub 2 to 3 feet.

79 E.? FLAVE'SCENS (D. C. prod. 3. p. 272.) pedicels 3-5-together, axillary, 1-flowered, bibracteolate at the apex; lobes of calyx 4, ovate, acutish; leaves ovate, acuminated at the base, and attenuated at the apex, obtuse, membranous, full of pellucid dots, glabrous on both surfaces, as well as on the petioles, pedicels, and calyxes. ♄. S. Native of Brazil, in the desert of Bahia. My'rtus flàva, Mart. herb. Calyxes yellowish. Petals 4, orbicular, white, ex Mart. Staminiferous disk 4-sided in the middle of the flower. Style longer than the filaments. Fruit unknown.

Yellowish Eugenia. Shrub 4 to 6 feet.

*** *Flowers axillary, almost sessile, or on short peduncles, and disposed in glomerate fascicles in the axils of the leaves.*

80 E.? L'HERITIERIA'NA (D. C. prod. 3. p. 272.) flowers axillary, sessile, crowded; leaves elliptic-acuminated, and are, as well as the branches, quite glabrous; lateral nerves confluent near the margins. ♄. S. Native of Tobago. My'rtus dumòsa, L'Her. herb. but not of Vahl. Very nearly allied to *E. coffeæfòlia*. Leaves less opaque, full of pellucid dots when examined by a lens.

L'Heritier's Eugenia. Shrub 5 to 6 feet.

81 E. COFFEÆFÒLIA (D. C. l. c.) flowers axillary, sessile, crowded; leaves elliptic, attenuated at the base, acuminated at the apex, and are, as well as the branches, quite glabrous; lateral nerves of leaves confluent at the apex, a considerable distance from the margin of the leaf. ♄. S. Native of Cayenne. Fruit globose, glabrous, size of a small pea. Seed one, roundish. Embryo homogeneous. Leaves obscure, almost without dots, 4-6 inches long, and from 1-2 inches broad.

Coffee-leaved Eugenia. Shrub 6 to 8 feet.

82 E. AFFÌNIS (D. C. l. c.) peduncles axillary, branched, 3-flowered, very short, bibracteolate at the base; leaves ovate-oblong, acuminated, and are, as well as the branches, quite glabrous; fruit oval. ♄. S. Native of St. Domingo and Porto Rico, at the edges of woods. Allied to *E. undulàta*, but differs in the leaves being one-half smaller and flat. Berry olive-formed, 1-seeded. Cotyledons conferruminated.

Allied Eugenia. Shrub 6 to 8 feet.

83 E. CALOPHYLLOÌDES (D. C. l. c.) flowers axillary and lateral, crowded, nearly sessile, 4-cleft; leaves oval, acute, shining above, glabrous in the adult state; nerves on the under surface, petioles, branchlets, pedicels, and calycine tube, clothed with rusty velvety down. ♄. S. Native of Sierra Leone.

Calophylloides lùcida, Smeathn. mss. Lobes of calyx ovate, obtuse, smoothish. Leaves 5-6 inches long, and 2 or 2½ broad, on very short petioles, dotless; lateral nerves confluent towards the margins. Ovarium globose. Fruit and seeds unknown.

Calophyllum-like Eugenia. Shrub 10 feet.

84 E. CHRYSOPHY'LLUM (Poir. suppl. 3. p. 129.) flowers axillary, almost sessile, aggregate, 4-cleft; leaves ovate, acute, glabrous and shining above, but clothed with adpressed silky golden down beneath, which becomes nearly deciduous; fruit ovate, rather velvety. ♄. S. Native of Cayenne, not in the Mauritius. My'rtus chrysophy'llum, Spreng. syst. 2. p. 482. exclusive of the synonymes. Flowers clothed with rusty down, sessile. Pedicels 2 lines long after flowering, rather branched at the base. Mature fruit size of an olive, 1-seeded. Cotyledons conferruminated, furnished with bladdery glands inside.

Golden-leaved Eugenia. Tree.

85 E.? CORDA'TA (D. C. l. c.) flowers almost sessile, axillary and lateral, rather crowded; leaves sessile, ovate, very blunt, rather cordate, shining, and are, as well as the branches, quite glabrous; calyxes 4-5-cleft. ♄. S. Native of the West India Islands. My'rtus cordàta, Swartz, fl. ind. occ. p. 893. Vahl. symb. 2. p. 55. Branches compressed above. Ovarium roundish. Stigma deflexed. Fruit and seeds unknown.

Cordate-leaved Eugenia. Shrub 2 to 3 feet.

86 E. LATERIFLÒRA (Willd. spec. 2. p. 749.) flowers almost sessile, lateral, crowded or scattered; leaves obovate-roundish, very blunt, attenuated at the base, with revolute margins, coriaceous, pale beneath, reticulated from elevated veins on both surfaces, and are, as well as the branches, quite glabrous. ♄. S. Native of the Island of Santa Cruz. E. sessiliflòra, Vahl. symb. 3. p. 64. Calyx and petals dotted. Fruit and seeds unknown.

Side-flowered Eugenia. Tree.

87 E. SESSILIFLÒRA (D. C. prod. 3. p. 273.) flowers almost sessile, lateral, crowded or scattered; leaves oblong or oval, bluntish, with somewhat revolute margins, rather membranaceous, hardly veined, and are, as well as the branches, quite glabrous. ♄. S. Native of St. Domingo. My'rtus sessiliflòra, Spreng. syst. 2. p. 479. E. sessiliflòra, Vahl. symb. 3. p. 64.? E. laterifòlia, Pers.? Fruit one-half smaller than those of *E. lateriflòra*, but not sufficiently known.

Sessile-flowered Eugenia. Shrub.

88 E. LINEA'TA (D. C. prod. 3. p. 273.) flowers axillary, almost sessile, crowded; leaves ovate, acuminated, stiff, lined with elevated nerves, hoary beneath, but villous on the nerves; calyxes 4-cleft, clothed with rusty down. ♄. S. Native of St. Domingo, in mountain fields. My'rtus lineàta Swartz, fl. ind. occ. p. 891. but not of Blume. Berry sapid scarlet, size of a cherry. Seeds 2 or more, angular. Leaves full of pellucid dots, but they are said to be scentless.

Lined-leaved Eugenia. Shrub 6 to 10 feet.

89 E.? TUBERCULA'TA (D.C. l. c.) flowers crowded in the axils of the leaves, and on the tops of the branches, sessile, bibracteolate at the base, 4-cleft; leaves elliptic-oblong, coriaceous, with revolute edges, clothed with glandular tubercles above, and glabrous, but with silky down beneath, as well as on the calyxes; branchlets hairy. ♄. S. Native of Cuba, near Regla. My'rtus tuberculàta, H. B. et Kunth, nov. gen. amer. 6. p. 148. Ovarium 2-celled; cells 8-10-ovulate. Fruit and seeds unknown. Said to be allied to *E. lineàta*.

Tubercular-leaved Eugenia. Shrub.

90 E. CAULIFLÒRA (D. C. l. c.) flowers crowded, rising from the excoriated trunk and branches, from where the axils of the old leaves had been; pedicels very short, 1-flowered; leaves lanceolate, petiolate, attenuated at the base, long-acuminated at the apex, with a very few pellucid dots, and are, as well as the branches, glabrous. ♄. S. Native of Brazil. My'rtus cauliflòra, Mart. reise, p. 285. isis. 1824. p. 589. but not of Blume. Berry edible, globose, of a purplish violet-colour, 1-seeded. Cotyledons conferruminated. Leaves 3 inches long and 9-10 lines broad. Petioles 2 lines long.

Stem-flowered Eugenia. Tree 10 to 20 feet.

91 E. UMBELLA'TA (D. C. l. c.) pedicels numerous, short, 1-flowered, umbellate, bibracteolate at the apex, rising from the axils of the old branches; leaves sessile, cordate at the base, ovate, acutish, coriaceous, opaque, and are, as well as the branchlets, glabrous, with the marginal nerve thick. ♄. S. Native of Brazil, in woods at Vao do Paranan. My'rtus lateriflòra, Mart. herb. but not of others. Umbels lateral, 7-8-flowered. Pedicels 2-3 lines long. Calycine lobes 4, roundish. Leaves 2-4 inches long and 1-2 broad. Lateral nerves of leaves confluent in front of the margins.

Umbellate-flowered Eugenia. Shrub 6 to 8 feet.

92 E. DELICA'TULA (D. C. l. c.) flowers 2-3-together, axillary, nearly sessile; leaves oblong, attenuated at both ends, stiffish, opaque, dotted beneath, glabrous on both surfaces, with a marginal nerve; petioles very short, and are, as well as the young branches, clothed with down. ♄. S. Native of Brazil, in the province of St. Paul. My'rtus delicàtula, Mart. herb. A tree about 20 feet high, much divided. Leaves 15 lines long and 3 lines broad. Flowers small, like those of *E. rígida*.

Delicate Eugenia. Tree 20 feet.

93 E. RÍGIDA (D. C. l. c.) flowers axillary, 1-3-together, nearly sessile, aggregate, bracteolate; fruit globose, somewhat depressed; calycine lobes 4, short, obtuse, somewhat connivent after flowering; leaves ovate, obtuse, stiffish, opaque, nerveless except the middle nerve, glabrous; petioles and branchlets pubescent. ♄. S. Native of Brazil, in the provinces of the Mines. My'rtus rígida, Mart. herb. Leaves 9-10 lines long and 4-5 broad. Pedicels very short, pubescent. Bracteoles obtuse. A much branched small tree. Flowers small. Fruit size of a pea, 2-seeded. Cotyledons conferruminated.

Stiff Eugenia. Tree 15 feet.

94 E. GUAPU'RIUM (D. C. l. c.) flowers in fascicles, splitting the bark of the naked branches in rising; leaves elliptic, petiolate, acuminated, membranous, full of pellucid dots, glabrous above, and beset with a few hairs beneath; petioles and branches villous. ♄. S. Native of Peru. Guapùrium, Juss. gen. p. 324. Guapùrium Peruviànum, Poir. dict. sc. nat. 20. p. 11. Lobes of calyx 4. Petals 4. Fruit umbilicate, 2-3-seeded. Seeds large, almost like those of *Eugènia*. *Guapuru* is the Peruvian name of the tree.

Guapuru Eugenia. Shrub or tree.

95 E.? CERASIFÓRMIS (D. C. prod. 3. p. 274.) corymbs axillary or terminal, simple; branchlets 3-flowered; calyx 4-cleft; ovarium hemispherical; leaves broad-lanceolate, bluntly acuminated, coriaceous, glabrous, with recurved margins, full of fine transverse parallel veins. ♄. S. Native of Java, on the mountains at fountains of rivers. Allied to *E. lineàta*, but the rib of the leaf is for the most part purplish, and the marginal vein is simple. My'rtus cerasifórmis, Blum. bijdr. p. 1088. Fruit globose. Seeds thick, angular, about 3 in number. Cotyledons conferruminated. Flowers not seen.

Cherry-formed-fruited Eugenia. Shrub.

96 E.? TRIFLÒRA (Ham. prod. fl. ind. occ. p. 44.) peduncles axillary, usually tern, 3-flowered; flowers bractless, sessile; leaves alternate, petiolate, oblong, attenuated at the base, shining, greyish green beneath. ♄. S. Native of Carthagena, in woods. Myrtus triflòra, Jacq. stirp. am. p. 153. t. 193. f. 59. but not of Spreng. Petals 4, obovate. Fruit unknown. Leaves aromatic when bruised. This species differs from all in the leaves being alternate, but perhaps this is the case only at the tops of the branches.

Three-flowered Eugenia. Shrub or tree.

97 E. BRACHY′PODA (D. C. l. c.) peduncles a little branched, axillary, shorter than the petioles, minutely bibracteate under the flowers; leaves elliptic, attenuated at the base, acuminated at the apex, shining above, pale beneath, glabrous on both surfaces; calyxes glabrous; branchlets and pedicels clothed with rufous velvety down. ♄. S. Native of Cayenne. Leaves 2 or 3 inches long and an inch broad, full of pellucid dots. Pedicels 3 lines long. Fruit while young globose and 1-seeded.

Short-pedicelled Eugenia. Shrub or tree.

98 E. DÍSTICHA (D. C. l. c.) peduncles axillary, branched, 3-5-flowered, very short; leaves distich, ovate-lanceolate, acute, glabrous; lateral nerves confluent within the margin; calyx 4-lobed; stigma hooked. ♄. S. Native of Jamaica, on the mountains. My′rtus dísticha, Swartz, fl. ind. occ. p. 894. Sims, bot. mag. t. 867. Lindl. coll. t. 19. good. My′rtus horizontàlis, Vent. malm. t. 60. In Swartz's plant the leaves are said to be very coriaceous, and with the lateral veins hardly manifest, but it is probably the same. Fruit ovate, red. Seeds 2-4, thick. Cotyledons conferruminated.

Distich-leaved Eugenia. Clt.? Shrub 5 to 6 feet.

99 E. GLABRA′TA (D. C. l. c.) peduncles axillary, many-flowered, very short; leaves elliptic, acuminated, convex, coriaceous; branches and flowers quite glabrous. ♄. S. Native of St. Domingo, in bushy places, on the mountains. My′rtus glabràta, Swartz, fl. ind. occ. p. 903. but not of Blume. Peduncles and petioles 2 lines long. Leaves an inch and a half or 2 inches long, and an inch broad. Berry oblong, black. Seeds 1-2, oblong.

Smooth Eugenia. Shrub 4 to 6 feet.

100 E. CAMPE′STRIS (D.C. l. c.) flowers axillary, crowded, nearly sessile; leaves oval-oblong, acuminated at both ends, opaque, rather villous above when young, but at length becoming glabrous, rather hairy beneath and pale; branchlets compressed, rather hairy; branches white, glabrous. ♄. S. Native of Brazil, in fields, in the province of Minas Geraes. My′rtus campéstris, Mart. herb. Pedicels hardly any. Bracteoles 2, and are, as well as the calyxes, hairy. Lobes of calyx oblong, bluntish. Petals roundish, emarginate. Style exserted. Leaves 2 inches long and 9 lines broad. Petioles 2 lines long. Fruit unknown.

Field Eugenia. Tree 20 feet.

101 E. AXILLA′RIS (Poir. suppl. 3. p. 126.) peduncles axillary, many-flowered, very short, at length rather longer than the petioles; pedicels minutely bibracteolate under the flowers; leaves oval, bluntish, acuminated, flat, shining; branches and flowers glabrous. ♄. S. Native of Jamaica, on the mountains. My′rtus axillàris, Swartz, fl. ind. occ. p. 901. but not of Poir. Leaves 2-8 inches long, on very short petioles. Flowers minute, white. Stamens very short. Berry ovate, 1-seeded. Allied to *E. montícola* and *E. glabràta*.

Axillary-flowered Eugenia. Fl. Sep. Clt. 1793. Sh. 4 to 6 ft.

102 E.? POIRE′TII (D. C. l. c.) peduncles axillary, many-flowered, very short, rather longer than the petioles; pedicels minutely bibracteolate under the flowers; leaves oval-oblong, attenuated at the base, obtuse at the apex, full of pellucid dots, shining above, and pale beneath, glabrous on both surfaces, as well as on the branches and flowers. ♄. S. Native of St. Domingo. Leaves an inch long. Flowers minute. Berry globose, 1-seeded, size of a grain of pepper. My′rtus axillàris, Poir. dict. 4. p. 412. but not of Swartz. M. Poirèti, Spreng. syst. 2. p. 483. Eug. axillàris, Spreng. in herb. Balb.

Poiret's Eugenia. Shrub 4 to 6 feet.

103 E. FLORIBU′NDA (West. st. cr. p. 216. ex Willd. spec. 2. p. 960.) peduncles crowded, axillary, many-flowered, length of the petioles, bracteate at the base; leaves oblong, acuminated, with revolute margins, finely veined, full of pellucid dots. ♄. S. Native of the Island of Santa Cruz. Peduncles sometimes solitary. Flowers 4-cleft. Leaves nearly lanceolate, gradually attenuated.

Bundle-flowered Eugenia. Shrub 4 to 6 feet.

104 E. BUXIFÒLIA (Willd. spec. 2. p. 960.) peduncles axillary, branched, many-flowered, very short; pedicels bibracteolate under the flowers; leaves obovate-oblong, obtuse, attenuated at the base, opaque, dotted beneath, with somewhat revolute edges, and are, as well as the branches and flowers, glabrous. ♄. S. Native of St. Domingo, in sterile places. My′rtus buxifòlia, Swartz, fl. ind. occ. 2. p. 899. E. myrtoìdes, Poir. suppl. 3. p 125. Style curved. Fruit roundish, 1-seeded. Embryo of *E. dísticha*. Leaves 1 or 1½ inch long, of an obscure brown-colour.

Box-leaved Eugenia. Fl. May, Ju. Clt. 1818. Sh. 4 to 6 ft.

105 E.? MONTÍCOLA (D. C. prod. 3. p. 275.) racemes many-flowered, very short, axillary, solitary; leaves ovate or oval, obtuse, flat, opaque, and are, as well as the branches, glabrous; calyx 4-5-lobed. ♄. S. Native of Jamaica, on the high mountains. My′rtus montícola, Swartz, fl. ind. occ. 2. p. 898. Racemules few-flowered. Flowers 4-cleft. Leaves ovate-oblong. The fruit is unknown, but the plant is so nearly allied to *Eugènia buxifòlia* as hardly to be distinguished from it.

Mountain-born Eugenia. Shrub 4 to 6 feet.

106 E.? GUADALUPE′NSIS (D. C. l. c.) racemes axillary, sessile, many-flowered, crowded into glomerated whorls; pedicels bibracteolate under the flowers; leaves ovate, coriaceous, opaque, obtuse or emarginate at the apex, and are, as well as the branches, glabrous; calyx 4-lobed. ♄. S. Native of Guadaloupe. Eug. buxifòlia, Spreng. in herb. Balb. Eug. Baruénsis var. Guadalupénsis, Spreng. syst. 2. p. 483. Leaves 2 inches long, 12-15 lines broad. Petioles 3 lines long, rather longer than the racemes. Fruit and seeds unknown.

Guadaloupe Eugenia. Shrub 6 to 8 feet.

107 E. BARUE′NSIS (Jacq. coll. 3. p. 183. icon. rar. t. 486.) racemes axillary, hardly equal in length to the petioles, and are, as well as the calyxes, pubescent; pedicels bibracteolate under the flowers; leaves ovate or oblong-lanceolate, bluntly acuminated at the apex, membranous, full of pellucid dots. ♄. S. Native of the Island of Baru, and of St. Domingo. My′rtus Baruénsis, Spreng. syst. 2. p. 483. Leaves 3 inches long and an inch broad. Petioles 4-5 lines long. Stamens a little longer than the petioles. Fruit globose, glabrous, 1-seeded.

Var. β, latifòlia (D. C. l. c.) racemules and calyxes glabrous; leaves ovate-lanceolate. ♄. S. Native of St. Domingo. Eug. latifòlia, Spreng. in herb. Balb. but not of Aubl. Perhaps a proper species.

Baru Eugenia. Clt.? Shrub 4 to 6 feet.

108 E.? CASEAROÌDES (D.C. l. c.) racemes axillary and nearly terminal, twin, short, in conglomerate whorls; pedicels bibracteolate at the base of the calyxes; leaves oblong, acuminated, acute at the base, membranous, glabrous, puberulous on the nerve beneath, as well as the branchlets and peduncles. ♄. S. Native of Cumana, on Mount Cocollar. My′rtus casearoìdes, H. B. et Kunth, nov. gen. amer. 6. p. 145. t. 546. Leaves an inch and a half long, full of pellucid dots. Ovarium 2-celled; cells 6-8-ovulate. Fruit and seeds unknown. There is a plant very nearly allied to this, which was collected in St. Domingo under the name of *Mýrtus prócera*, Browne, but not of Swartz.

Casearia-like Eugenia. Shrub 4 to 6 feet.

109 E.? MALPIGHIOÌDES (D. C. l. c.) racemes axillary and nearly terminal, twin, very short, 4-8-flowered; pedicels bibracteolate under the flowers; leaves ovate, acuminated, coriaceous, glabrous, shining; branches hairy. ♄. S. Native of South America, in the province of Jaen de Bracamoros, at the river

Amazon. My'rtus malpighioìdes, H. B. et Kunth, nov. gen. amer. 6. p. 146. Allied to *E. axillàris* and *E. cascaroìdes*. Fruit and seeds unknown.

Malpighia-like Eugenia. Shrub 6 to 8 feet.

110 E. Guayaquile'nsis (D. C. l. c.) racemes axillary, short, about equal in length to the petioles, in conglomerate whorls; leaves oblong, acuminated, narrowed at the base, rather coriaceous, covered with adpressed hairs on both surfaces; branches hairy. ♄. S. Native of Quito, near Guayaquil. My'rtus Guayaquilénsis, H. B. et Kunth, nov. gen. amer. 6. p. 147. Leaves 3-4 inches long, and an inch and a half broad. Fruit glabrous, 1-seeded, hardly the size of a sloe. Seeds unknown.

Guayaquil Eugenia. Shrub 3 to 4 feet.

111 E. Sinemarie'nsis (Aubl. guian. 1. p. 501. t. 198.) peduncles axillary, very short, branched, 3-6-flowered; pedicels bibracteolate under the flowers; leaves ovate-oblong, acuminated, full of pellucid dots, and are, as well as the branchlets, glabrous. ♄. S. Native of Guiana, on the banks of the river Sinemari. My'rtus Sinemariénsis, Spreng. Leaves rather membranous, 5-6 inches long, and from 1 to 2 broad. Fruit globose, 1-seeded. Cotyledons conferruminated. Seeds somewhat globose. Flowers sometimes 5-cleft, and the seeds are sometimes 2-3.

Sinemari Eugenia. Fl. May, July. Clt. 1823. Sh. 2 to 3 ft.

112 E. chrysophylloìdes (D. C. prod. 3. p. 276.) racemules axillary, very short, branched, and are, as well as the calyxes, clothed with rufous silky down; pedicels longer than the rachis; leaves elliptic, acuminated, coriaceous, glabrous above, but clothed with rufous silky deciduous down beneath, when young rather velvety; style flexuous, elongated. ♄. S. Native of Cayenne. Allied to *Eug. chrysophýllum*, but the flowers are evidently pedicellate, and disposed in short racemes. Lobes of calyx reflexed. Bracteoles none under the flowers. Fruit and seeds unknown.

Chrysophyllum-like Eugenia. Shrub.

113 E. bracteòsa (D. C. l. c.) pedicels 1 or 3 together, axillary, 1-flowered, and are, as well as the calyxes, bracteas, branches, and young leaves, clothed with tomentum; bracteoles about equal in length to the calyx; leaves oblong, dotless, coriaceous, glabrous above, and at length naked beneath, obtuse, callously mucronate; branches compressedly terete. ♄. S. Native of Brazil, in the provinces of the Mines. Pedicels 2 lines long. Leaves 2-3 inches long and 6-7 lines broad, opaque. Fruit unknown. This species has the habit of *E. alpigèna*.

Bracteate Eugenia. Tree.

114 E.? Xalape'nsis (D. C. l. c.) peduncles axillary, short, 2-6-flowered; leaves ovate, acuminated, acute at the base, rather membranous, shining, and are, as well as the branches, glabrous. ♄. S. Native of Mexico, near Xalapa. My'rtus Xalapénsis, H. B. et Kunth, nov. gen. amer. 6. p. 145.

Xalapa Eugenia. Shrub 6 feet.

115 E.? dumòsa (D. C. l. c.) peduncles axillary, very short, 4-flowered, bracteate at the base of the pedicels and under the flowers; leaves petiolate, broad-lanceolate, acuminated, membranous, clothed with silky villi. ♄. S. Native of South America. My'rtus dumòsa, Vahl. symb. 2. p. 57.

Bushy Eugenia. Fl. June, July. Clt. 1793. Sh. 3 to 4 ft.

* * * * *Peduncles axillary, bifid or dichotomous; the flowers in the forks sessile, the rest pedicellate.*

116 E.? biflòra (D. C. prod. 3. p. 276.) peduncles axillary, solitary, bifid, 2-flowered, bibracteolate at the bifurcation; leaves lanceolate, acute, glabrous on both surfaces. ♄. S. Native of Jamaica. Brown, jam. p. 248. t. 25. f. 3. Caryophy'llus fruticòsus, Mill. My'rtus biflòra, Lin. amœn. 5. p. 398. Fruit 3-celled, 3-seeded.

Two-flowered Eugenia. Fl. Apr. May. Clt. 1739. Sh. 6 to 10 ft.

117 E.? Sprenge'lii (D. C. l. c.) peduncles axillary, aggregate, 2-flowered, shorter than the leaves, bibracteolate under the flowers; leaves linear, obtuse, veinless, coriaceous; calyx 4-cleft. ♄. S. Native of Brazil. E. angustifòlia, Spreng. nov. prov. 18. but not Lam. Petals oblong. Fruit and seeds unknown.

Sprengel's Eugenia. Shrub.

118 E ? compre'ssa (D. C. l. c.) peduncles axillary, shorter than the leaves, 3-flowered; flowers 4-cleft, middle one sessile, lateral ones pedicellate; leaves oblong, obtuse, running into the petiole at the base, rather coriaceous, reticulated, and are, as well as the compressed branches, glabrous. ♄. S. Native of Peru, near Caxamarca. My'rtus compréssa, H. B. et Kunth, nov. gen. amer. 6. p. 135. Ovarium 2-celled; cells 14-15-ovulate. Fruit and seeds unknown.

Compressed-branched Eugenia. Shrub.

119 E.? apicula'ta (D. C. l. c.) peduncles axillary, a little longer than the leaves, bifid, 3-flowered, middle flower sessile, lateral ones pedicellate; pedicels minutely bibracteolate under the flowers; leaves ovate, mucronately apiculated, glabrous above, puberulous beneath, and on the pedicels; branchlets hairy; calyx somewhat attenuated at the base. ♄. G. Native of Chili. Lobes of calyx very obtuse, somewhat ciliated. Leaves an inch long, and an inch and a half broad. Fruit and seeds unknown. Allied to *E. díscolor*.

Apiculated-leaved Eugenia. Shrub.

120 E. Dombeya'na (D. C. prod. 3. p. 276.) peduncles 1-3-together, axillary, 1-3-flowered, shorter than the leaves; flowers 4-cleft; tube of calyx rather turbinate; limb spreading, reflexed; leaves oblong, acute at both ends, opaque, glabrous, above, canescent beneath, and are as well as the branchlets villous. ♄. S. Native of Peru. My'rtus lanceolàta, Juss. herb. Jaum. in Duham. ed. nov. 1. p. 208. but not *E. lanceolàta*, Lam. Allied to *E. díscolor*, but the leaves are much narrower, 10-12 lines long and 3 lines broad. Pedicels 5 lines long, sometimes 1-flowered at the apex, sometimes 3-flowered; pedicels, especially 2, rising from the axils of the bracteas, 4 lines long, 1-flowered. Torus square. Fruit unknown.

Dombey's Eugenia. Shrub or tree.

121 E.? A'cka (D. C. prod. 3. p. 277.) peduncles axillary and nearly terminal, 1-3-flowered, very short, crowded; bracteoles 2, ovate, depressed; tube of calyx pubescent; lobes 4, ovate, ample, and are as well as the petioles full of pellucid dots; style very long, compressed; fruit ovate, many-seeded, crowned; leaves oval, obtuse, or acutish, opaque, glabrous above, but velvety from deciduous tomentum beneath, especially when young. ♄. S. Native of Peru. My'rtus A'cka, Juss. herb. Branches terete, short. Leaves crowded, copper-coloured above, rusty, beneath, 15-16 lines long, 6-7 lines broad. Lobes of calyx obtuse, somewhat bifid in the adult state. Stamens elongated. Style twisted when young, at length long and compressed.

Acka Eugenia. Shrub.

122 E.? díscolor (D. C. l. c.) peduncles axillary, shorter than the leaves, usually 3-flowered; flowers quadrifid, middle one sessile, lateral ones pedicellate; bracteoles under the calyx, linear-subulate; leaves opposite and tern, elliptic-oblong, acute, running into the petiole at the base, rather coriaceous, reticulated, discoloured, shining above, and are as well as the branchlets glabrous; branches triangular. ♄. S. Native on the Andes, near San Felipe. My'rtus díscolor, H. B. et Kunth, nov. gen. amer. 6. p. 134. and M. bícolor, t. 540. Ovarium 2-celled. Cells 6-13-ovulate. Fruit and seeds unknown.

Discoloured-leaved Eugenia. Shrub.

123 E. foliòsa (D. C. l. c.) peduncles axillary, 3-flowered, glabrous, about equal in length to the leaves; flowers 4-cleft, middle one sessile, lateral ones pedicellate; leaves approximate,

roundish-elliptic, rounded at the base, coriaceous, glabrous, shining; branches angular. ♄. S. Native of South America. My'rtus foliòsa, H. B. et Kunth, nov. gen. amer. 6. p. 134. Ovarium 2-celled; cells 7-8-ovulate. Style curved. Leaves 9-11 lines long and 7-9 lines broad. Fruit and seeds unknown.

Leafy Eugenia. Shrub.

124 E. SUBAMPLEXICAU'LIS (D. C. l. c.) peduncles axillary, shorter than the leaves, 3-flowered; flowers 4-cleft, the one on the bifurcation sessile, and the others pedicellate; lobes of calyx ovate, concrete above the ovarium, but at length reflexed along with the petals; leaves ovate-oblong, cordate at the base, sessile, acuminated at the apex, opaque, glabrous on both surfaces, as well as on the branches. ♄. S. Native of Brazil, in woods on Mount Formosa on the confines of the provinces of Rio Janeiro and St. Paul. My'rtus subamplexicaúlis, Mart. herb. Leaves 3 inches long and an inch broad. Peduncles an inch long. The lateral flowers on pedicels 4 lines long. Petals obovate-oblong.

Somewhat-stem-clasping-leaved Eugenia. Shrub.

125 E. CRENULA'TA (Willd. spec. 2. p. 961.) peduncles axillary, solitary, usually 3-flowered, hardly longer than the very short petioles; leaves oval or roundish, bluntly subcrenated at the apex, and are as well as the branches glabrous. ♄. S. Native of St. Domingo, in mountain thickets. My'rtus crenulàta, Swartz, fl. ind. occ. 2. p. 889. Leaves 6-7 lines long and 4 lines broad. Flowers minute. Petals white, oblong. Stamens very minute. Berry roundish, red, 1-seeded. Seeds roundish.

Crenulated-leaved Eugenia. Shrub 8 to 12 feet.

126 E. BRACHYBÒTRYA (D. C. l. c.) peduncles axillary, few-flowered, a little longer than the petioles, trifid; leaves ovate, acuminated, obtuse at the base, almost sessile, shining, opaque; branches and flowers glabrous. ♄. S. Native of Cayenne. Fruit globose, glabrous. Seeds few, thick, and rather angular. Leaves 2 inches long and 12-15 lines broad. Racemes 4-5 lines long.

Short-racemed Eugenia. Shrub 5 to 6 feet.

127 E. SIEBERIA'NA (D. C. l. c.) racemules axillary, few-flowered; fruit ovate-oblong; lobes of calyx 4, short, broad, very obtuse, conniving, crowned; leaves oval, shortly and bluntly apiculated, membranous, full of pellucid dots, white beneath from hardly visible down. ♄. S. Native of the Island of Trinidad. Sieb. fl. trin. no. 222. Leaves 3 inches long and 18-21 lines broad. Petioles 3-4 lines long. Peduncles rather velvety, hardly longer than the petioles. Fruit 7-8 lines long. Seeds oblong.

Sieber's Eugenia. Shrub 5 to 6 feet.

128 E. MACROSPE'RMA (D. C. l. c.) peduncles axillary, few-flowered, length of the petioles, shortly trifid at the apex; leaves oval, attenuated at the base, on longish petioles, acuminated at the apex, glabrous above, rather velvety beneath from rufous deciduous down, as well as the branchlets and pedicels; calycine lobes very obtuse. ♄. S. Native of Brazil, in the desert of Bahia. Fruit ovate, crowned by the calyx, glabrous, 1-seeded. Seeds similar to those of a *Phaseolus*, 7 lines long and 5 lines broad. Cotyledons conferruminated. Petioles 5 lines long. Leaves 5 inches long, hardly 2-lobed.

Long-seeded Eugenia. Shrub 5 to 6 feet.

129 E. MYROBALA'NA (D. C. l. c.) racemes few-flowered, axillary, short; fruit oblong, bluntly attenuated at both ends, crowned by the lobes of the calyx, which are very blunt and somewhat incurved, 1-seeded; seeds oblong; leaves oval, acuminated at the apex, opaque, glabrous on both surfaces, as well as on the branchlets. ♄. S. Native of Brazil, at Rio Negro. My'rtus myrobálanus, Mart. herb. Leaves 9 inches long, and $3\frac{1}{2}$ broad. Petioles 6 lines long. Fruit an inch long and half an inch broad.

Myrobalan Eugenia. Tree 20 feet.

130 E. SALICIFÒLIA (D. C. prod. 3. p. 278.) peduncles axillary, shorter than the leaves, twice bifid, 7-flowered, 3 of them sessile in the forks, and 4 of them pedicellate; limb of calyx deciduous; leaves lanceolate, rather membranous, narrowly acuminated, reticulated, glabrous on both surfaces, as well as on the branchlets. ♄. S. Native of New Granada. My'rtus salicifòlia, H. B. et Kunth, nov. gen. amer. 6. p. 136. t. 541. M. dumòsa, Spreng. syst. 2. p. 483. exclusive of the synonyme. Ovarium 2-3-celled; cells 11-18-ovulate. Fruit and seeds unknown

Willow-leaved Eugenia. Shrub 6 to 10 feet.

131 E.? LIMBA'TA (D. C. prod. 3. p. 278.) peduncles axillary, shorter than the leaves, bifid, or twice bifid; some of the flowers sessile in the forks, and the others pedicellate; bracteoles linear; leaves oblong, acutish, running into the petiole at the base, coriaceous, reticulated, emarginate, shining, glabrous; branches puberulous. ♄. S. Native of Peru, near Ayavaca. My'rtus limbàta, H. B. et Kunth, l. c. Lobes of calyx ciliately fringed. Stamens beyond 200. Ovarium 2-celled; cells 16-ovulate. Flowers and seeds unknown.

Limbate Eugenia. Shrub.

132 E. FIMBRIA'TA (D. C. l. c.) peduncles axillary, exceeding the leaves, 3-flowered or bifid, with 1 flower in the fork, and the branchlets 3-flowered; bracteas lanceolate, rather foliaceous; leaves roundish-elliptic, obtuse at both ends, coriaceous, reticulated, and are as well as the branchlets pubescent; petals fringed with villi. ♄. S. Native of Peru, near Ayavaca. My'rtus fimbriàta, H. B. et Kunth, nov. gen. amer. p. 137. t. 542. Ovarium 2-celled; cells 15-ovulate. Fruit and seeds unknown.

Fringed-petalled Eugenia. Tree.

133 E.? LINDLEYA'NA (D. C. l. c.) peduncles axillary and nearly terminal, dichotomous, shorter than the leaves, rather corymbose; flowers sessile in the forks, and the others pedicellate; leaves nearly elliptic, obtuse, acutish at the base, coriaceous, margined, obsoletely veined, glabrous, pubescent when young, as well as the branches and corymbs. ♄. S. Native of South America, near San Felipe. My'rtus Lindleyàna, H. B. et Kunth, l. c. p. 138. t. 543. but not of Mart. herb. Ovarium 2-3-celled; cells 12-13-ovulate. Fruit and seeds unknown.

Lindley's Eugenia. Shrub 10 to 12 feet.

134 E.? RHOPALOÌDES (D. C. l. c.) peduncles axillary, about equal in length to the leaves, usually 6-flowered and dichotomous at the apex; flowers sessile in the forks, the rest pedicellate; leaves obovate, rounded at the apex, cuneated at the base, reticulated, coriaceous, shining, and are as well as the branches glabrous. ♄. S. Native of Peru, at Ayavaca. My'rtus rhopaloìdes, H. B. et Kunth, l. c. p. 137. Ovarium 2-celled; cells 20 ovulate. Fruit and seeds unknown.

Rhopala-like Eugenia. Tree.

135 E. EXSU'CCA (D. C. l. c.) peduncles axillary or nearly terminal, length of leaves, bifid or dichotomous, cymose; flowers in threes, middle one sessile; tube of calyx obovate, clothed with rufous silky down; lobes 4, roundish, reflexed; leaves obovate, obtuse, opaque, pale, glabrous above, but rather velvety beneath when young; petioles and branches clothed with rufous down. ♄. S. Native of Peru. My'rtus exsúcca, Domb. mss. but not of Mart. Peduncles sometimes rising by threes from the axils. Bracteoles linear, acute, under the flowers. Leaves 15 lines long and 7-8 broad. Fruit unknown.

Dry Eugenia. Tree 20 feet.

136 E.? DICHÒTOMA (D. C. prod. 3. p. 278.) peduncles axillary, opposite, or nearly terminal, longer than the leaves, bifid or twice bifid; flowers sessile in the forks, the rest pedicellate; leaves elliptic-lanceolate, attenuated at both ends, 1-nerved, full of pellucid dots, glabrous in the adult state, pubescent on both

surfaces when young, as well as the branchlets and calyxes. ♄. S. Native of St. Domingo. Perhaps the same as *Mýrtus dichótoma* of Vahl. mss. Poir. suppl. 4. p. 53. but Poiret says his plant has 5-cleft flowers, but they are 4-cleft in the plant we have in view. Lobes of calyx blunt. Bracteoles oblong, rather foliaceous. Pedicels twice or thrice the length of the flowers in the forks. Petioles pubescent, 2 lines long. Fruit globose, size of a pea, 2-3-celled.

Dichotomous Eugenia. Shrub 6 to 8 feet.

137 E. CHE'KEN (Hook, in Beech. bot. p. 56.) peduncles axillary, usually 1-flowered, solitary, longer than the leaves, furnished with 2 minute, deciduous, linear bracteas under the flowers; leaves glabrous, very dense, oval, acute at both ends, on very short petioles, obsoletely and parallelly nerved, full of pellucid dots; calycine segments very blunt. ♄. G. Native of Chili, about Valparaiso. My'rtus folio subrotundo vulgo. Cheken, Feuill. obs. 3. p. 45. t. 32. Fruit round, black. Seeds 2, rather cordate. A decoction of the leaves of this plant is said to cure diseases of the eyes. The bark is so astringent as to render a decoction of it of great use in cases of dysentery.

Cheken Eugenia. Shrub 4 to 6 feet.

138 E.? TRINE'RVIA (D. C. prod. 3. p. 279.) peduncles trifid, or twice trifid, 3-7-flowered, shorter than the flowers; bracteoles oblong, under the flowers, and are as well as the branchlets and calyxes rather hairy; leaves oval-oblong, acuminated at both ends, glabrous above in the adult state, 3-nerved, and clothed with tomentose pubescence beneath; lateral nerves almost marginal. ♄. G. Native of New Holland. My'rtus trinérvia, Smith, in Lin. trans. 3. p. 80. but not of Lour. Ovarium 2-3-celled, but only 1-celled in the adult state. Fruit globose, size of a pea. Ovula 7-8. Seeds unknown. The leaves are 3-nerved, and the plant therefore allied to *Mýrtus tomentòsa*. It is the only species from New Holland, and on that account may probably be a new genus.

Three-nerved-leaved Eugenia. Clt. 1824. Shrub 4 to 6 feet.

* * * * * * *Peduncles in racemose cymes or panicles, axillary, or the upper ones are terminal.*

139 E. XYLOPIFÒLIA (D. C. prod. 3. p. 279.) peduncles axillary, shorter than the leaves, racemose; pedicels few, elongated, bracteate at the base; leaves oblong, attenuated at the base, acuminated at the apex, coriaceous, opaque, shining above, and are as well as the branches glabrous. ♄. S. Native of French Guiana. Leaves 2 inches long and 8 lines broad. Pedicels 4 lines long. Calycine lobes 4, blunt, bent in after flowering. Fruit, globose, glabrous, crowned, 1-seeded. Seeds thick, conforming to the fruit. Cotyledons conferruminated, full of resinous vesicles.

Xylopia-leaved Eugenia. Shrub 6 to 8 feet.

140 E. CUSPIDIFÒLIA (D. C. l. c.) peduncles axillary, very short, racemose, and are as well as the calyxes clothed with rufous down; pedicels 7-9, in umbellate fascicles; leaves elliptic-oblong, cuspidate, coriaceous, hardly with any pellucid dots, glabrous on both surfaces, dotless, and paler beneath. ♄. S. Native of Brazil, on the banks of the river Negro. My'rtus cuspidifòlia, Mart. herb. A tree 30 to 40 feet. Flowers at first sight appearing as in section second, in secund fascicles. Petioles hardly more than 2 lines long. Calycine lobes 4, reflexed, oval, obtuse. Allied to *E. xylopifòlia*. Leaves 3 inches long and 1 inch broad.

Cuspidate-leaved Eugenia. Tree 30 to 40 feet.

141 E. SPHÆROSPE'RMA (D. C. l. c.) racemes axillary, 5-7-flowered, much shorter than the leaves; pedicels slender; fruit spherical, 1-seeded; seed globose; leaves oblong, attenuated both at the base and apex, acuminated, full of pellucid dots, shining above, pale beneath and dotted, quite glabrous on both surfaces, as well as the branchlets and flowers. ♄. S. Native of Brazil, at the Rio Negro. My'rtus cuspidifòlia, Mart. herb. Leaves 3 inches long and half an inch broad. Fruit size of a grain of pepper. Lobes of calyx 4, obtuse, short. Allied to *E. cuspidifòlia* and *E. xylopifòlia*.

Round-seeded Eugenia. Shrub or tree.

142 E. MODE'STA (D. C. l. c.) racemes few-flowered, axillary, 3-times shorter than the leaves; bracteas ovate, obtuse, permanent, under the flowers; fruit spherical; lobes of calyx ovate, somewhat introflexed; leaves oblong, attenuated at both ends, narrowed and usually emarginate at the apex, with a few pellucid dots, quite glabrous on both surfaces, as well as the branches. ♄. S. Native of Brazil, at the river Ilheos. My'rtus modésta, Mart. herb. Leaves 2 inches long and 5 lines broad. Racemes 5-7-flowered, 5 lines long. Pedicels opposite, bracteolate at the base. Fruit the size of a grain of pepper, and is as well as the whole plant glabrous.

Modest Eugenia. Shrub or tree.

143 E.? VA'HLII (D. C. l. c.) racemes axillary, opposite, solitary, or twin, compressed, rather villous, shorter than the leaves; leaves ovate, acute, 3-nerved, glabrous. ♄. S. Native of Cayenne. E. trinérvia, Vahl. ecl. 2. p. 36. but not of Smith. My'rtus Vàhlii, Spreng. syst. 2. p. 486. Leaves 2 inches long. Branchlets compressed, rather villous. Lobes of calyx 4, obtuse. Petals oblong. Ovarium villous. Fruit and seeds unknown.

Vahl's Eugenia. Shrub.

144 E. RUFE'SCENS (D. C. l. c.) peduncles axillary, oppositely racemose, or in fascicles, and are as well as the calyxes clothed with rufous down; leaves oblong, attenuated at the base, bluntish at the apex, opaque, but at length glabrous. ♄. S. Native of Brazil, in fields in the province of St. Paul. Perhaps *Mýrtus rufèscens*, Spreng. syst. 2. p. 487. Tube of calyx ovate; lobes 4, erect, oblong. Seeds 2-3, compressed in the immature fruit. Leaves 2 or 2½ inches long, and 9-10 lines broad. Racemes one half shorter than the leaves. Pedicels 4 lines long, sometimes in racemes and sometimes in fascicles in the axils of the leaves.

Rufescent Eugenia. Shrub 6 to 8 feet.

145 E. CONFU'SA (D. C. l. c.) peduncles axillary, disposed in simple racemes, length of the petioles; pedicels 1-flowered, twice or thrice the length of the petioles; leaves elliptic, rather attenuated at the base, long-acuminated at the apex, shining above, with revolute margins, full of pellucid dots, and are as well as the branches and flowers glabrous. ♄. S. Native of Guadaloupe. E. floribúnda, Spreng. in herb. Balb. An intermediate plant, between the second and fifth sections. Pedicels very short, rising from the rachis, bearing 1 bractea at the base of each, and 2 acute bracteoles at the apex, under the flowers.

Confused Eugenia. Shrub or tree.

146 E. INUNDÀ'TA (D. C. prod. 3. p. 280.) peduncles axillary, shorter than the leaves, 3-7-flowered, racemose; pedicels elongated, and are as well as the calyxes clothed with white down; bracteoles obtuse, under the flowers; leaves oval or obovate, obtuse, membranous, opaque, glabrous on both surfaces, as well as branchlets. ♄. S. Native of Brazil, in inundated places at Rio Negro. My'rtus inundàta, Mart. herb. Leaves 15-18 lines long and 5-6 broad. Petioles a line long. Lower surface of leaves rather dotted. Petals oval-oblong. Bracteas small, obtuse, under the pedicels. Calycine lobes obtuse. Fruit unknown.

Inundated Eugenia. Shrub or tree.

147 E. LA'NCEA (Poir. suppl. 3. p. 123.) racemes axillary, puberulous, nearly simple, shorter than the leaves; pedicels rather distant, bibracteolate under the flowers; leaves oval-ob-

long, acuminated at both ends, rather opaque, and are as well as the branches glabrous, shining above, veinless, and marked with elevated dots. ♄. S. Native of the Island of St. Thomas. Perhaps a var. of *E. virgultòsa*. Stem whiter.

Lance-leaved Eugenia. Shrub 6 to 10 feet.

148 E. TRINITAˋTIS (D. C. l. c.) peduncles axillary, solitary, opposite, longer than the leaves, disposed in simple racemes; pedicels opposite, 1-flowered, furnished each with 1 bractea at the base and 2 at the apex; flowers 4-lobed; leaves elliptic, acuminated, coriaceous, with a few pellucid dots, shining above, and pale beneath, quite glabrous on both surfaces, as well as the branches and peduncles. ♄. S. Native of the Island of Trinidad. My′rtus dioica, Sieb. pl. exs. trin. no. 94. Leaves an inch and a half long, and half an inch broad. Peduncles slender, 2-3 inches long. Lobes of calyx obtuse. Fruit globose, 1-seeded, a little smaller than a pea. Seed roundish. Cotyledons conferruminated.

Trinidad Eugenia. Shrub or tree.

149 E. POLYSTAˋCHYA (Rich. in act. soc. hist. nat. par. 1792. p. 110.) peduncles axillary, solitary, or in fascicles, length of leaves, oppositely racemose, compressed, clothed with rufous velvety down; calyx downy, bluntly 4-lobed; leaves ovate-lanceolate, acuminated, opaque, coriaceous, glabrous; branchlets compressed, smoothish. ♄. S. Native of French Guiana. E. rugòsa, Ruiz et Pav. in herb. Deless. The fruit of the Guiana plant is unknown, but that of Pavon is furrowed from numerous irregular crests, as in *E. uniflòra*. Seeds pseudo-cotyledonous.

Many-spiked Eugenia. Shrub or tree.

150 E. EMARGINAˋTA (D. C. l. c.) racemes axillary, solitary, 8-10-flowered, when in fruit they are about equal in length to the leaves; calyx 4-parted: leaves obovate-oblong, emarginate, cuneated at the base, coriaceous, puberulous beneath, shining above, and are as well as the branches glabrous. ♄. S. Native on the banks of the Orinoco. My′rtus emarginàta, H. B. et Kunth, nov. gen. amer. 6. p. 142. Flowers unknown. Berry nearly globose, pubescent, 1-seeded. Seed smooth. Cotyledons contortuplicate?

Emarginate-leaved Eugenia. Shrub or tree.

151 E. LUDIBU′NDA (Bert. ined. ex D. C. l. c.) peduncles axillary, solitary, opposite, or in fascicles, panicled, shorter than the leaves; branches and flowers pubescent or villous; leaves ovate, acuminated, membranous, full of pellucid dots, glabrous in the adult state; calyx 4-cleft. ♄. S. Native of St. Domingo. My′rtus montícola, Vahl. herb. ex Puer. Fruit globose, 1-seeded. Seed shining, pseudo-monocotyledonous.

Sporting Eugenia. Shrub or tree.

152 E. GRE′GII (D. C. l. c.) peduncles axillary, many-flowered; pedicels opposite, 1-flowered; flowers 4-cleft; leaves elliptic or ovate, acute, or obtuse, clothed with hoary tomentum beneath. ♄. S. Native of the Island of Dominica. My′rtus Grégii, Swartz, fl. ind. occ. p. 896. Grégia aromática, Gærtn. fruct. 1. p. 168. t. 33. Berry obovate-globose, coriaceous, when young 2-celled, many-seeded, but in the adult state 1-celled, 1-seeded. Seed large. Cotyledons fleshy, conferruminated.

Greg's Eugenia. Clt. 1776. Tree 30 to 40 feet.

153 E. FRAˋGRANS (Willd. spec. 2. p. 964.) peduncles axillary, trichotomous, and simple, compressed, twice the length of the leaves; flowers 4-cleft; leaves ovate, rather convex, and somewhat coriaceous, dotted, and are as well as the branchlets glabrous; stem arboreous. ♄. H. Native of the south of Jamaica, and on the high mountains of Martinique and Guiana. My′rtus fràgrans, Swartz, fl. ind. occ. p. 914. Sims, bot. mag. 1242. Vahl. symb. 2. p. 59. Eug. paniculàta, Jacq. coll. 2. p. 108. t. 5. f. 1. E. montàna, Aubl. guian. 1. p. 495. t. 195. Berry roundish, 1-seeded.

Fragrant Eugenia. Fl. April, May. Clt. 1790. Tree 20 ft.

154 E. VIRGULTÒSA (D. C. l. c.) racemes axillary and terminal, puberulous, somewhat compressed, shorter than the leaves; pedicels rather remote, decussate, bibracteolate at the base; leaves oval-oblong, acuminated at both ends, rather opaque, and are as well as the branches glabrous, shining above, and marked with impressed dots and veins. ♄. S. Native of the high mountains of Jamaica, Santa Cruz, &c. My′rtus virgultòsa, Swartz, fl. ind. occ. 2. p. 905. exclusive of the synonyme of Plumier. Vahl. symb. 2. p. 58. Berry roundish, rather dry. Seeds 2-3, angular.

Twiggy Eugenia. Fl. July, Aug. Clt. 1787. Tr. 12 to 15 ft.

155 E. BIFAˋRIA (Wall. pl. asiat. rar. 2. p. 47. t. 161.) arboreous, quite smooth; leaves oblong, acuminated, approximate, on short petioles, spreading in a bifarious manner, shining, blistered above, and transversely nerved beneath, with the anastomosing vessels very conspicuous, and forming 2 marginal veins, which are remote from the margin; corymbs axillary, solitary, branched; ovarium clavate, on a slender pedicel; petals orbicular, unguiculate; berry oval, crowned by the permanent lobes of the calyx, which are incurved. ♄. S. Native of the mountains on the confines of Silhet.

Bifarious-leaved Eugenia. Tree 30 feet.

156 E. PARVIFLÒRA (Lam. dict. 3. p. 200. exclusive of the synonyme of Rheede) peduncles axillary, a little shorter than the leaves, panicled, pubescent; bracteas oval, foliaceous, under the branchlets of the panicle; bracteoles linear, under the flowers; leaves elliptic-oblong, acuminated, opaque, rather dotted, glabrous above, pubescent beneath as well as on the branchlets. ♄. S. Native of Java. My′rtus parviflòra, Spreng. syst. 2. p. 485. Calyx clothed with white down; lobes 4, obtuse. Flowers small. Embryo like that of *Mýrtus commúnis*, ex Kunth.

Small-flowered Eugenia. Shrub or tree.

157 E. EGE′NSIS (D. C. prod. 3. p. 281.) peduncles axillary, length of the petioles, bearing 8-10 slender, 1-flowered pedicels, which are twice the length of the petioles, disposed in the manner of a raceme; bracteas small, under the flowers and at the origin of the pedicels; leaves elliptic-oblong, long-acuminated, full of pellucid dots, reticulated, glabrous on both surfaces as well as the branchlets, which are compressed. ♄. S. Native of Brazil, in the province of Rio Negro, near Ega. My′rtus Egénsis, Mart. herb. Leaves 4 inches long, and an inch broad. Pedicels 7 lines long. Peduncles or rachis 3-4 lines long. Fruit larger than a pea, globose, 1-seeded. Seeds globose. Immature embryo pseudo-monocotyledonous.

Ega Eugenia. Tree.

158 E. ACUTI′LOBA (D. C. l. c.) racemes axillary, simple, 7-flowered, shorter than the leaves, and are as well as the branches rather hairy; lobes of calyx and bracteas rather acute; leaves oval-oblong, attenuated at the base, acuminated at the apex, full of pellucid dots, rather villous on the upper surface when young, but glabrous in the adult state, dotless, paler beneath, and pubescently villous. ♄. S. Native of Jamaica. Intermediate between *E. virgultòsa* and *E. parviflòra*. Fruit unknown.

Acute-lobed Eugenia. Shrub 6 to 10 feet.

159 E. RACEMÒSA (D. C. prod. 3. p. 281.) racemes axillary, simple, 7-8-flowered, clothed with villous tomentum, much shorter than the leaves; bracteas and bracteoles small, acute: calycine lobes 4, roundish; leaves oval-lanceolate, long-acuminated, with a few pellucid dots, clothed with adpressed villi when young, but glabrous in the adult state, shining above. ♄. S. Native of Brazil, in woods. My′rtus racemòsa, Mart. herb. Leaves 3 inches long, and 12-15 lines broad. Racemes 9-10 lines long. Petals obovate. Style acute, longer than the stamens. Fruit unknown.

Racemose-flowered Eugenia. Shrub or tree.

160 E. CANDOLLEA'NA (D. C. l. c.) peduncles axillary, opposite, and terminal, tern, racemose, 7-9-flowered, shorter than the leaves; bracteoles bluntish; leaves oval-oblong, rather cuneated at the base, bluntly acuminated at the apex, full of pellucid dots, quite glabrous on both surfaces as well as on the branches. ♄. S. Native of Brazil, in woods near Rio Janeiro. My'rtus Candolleàna, Mart. herb. Leaves 2 inches long and 9-10 lines broad. Peduncles 9-10 lines long. Fruit ovate, crowned by the lobes of the calyx, which are ovate, obtuse, 4 in number, and glabrous as well as the whole inflorescence.

De Candolle's Eugenia. Shrub or tree.

161 E. COLLI'NA (D. C. l. c.) peduncles extra-axillary, racemosely panicled, shorter than the leaves, or equal in length to them; lobes of calyx 4, ovate, obtuse, spreadingly reflexed; staminiferous disk broad; leaves elliptic, bluntish, stiff, opaque, and are as well as the branchlets glabrous. ♄. S. Native of Brazil, on hills. My'rtus collìna, Mart. herb. Peduncles rising a little above the leaves, opposite, and forming a cross angle with the leaves. Calyxes downy, expanded like that of *Psidium*, but 4-lobed, and with the lobes distinct in the bud. Leaves 2 and 2½ inches long and 1 inch broad. Peduncles an inch and a half long. Fruit unknown.

Hill Eugenia. Shrub or tree.

162 E. CAPPARIDIFÒLIA (D. C. l. c.) peduncles axillary, racemose, 3-times shorter than the leaves, 7-8-flowered; bracteas and bracteoles ovate; fruit ovate, globose, glabrous at length, but when young clothed with short velvety down, as well as the lobes of the calyx, which are 4 and ovate; leaves oval oblong, bluntish, coriaceous, stiff, opaque, and are as well as the branches glabrous. ♄. S. Native of Brazil, on Serro Frio, in the provinces of the Mines. My'rtus capparidifòlia, Mart. herb. Leaves 2½ inches long, and 9-10 lines broad. Racemes 8-10 lines long. Fruit larger than a pea, 1-seeded. Cotyledons conferruminated.

Capparis-leaved Eugenia. Shrub or tree.

163 E. FÍRMA (D. C. prod. 3. p. 282.) peduncles axillary, racemose, simple, shorter than the leaves; bracteas and bracteoles small, broad, hardly acute; fruit globose, 2-seeded, crowned by the 4 ovate, erect lobes of the calyx; leaves oval, bluntish, stiff, opaque, glabrous on both surfaces as well as the branchlets and racemes. ♄. S. Native of Brazil. My'rtus fírma, Mart. herb. Leaves 3-4 inches long and from 1-2 broad, on short petioles. Racemes 2 inches long. Fruit size of a cherry, of an orange colour.

Firm Eugenia. Shrub 6 to 10 feet.

164 E. INÆQUÍLOBA (D. C. l. c.) peduncles axillary, disposed in a many-flowered, terminal panicle; calyx 4-lobed, the 2 larger lobes membranous, roundish and ciliated; leaves elliptic, somewhat attenuated at both ends, rather coriaceous, opaque, and are as well as the branches glabrous. ♄. S. Native of Cayenne. Leaves 2½ inches long and an inch broad, shining above. Flowers small. Fruit globose. Seeds roundish. Cotyledons conferruminated.

Unequal-lobed-calyxed Eugenia. Shrub 6 to 8 feet.

165 E. MARÍTIMA (D. C. l. c.) racemes axillary, 1-2, terminal, tern, sessile, short, 8-10-flowered, hardly exceeding the petioles; branches and calyxes glabrous; calyx coriaceous, 4-lobed. ♄. S. Native of Mexico, near Acapulco. My'rtus marítima, H. B. et Kunth, nov. gen. amer. 6. p. 146. Leaves 2½ inches long, and 12-16 lines broad. Petals ciliated. Ovarium 2-celled; cells many-ovulate. Berry pea-shaped, 1-seeded. Perhaps distinct from *E. buxifòlia.*

Sea-side Eugenia. Shrub 6 to 10 feet.

166 E. MICRA'NTHA (D. C. l. c.) racemes 1-2, axillary, or 2-3, terminal, usually 10-flowered, shorter than the leaves, and are as well as the branchlets and calyxes rather hairy; leaves rather ovate-oblong, acuminated, cuneated, and acute at the base, revolute all round, rather coriaceous, glabrous, and rather shining. ♄. S. Native of New Granada, near Honda, and perhaps of Peru. My'rtus micrántha, H. B. et Kunth, l. c. p. 144. but not of Nees nor Mart. Ovarium 2-celled; cells many-ovulate. Fruit red, 1-seeded.

Small-flowered Eugenia. Shrub 6 to 10 feet.

167 E. A'LBIDA (Humb. et Bonpl. pl. equin. 2. p. 107. t. 113.) racemes axillary, solitary, shorter than the leaves, or terminal, in threes, 8-10-flowered, and are as well as the branchlets clothed with silky silvery down; calyx acutely 4-lobed; leaves oblong-lanceolate, acuminated, narrowed at the base, coriaceous, glabrous above and shining, but covered with silky silvery down beneath. ♄. S. Native of New Granada, on mountains near Fusagasuga. Ovarium 2-celled; cells many-ovulate. Seed subglobose. Cotyledons fleshy, conferruminated.

Whitish Eugenia. Tree 12 to 18 feet.

168 E. PUBE'SCENS (D. C. l. c.) racemes axillary, twin, and terminal in fours, 8-10-flowered, about equal in length to the leaves, pubescent; calyx bluntly 4-lobed; leaves oblong, obtuse, acute at the base, coriaceous, glabrous above and shining, clothed with silky pubescence beneath; branchlets puberulous. ♄. S. Native on the banks of the Orinoco, near Maypures. My'rtus pubéscens, H. B. et Kunth, l. c. p. 143. but not of Mart. Leaves 27-30 lines long and 12-14 lines broad. Flowers about the size of those of the hawthorn. Petals ciliated. Stamens about 170 in number. Ovarium 2-celled; cells many-ovulate. Fruit and seeds unknown.

Pubescent Eugenia. Shrub or tree.

169 E. PSEU'DO-CARYOPHY'LLUS (D. C. l. c.) peduncles axillary, alternate, twice trifid at the apex, shorter than the leaves; and are, as well as the calyxes, branchlets, and buds, clothed with hoary pubescence; leaves oblong, acuminated at both ends, stiff, opaque, glabrous above and shining, clothed with canescent silky down beneath. ♄. S. Native of Brazil, in the province of St. Paul. My'rtus oleáster, Mart. herb. My'rtus pseùdo-caryophy'llus, Gomez. mem. act. lisb. 3. p. 93. t. 6. ex St. Hil. Leaves 3 inches long and 9-10 lines broad. Petioles 2 lines long. Fruit ovate, crowned by the lobes of the calyx, obtuse, somewhat inflexed. Peduncles 1½ inch long.

Var. β, ocoteoìdes (D. C. l. c.) peduncles axillary, and almost terminal, trichotomous, corymbose; flowers 4-cleft, middle one sessile, lateral ones pedicellate; leaves elliptic-oblong, acuminated, feather-nerved, glabrous above, and rather canescent from short silky adpressed down beneath; young branches puberulous. ♄. S. Native of Brazil. Fruit and seeds unknown.

Bastard-clove Eugenia. Tree 15 to 20 feet.

170 E. FULVE'SCENS (Mart. herb. ex D. C. prod. 3. p. 283.) peduncles axillary, and nearly terminal, panicled, and trichotomous; flowers 4-cleft, middle one sessile, lateral ones pedicellate; leaves elliptic, acuminated at both ends, feather-nerved, glabrous above, rather velvety beneath from short rufescent down, as well as branchlets and peduncles; branches compressed. ♄. S. Native of Brazil, in fields in the provinces of the Mines. Very like *E. pseùdo-caryophy'llus var. Ocoteoìdes*, but the leaves are shorter, and not silky beneath.

Fulvescent Eugenia. Shrub or tree.

171 E. PA'TENS (Poir. suppl. 3. p. 124.) racemes axillary, rather spreading, many-flowered, ultimate ones panicled; lobes of calyx 4, orbicular, 2 of which are smaller than the other 2; leaves lanceolate, acuminated, spreading, coriaceous, full of pellucid dots, and are, as well as the branches, glabrous. ♄. S. Native of Cayenne. Racemes a little shorter than the leaves. Bracteoles 2, ovate, obtuse under the calyx. Stamens a little longer than the petals. Fruit unknown.

Spreading Eugenia. Shrub or tree.

172 E. MIKANIA'NA (D. C. prod. 3. p. 283.) peduncles axillary, opposite, and nearly terminal, divaricately branched, longer than the leaves, and are, as well as the calyxes and branches, clothed with rufous tomentum; leaves ovate-oblong, acuminated, full of pellucid dots when young, villous and rather tomentose above, but in the adult state opaque, glabrous above, and almost naked beneath. ♄. S. Native of Brazil, in the province of St. Paul. My'rtus Mikaniàna, Mart. herb. Fruit ovate, crowned by the 4 lobes of the calyx, which are blunt and conniving. Leaves 2 inches long and 9 lines broad, on petioles a line long. Allied to *E. rufèscens*, but the inflorescence is different.

Mikan's Eugenia. Tree 20 feet.

173 E. ACETÒSANS (Poir. suppl. 3. p. 125.) racemes axillary and terminal, pedunculate, longer than the leaves; pedicels opposite; flowers 4-cleft; leaves obovate, obtuse, coriaceous, dotted beneath, and are, as well as the branches, glabrous. ♄. S. Native of Guiana. Leaves with an acid taste according to Richard. My'rtus acetòsans, Spreng. syst. 2. p. 488. Fruit and seeds unknown.

Acid-leaved Eugenia. Tree.

174 E. ÆRUGÌNEA (D. C. l. c.) peduncles axillary and terminal, many-flowered, racemosely panicled, shorter than the leaves; calyxes and panicles covered with rufous velvety down; pedicels opposite, 1-3-flowered; calyx 4-cleft; leaves oval-oblong, acute at both ends, opaque, membranous, glabrous in the adult state. ♄. S. Native of South America. My'rtus ærugìnea, Forsyth in herb. Lher. Petioles 5 lines long. Leaves 3 inches long and 12-15 lines broad. Racemes an inch and a half long. The two broadest lobes of the calyx are blunter. Fruit and seeds unknown.

Rusty Eugenia. Shrub or tree.

175 E. MURICA'TA (D. C. l. c.) peduncles axillary and terminal, racemose, shorter than the leaves; bracteas small, acute under the flowers; fruit obovate, rough from blunt tubercles, crowned by the 4 lobes of the calyx, which are obtuse and spreading; leaves elliptic-oblong, acuminated, opaque, rather coriaceous, glabrous above, but clothed with paler rufous down beneath, pubescent while young, but glabrous in the adult state. ♄. S. Native of Brazil. My'rtus muricàta, Mart. herb. Leaves 6 inches long and 2 inches broad. Petioles 2-3 lines long. Racemes 3 inches long when in flower, but when bearing the fruit they are from 4-6 inches long. Allied to *E. ripària*. Seeds unknown.

Muricated-fruited Eugenia. Tree 20 feet.

176 E. RIPA'RIA (D. C. l. c.) peduncles axillary and terminal, shorter than the leaves, racemosely panicled; bracteas under the flowers, broad at the base, and acute at the apex; calyxes, peduncles, and branchlets, covered with rufescent down; leaves elliptic-oblong, terminated by a long acute acumen, coriaceous, opaque, nerveless, clothed with rufescent down beneath. ♄. S. Native of Brazil, on the banks of the river Amazon. My'rtus ripària, Mart. herb. Leaves 8 inches long and 2 inches broad, standing on petioles 2 lines long. Panicle 2-3 inches long. Calycine lobes 4, spreading, roundish. Staminiferous disk broad, as in *Psídium*. Fruit unknown.

River-side Eugenia. Tree 20 feet.

177 E. HIRSU'TA (Ruiz et Pav. fl. per. 4. t. 417. a.) peduncles leafy, few-flowered; pedicels 1-flowered, having 2 leafy bracteas in the middle, and each flower is surrounded by 5 bracteas in the form of an involucrum; leaves ovate, acuminated, with revolute margins, on very short petioles; fruit oblong, small, crowned by the 5-lobed limb of the calyx, ex icon. ♄. S. Native of Peru. Hairy in every part. Style subulate.

Hairy Eugenia. Shrub 6 to 8 feet.

178 E. FLÓRIDA (D. C. l. c.) peduncles axillary or terminal, panicled, many-flowered, longer than the leaves; bracteoles acute, 2 under each flower, and a solitary one at the base of each pedicel; petals obovate, spreadingly reflexed; leaves elliptic-oblong, acuminated, membranous, opaque, nearly veinless above, and are, as well as the branchlets, glabrous. ♄. S. Native of Brazil, on the banks of the river Amazon. My'rtus flórida, Mart. herb. Flowers as large as those of *Mýrtus commùnis*. Style exserted. Calycine lobes 4, obtuse. Fruit unknown.

Florid Eugenia. Tree 20 to 30 feet.

179 E. LÆVIGA'TA (D. C. prod. 3. p. 283.) peduncles axillary and terminal, much branched, covered with rufous down, as well as the flowers and buds; leaves oval-oblong, attenuated at the base, bluntly acuminated at the apex, opaque, smooth above, pale and dotted beneath, glabrous on both surfaces, as well as on the branches. ♄. S. Native of Brazil, in the desert of Rio St. Francisco. My'rtus lævigàta, Mart. herb. Leaves 2 inches long and 8-9 lines broad, standing on petioles 3 lines long. Flower-bud globose. Fruit unknown.

Smooth Eugenia. Shrub or tree.

180 E. PA'TULA (D. C. prod. 3. p. 284.) peduncles axillary or terminal, racemose, simple, 5-7-flowered, shorter than the leaves; pedicels spreading, distant; bracteas and bracteoles small, acute; lobes of calyx obtuse; leaves linear-oblong, acuminated, with a few pellucid dots; branchlets and racemes quite glabrous. ♄. S. Native of Brazil, at the river Amazon. My'rtus pâtula, Mart. herb. Leaves 3-4 inches long and 5-10 lines broad. Petioles 2 lines long. Tube of calyx globose. Flowers small.

Spreading Eugenia. Tree 20 to 30 feet.

181 E. RUTIDOCA'RPA (Ruiz et Pav. fl. per. 4. t. 416.) peduncles racemose, aggregate in the axils of the leaves, and terminal, panicled, numerous, about the length of the leaves; leaves ovate-oblong, acuminated; fruit globose, rough. ♄. S. Native of Peru.

Rough-fruited Eugenia. Tree.

182 E.? PA'LLENS (D. C. l. c.) peduncles terminal, twin, racemose; pedicels opposite, for the most part one-flowered, furnished each with one bractea at the base, and 2 bracteoles at the apex; calyxes 4-cleft, clothed with cinereous villi; leaves broad-lanceolate, attenuated, dotted above, and are, as well as the branchlets, glabrous. ♄. S. Native of South America. My'rtus pállens, Vahl. symb. 2. p. 57. Spreng. syst. 2. p. 485. exclusive of the synonyme of Poir., which is referrible to *Calyptránthes chytracùlia*. Branches rather compressed above. Petals very minutely ciliated, length of the stamens. Fruit and seeds unknown.

Pale Eugenia. Tree.

183 E. NERVÒSA (Lour. coch.) peduncles 1-flowered, terminal, crowded; calyx 4-lobed; lobes obtuse, concave; leaves lanceolate, glabrous. ♄. G. Native of Cochin-china, in woods. My'rtus Loureiri, Spreng. syst. 2. p. 489. Petals small, roundish. Stamens above 100 in number, 3 times longer than the petals. Style subulate, acute, longer than the stamens. Berry globose, nerved, glabrous, reddish brown.

Nerved-leaved Eugenia. Tree 30 to 40 feet.

184 E. CORYMBÒSA (Lam. dict. 4. p. 199.) peduncles terminal, corymbose, with opposite branchlets; calyx with 4 short teeth; leaves ovate, obtuse, opaque, shining above, veined beneath, glabrous on both surfaces, as well as on the branchlets. ♄. S. Native of the East Indies. Njara, Rheed. mal. 5. p. 53. t. 27. Berry globose, blackish, 1-seeded, ex Rheed.

Corymbose-flowered Eugenia. Tree.

185 E. ANDROSÆMOÌDES (D. C. l. c.) racemes terminal and axillary, somewhat corymbose, few-flowered, shorter than the leaves; leaves oval, obtuse, stiff, coriaceous, opaque, nearly sessile, glabrous; branches tetragonal. ♄. S. Native of the East

Indies. My'rtus androsæmoides, Vahl. symb. 2. p. 58. perhaps exclusive of the synonyme. Fruit globose, size of a pepper. Seeds 2, hemispherical, fleshy inside, pseudo-monocotyledonous. M. androsæmoides of many herbaria.

Androsæmum-like Eugenia. Shrub.

186 E.? PE'NDULA (D. C. l. c.) racemes terminal, elongated, pendulous; branches short, usually 3-flowered; calyxes semiquadrifid; leaves on short petioles, oblong-lanceolate, attenuated at both ends, glabrous. ♄. S. Native of Java, in woods in the province of Bantam. My'rtus péndula, Blum. bijdr. p. 1085. Said to be allied to *E. lanceolàta*.

Pendulous-racemed Eugenia. Shrub.

187 E. SPICIFLÒRA (Nees et Mart. nov. act. bonn. 12. p. 52.) peduncles compressed, rising from the stem; flowers spicate, opposite, tribracteolate; leaves oblong-lanceolate, acuminated, ciliated, hairy on the stem and petioles. ♄. S. Native of Brazil, at the river Ilheos. Leaves a hand long. Petioles covered with yellow bristles. Tube of calyx funnel-shaped. Fruit and seeds unknown. Said to be allied to *E. Brasiliénsis*.

Spicate-flowered Eugenia. Shrub 10 to 18 feet.

188 E.? LANCEOLA'TA (Lam. dict. 3. p. 200.) peduncles nearly terminal, racemose, few-flowered; calyx turbinate, 4-lobed; leaves lanceolate, nearly sessile, full of pellucid dots, glabrous on both surfaces, as well as on the branchlets. ♄. S. Native of the East Indies. My'rtus Sonneràtii, Spreng. syst. 2. p. 485. Petals concave. Stamens, fruit, and seeds unknown.

Lanceolate-leaved Eugenia. Shrub 6 to 12 feet.

189 E. TE'MU (Hook. in Beech. voy. pt. bot. p. 56.) panicles axillary, for the most part solitary, somewhat corymbose, few-flowered, almost the length of the leaves; leaves elliptic or obovate, very blunt, coriaceous, pale beneath, when young rather velvety, as well as the branchlets, on short petioles. ♄. G. Native of Chili, about Valparaiso. *Temu* of Chili. Perhaps the same as My'rtus Lùma of Molini.

Temu Eugenia. Shrub 5 to 6 feet.

190 E.? DUMETÒRUM (D. C. l. c.) racemes long, nearly terminal; leaves ovate, acuminated, 3-nerved, glabrous on both surfaces, as well as the fruit. ♄. G. Native of Cochin-china, among bushes. My'rtus trinérvis, Lour. coch. p. 312. My'rtus dumetòrum, Poir. suppl. 4. p. 52. Nélitris trinérvia, Spreng. syst. 2. p. 488. Berry brown, 1-celled. Seeds few, angular, ex Lour.

Bush Eugenia. Shrub 6 to 10 feet.

191 E. AXILLA'RIS; racemes axillary, exceeding the pendulous petioles, covered with adpressed pubescence; peduncles bibracteolate at the apex, puberulous; leaves lanceolate, bluntly acuminated, glabrous, dotless; tops of branches and petioles beset with small down, the rest of the plant glabrous. ♄. S. Native of Mexico, in woods near Jalapa. My'rtus axillàris, Moc. et Sesse. Flowers small.

Axillary-flowered Eugenia. Shrub.

192 E. VERRUCULÒSA (D. C. l. c.) panicle terminal, elongated; bracteas and bracteoles, as well as the lobes of the calyx, broad, short, and obtuse; fruit large, spherical, covered with dotted warts, crowned by the spreading lobes of the calyx; leaves elliptic, attenuated at the base, acuminated at the apex, stiff, opaque, shining above, almost veinless, quite glabrous on both surfaces, as well as on the branchlets. ♄. S. Native of Brazil, at the river Tapura. My'rtus verruculòsa, Mart. herb. Leaves 3-4 inches long and 15 lines broad. Petioles 2 lines long. Fruit 7 lines in diameter. Seed one, pseudo-monocotyledonous.

Warted-fruited Eugenia. Shrub or tree.

193 E. TABA'SCO; cymes nearly sessile, lateral; leaves elliptic-lanceolate, acute at the base, and obtuse at the apex, full of pellucid dots; berry globose; limb of calyx bluntly 4-lobed, having the lobes conniving; fruit 1-celled and 1-seeded from abortion; embryo spirally convolute; branches tetragonally winged. ♄. S. Native of Mexico, in hot regions. My'rtus Tabásco, Moc. et Sesse, ex Cham. et Schlecht. Linnæa. 5. p. 559. My'rtus Piménta and Pimenta de Tabasco of the Mexicans. The seeds are used as a condiment.

Tabasco Pimenta. Tree.

194 E. MICROCA'RPA (Cham. et Schlecht. in Linnæa. 5. p. 560.) glabrous; branches dichotomous; leaves on short petioles, acute at the base, and drawn out into a blunt acumen at the apex, shining above, and paler beneath, full of pellucid dots; berries glomerate at the tops of the branches, on short bibracteolate peduncles, crowned by 4 very blunt segments; flesh spongy, thick; cotyledons conferruminated; seed one. ♄. S. Native of Mexico, in woods near Jalapa. Flowers not seen.

Small-fruited Eugenia. Tree.

195 E. MARGINA'TA (Pers. ench. 2. p. 17.) peduncles axillary and almost terminal, trifid, trichotomous; tube of calyx globose, with 4 very blunt lobes; leaves oval, acutish, besprinkled with a very few pellucid and red glands, shining above, beset with impressed dots beneath, but with elevated ones above, glabrous on both surfaces in the adult state; branches terete, clothed with rusty villi at the tops. ♄. S. Native of St. Domingo. Perhaps the same as My'rtus marginàta, Spreng. syst. 2. p. 438.

Marginated-leaved Eugenia. Shrub or tree.

196 E. PIME'NTA (D. C. prod. 3. p. 85.) peduncles axillary and terminal, trichotomously panicled; flowers 4-cleft, those in the forks almost sessile, the rest panicled; leaves oblong or oval, full of pellucid dots, rather opaque, glabrous; branches terete; branchlets compressed, pubescent when young, as well as the pedicels. ♄. S. Native of the Caribbee Islands, Jamaica, &c., and now cultivated in the East Indies. The upper leaves are rarely somewhat alternate, the rest opposite. Bracteoles 2 under each flower, falling off very late. Berry globose, 1-seeded. Embryo roundish. Cotyledons conferruminated, not distinct. Bayberry tree, Hugh. barb. p. 145. t. 10. good. ex Sims, bot. mag. 1236. My'rtus Piménta, Lin. spec. 676. Swartz, obs. p. 202. Soon after the *pimenta* trees have blossomed the berries become fit for gathering, without being suffered to ripen, as when ripe they are moist and glutinous, and therefore difficult to cure, and when dried become black and tasteless. The berries are dried by spreading them on a terrace exposed to the sun for about 7 days, during which time they gradually lose their green colour, and become of a reddish brown. The smell of them resembles a mixture of cinnamon, cloves, and nutmegs; their taste approaches to that of a mixture of the whole three; whence the tree has received the name of all-spice. Newmann ascertained that its flavour resides entirely in a volatile oil heavier than water, and its pungency is a resin or a substance soluble in alcohol, and insoluble in water. Pimenta is a warm aromatic stimulant, and is much used as a condiment in dressing food. As a medicine it may be advantageously substituted for the more costly spices. An oil is obtained by distillation, which is said to be nearly equal to oil of cloves, and is sometimes substituted for it.

Var. α, longifòlia (D.C. l. c.) leaves oblong-lanceolate, bluntly acuminated.—Pluk. t. 155. f. 4.

Var. β, ovalifòlia (D. C. l. c.) leaves oval, shorter, obtuse.—Sloane, hist. jam. 2. t. 191. f. 1. Perhaps referrible to My'rcia pimentoides, and probably the My'rtus aromática of Poir. dict. 4. p. 410. and is therefore perhaps a species of My'rcia.

Pimenta, or Jamaica All-spice, or Jamaica Pepper. Fl. May, July. Clt. 1728. Tree 20 to 30 feet.

197 E. CHRYSOBALANOÌDES (D. C. l. c.) peduncles terminal, exceeding the leaves; pedicels opposite, 1-flowered; bracteas and bracteoles ovate, concave, dotted; flowers 4-cleft; leaves

broad, oval, obtuse or acuminated, full of pellucid dots, and are as well as the branches glabrous. ♄. S. Native of Guadaloupe. Branches terete. Petioles 5 lines long. Leaves 2-3 inches long and 1 or 2 inches broad. Pedicels rather downy. Calyx large, dotted. Fruit and seeds unknown.

Cocoa-plum-like Eugenia. Shrub 6 to 10 feet.

198 E.? NÍTENS (D. C. l. c.) peduncles terminal, somewhat trichotomous at the apex; leaves elliptic-lanceolate, acute at the base, and bluntish at the apex, shining above, and full of pellucid dots beneath, and are glabrous as well as the branchlets. ♄. S. Native of the Mauritius. My'rtus nítens, Poir. suppl. 4. p. 51. Fruit 3-4-celled. Flowers 4-cleft, ex herb. mus. par. Seeds unknown.

Shining Eugenia. Shrub or tree.

199 E.? BERTERIA'NA (Spreng. syst. 2. p. 487.) panicle terminal; flowers crowded, 4-cleft; leaves oblong-lanceolate, acuminated, shining above, and quite glabrous beneath. ♄. S. Native of South America, at the river Magdalena. My'rtus Berteriàna, Spreng. syst. 2. p. 487. The rest unknown.

Bertero's Eugenia. Shrub or tree.

200 E. PYRIFÒLIA (Desv. in Ham. prod. fl. ind. occ. p. 44.) panicle brachiate, terminal, many-flowered; rachis pubescent; leaves on short petioles, ovate, acuminated, nerved. ♄. S. Native of Guiana. The rest unknown.

Pear-leaved Eugenia. Shrub or tree.

† *Species of Eugènia not sufficiently known.*

201 E. ACUMINA'TA (Link, enum. 2. p. 28.) ♄. S. Native country, flowers, and fruit unknown. Leaves acuminated.

Acuminated-leaved Eugenia. Shrub or tree.

202 E.? UMBELLA'TA (Spreng. neu. entd. 2. p. 169.) pedicels 1 flowered, umbellate; leaves oblong, obtuse, opaque. ♄. S. Native of Brazil. The rest unknown. A very doubtful species.

Umbellate-flowered Eugenia. Shrub or tree.

203 E. RAMIFLÒRA (Desv. in Ham. prod. fl. ind. occ. p. 43.) pedicels short, clothed with rufous tomentum; calyx clothed with hoary tomentum; branches divaricate, glabrous; leaves on short petioles, oblong-elliptic, acuminated, shining above, and rather tomentose beneath. ♄. S. Native of Guiana. Flowers 4-cleft. The rest unknown.

Branch-flowered Eugenia. Tree 15 to 20 feet.

204 E. TRUNCIFLÒRA; glabrous; leaves nearly sessile, oblong, acuminated, acute, obtuse at the base, rather coriaceous, full of pellucid dots: flowers rising in fascicles from the trunk, 4-cleft, icosandrous; ovarium 2-celled; cells about 15-ovulate; ovula fixed to the middle of the dissepiment. ♄. S. Native of Mexico, in shady woods between Mesachica and Papantla. Leaves 5-7 inches long and 2 or 2½ broad. Petioles thick, a line long. Peduncles 3-9 lines long, furnished with 2 scale-formed bracteas under each flower. Flower-bud globose, size of a pea. Flowers white, more than half an inch in diameter when expanded. My'rtus? truncifiòra, Cham. et Schlecht. in Linnæa. 5. p. 561.

Bitten-flowered Eugenia. Shrub.

N. B. There are numerous names of species in Roxburgh's Hortus Bengalensis, but all without descriptions.

Eugènia villòsa, Poir. suppl. 3. p. 124. or My'rtus villòsa, Spreng. syst. 2. p. 487. is obviously the Monímia rotundifòlia, Pet. Th. or Ambòra tomentòsa, Bory; a plant belonging to *Urtíceæ*.

Eugènia violàcea, Lam. dict. 3. p. 200. is evidently a Rubiaceous plant, and perhaps an *Exòra* mixed with the leaves of a species of *Syzygium* in M. Jussieu's herbarium.

Cult. For culture and propagation see *Jambòsa*, p. 869.

XXXIV. JAMBO'SA (altered from *Schambu*, the Malay name of one of the species). Rumph. amb. 1. p. 121.—D. C. prod. 3. p. 286.—Jámbos, Adans. fam. 2. p. 88.—Eugènia species, Swartz, Kunth.

LIN. SYST. *Icosándria, Monogýnia.* Tube of calyx turbinate (f. 124. *a.*), attenuated at the base, having the throat drawn out beyond the ovarium, dilated and obovate; limb 4-cleft; lobes roundish. Petals 4, inserted in the throat of the calyx, broad, concave, obtuse. Stamens very numerous (f. 124. *b.*), longer than the petals, free, straight. Style filiform; stigma simple, acutish. Ovarium many-celled, many-ovulate. Fruit 1-2-seeded, fleshy from the large baccate calyx, umbilicate at the apex. Seed angular. Cotyledons fleshy, thick, with conferruminated margins. Radicle almost cylindrical, hidden between the cotyledons.—Indian trees, with opposite leaves, standing on short petioles, and full of pellucid dots. Cymes lateral and terminal, few-flowered, simple, much shorter than the leaves; pedicels lateral, opposite, and one terminal. Flowers large, bractless, articulated on the tops of the pedicels. Fruit large, eatable. The greater part of the species being cultivated for the sake of their fruit are therefore difficult to extricate from confusion.

1 J. VULGA'RIS (D. C. prod. 3. p. 286.) racemes cymose, terminal; leaves narrow-lanceolate, attenuated at the base, acuminated at the apex. ♄. S. Native of the East Indies, and now cultivated in all the regions within the tropics. Malácca-Schambu, Rheed. mal. 1. t. 17. Eugènia Jámbos, Lin. spec. p. 672. Sims, bot. mag. 1696. E. Jámboo, Roxb. hort. beng. p. 38.—Delaun. herb. amat. t. 77. Thouin, ann. mus. 1. p. 35. My'rtus Jámbos, H. B. et Kunth, nov. gen. amer. 6. p. 138. Leaves 6-7 inches long and 1 to 1½ inch broad. Fruit ovate-globose. Flowers white. The *Jamsorade* or *Rose-apple* is a branching tree, about 20 feet high. The fruit is pear-shaped, about the size of a medlar, white, red, or rose-coloured, and ripening from September to December. There are several varieties differing in the size and colour of the fruit. It is not so much esteemed as the Malay-apple: it is however nevertheless excellent, resembling in appearance and flavour a Brussels apricot. To grow the fruit in this country, it requires a hot and moist atmosphere.

Common Jamsorade or Rose-apple. Fl. Feb. July. Clt. 1768. Tree 20 to 30 feet.

2 J. SAMARANGÉNSIS (D. C. l. c.) racemes loose, terminal or axillary, shorter than the leaves; branches usually 3-flowered; leaves elliptic-oblong, bluntish, rounded at the base, or nearly cordate, glabrous. ♄. S. Native of Java. My'rtus Samarangénsis, Blum. bijdr. p. 1084. Flowers rose-coloured or whitish. Leaves acutish, greyish green beneath. Perhaps sufficiently distinct from the following.

Samarang Rose-apple. Tree 20 to 25 feet.

3 J. VENÒSA (D. C. l. c.) racemes simple, terminal, or sub-corymbose, few-flowered; leaves elliptic, coriaceous, opaque, glabrous on both surfaces, and reticulately veined; branches angular. ♄. S. Native of Madagascar and of the Mauritius. Eugènia venòsa, Lam. dict. 3. p. 200. My'rtus venòsa, Spreng. syst. 2. p. 485. Leaves on short petioles, 4 inches long and 2 or 2½ broad. Fruit said to be 1-seeded.

Veiny-leaved Rose-apple. Tree 20 feet.

4 J. MACROPHY'LLA (D. C. l. c.) cymes lateral, fascicled; leaves ovate-lanceolate, obtuse at the base, acuminated at the apex. ♄. S. Native of the East Indies. Eugènia macrophy'lla, Lam. dict. 3. p. 139. Eugènia álba, Roxb. hort. beng. p. 39. Leaves 1 foot and more long, and 5 inches broad. Peduncles 5-flowered, 3 inches long. Flowers white? Perhaps J. sylvéstris álba, Rumph. amb. 1. p. 127. t. 39.

Long-leaved Rose-apple. Clt. 1820. Tree 20 to 30 feet.

5 J. PURPURA'SCENS (D. C. l. c.) cymes lateral, in fascicles;

leaves elliptic, hardly acute at the base and apex. ♄. S. Native of the Island of Trinidad, (Sieb. trin. no. 148.) where it is probably cultivated. Flowers purple. Eugènia Malaccénsis, Smith, exot. bot. t. 61. Andr. bot. rep. 458. but not of Lin. Eugènia purpùrea, Roxb. hort. beng. p. 37. Eugen. pseudo-Malaccénsis, Hort. par.

Purplish-flowered Rose-apple. Fl. May, Aug. Clt. 1768. Tree 20 to 30 feet.

6 J. MALACCE'NSIS (D. C. l. c.) cymes lateral, short; leaves ovate-lanceolate, attenuated at both ends. ♄. S. Native of the East Indies. Nati-Schambu, Rheed. mal. 1. t. 18. Eugènia Malaccénsis, Lin. spec. p. 672. Lam. dict. 3. p. 196. Cor. ann. mus. 9. p. 292. f. 2. My'rtus Malaccénsis, Spreng. syst. 2. p. 484. Leaves a foot long, shining. Fruit pear-shaped. Jambòsa nigra 1. t. 38. f. 1. Flowers white. This tree resembles the jamsorade, but has broader leaves. The fruit is ovate, an inch and a half in diameter, fleshy, and sweet-scented like the rose, agreeable to the taste, smell, and sight, and esteemed wholesome. It is common in most of the islands in the South Sea.

Malay Apple. Fl. May, Aug. Clt. 1768. Tree 20 to 30 ft.

7 J. AMPLEXICAU'LIS (D. C. prod. 3. p. 287.) racemes few-flowered, terminal; lower flowers axillary, solitary; leaves membranous, oblong-lanceolate, obtuse, glabrous, undulated, rather cordate at the base. ♄. S. Native of Sumatra. Eugènia amplexicaùlis, Roxb. hort. beng. p. 37. Lindl. bot. reg. t. 1033. Fruit very fine purple, size of a small apple. Calyx fleshy, bluntly 4-cleft.

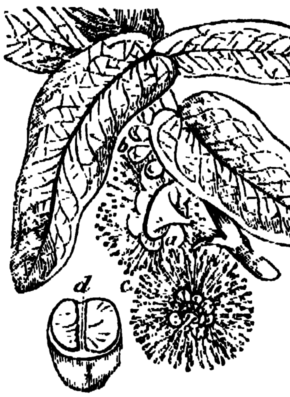
Stem-clasping-leaved Rose-apple. Fl. May, July. Clt. 1823. Tree 20 to 30 feet.

8 J. AUSTRA'LIS (D. C. l. c.) axillary peduncles 3-flowered, solitary, terminal ones rather panicled; leaves elliptic-lanceolate, acute. ♄. G. Native of New Holland. Eugènia myrtifòlia, Sims, bot. mag. t. 2230. Ker. bot. reg. 627. Lodd. bot. cab. 525. Eugènia austràlis, Wendl. ex Link, enum. hort. berl. 2. p. 28. Coll. hort. rip. append. 1. p. 123. t. 8. My'rtus austràlis, Spreng. syst. 2. p. 482. Flowers white.

Southern Rose-apple. Fl. April, July. Clt. 1800. Tree 20 ft.

9 J. FORMÒSA; leaves elliptic-oblong, rather acuminated, sessile, cordate, stem-clasping; racemes axillary, rising after the leaves have fallen, sessile, short: pedicels clavate-elongated; flowers smooth; stamens very long; berry globose, pendulous. ♄. S. Native of the East Indies, at Moalmyne, and at the bottoms of the rocks on the banks of the Athan, in Martaban. Eugènia formòsa, Wall. pl. rar. asiat. 2. p. 6. t. 108. Calyx and petals reddish; filaments white. (f. 124.)

FIG. 124.



Beautiful Rose-apple. Tree 30 feet.

10 J. LAURIFÒLIA (D. C. l. c.) cymes axillary, opposite, 3-5-flowered; lower pedicels opposite, elongated; flowers 3, terminal, sessile on the tops of the peduncles; leaves elliptic, bluntish at both ends. ♄. S. Native of the East Indies. Eugènia laurifòlia, Roxb. hort. beng. p. 92. Eugen. Javánica, Lam. dict. 3. p. 200. exclusive of the synonymes of Rumph. My'rtus Javánica, Spreng. syst. 2. p. 484. but not of Blume. Flowers white.

Laurel-leaved Rose-apple. Clt. 1823. Tree 20 to 30 feet.

11 J. HYPERICIFÓLIA (D. C. l. c.) pedicels terminal, solitary, 1-flowered, shorter than the leaves; leaves sessile, oblong-lanceolate, acuminated, rather cordate at the base, glabrous. ♄. S. Native of Java, on Mount Salak. My'rtus hypericifòlia, Blum. bijdr. p. 1082. Calyx 4-cleft, rather attenuated at the base.

St. John's-wort-leaved Rose-apple. Shrub.

12 J.? OWARIE'NSIS (D. C. l. c.) cymes panicled, terminal; branchlets opposite, 3-flowered at the apex; calyxes turbinate, shortly and bluntly 4-lobed; leaves oval, acuminated, coriaceous, glabrous, rusty beneath. ♄. S. Native of the west coast of Africa, in the kingdom of Waree. Eugènia Owariénsis, Beauv. fl. d'ow. 2. t. 70. The veins of the leaves are parallel in the figure and rather prominent. Leaves 3 inches long and 1½ broad. Stamens very numerous, exserted. Branches furnished with supra-axillary, opposite tubercles. Fruit unknown, but in the form of the calyx this plant agrees with *Jambòsa*.

Waree Rose-apple. Tree 20 feet.

13 J.? OBTUSÍSSIMA (D. C. prod. 3. p. 287.) panicles corymbose, terminal, or lateral; branches 3-flowered; calyx 4-cleft, attenuated at the base; leaves almost sessile, oblong, obtuse, somewhat cordate at the base, coriaceous, glabrous. ♄. S. Native of Java. My'rtus obtusíssima, Blum. bijdr. p. 1085. Compare it with *Eugènia androsæmoìdes*, ex Blume.

Very obtuse-leaved Rose-apple. Tree 20 to 30 feet.

14 J. DENSIFLÒRA (D. C. l. c.) corymbs terminal, coarctate; pedicels 3-flowered; calyx 4-cleft, very much attenuated at the base; leaves oblong-lanceolate, coriaceous, glabrous, acuminated at both ends. ♄. S. Native by the sea-side, in the island of Nusa-Kambanga, in the East Indies, where it is called by the inhabitants *Jambon*. Eugènia densiflòra, Blum. bijdr. p. 1087.

Dense-flowered Rose-apple. Tree 20 feet.

15 J. GLABRA'TA (D. C. l. c.) peduncles filiform, 1-3-flowered, glabrous, shorter than the leaves; ovarium clavate; calyx 4-cleft; leaves oblong-lanceolate, bluntly acuminated, finely veined, quite glabrous; calyx attenuated at the base. ♄. S. Native of Java, on the mountains. My'rtus glabràta, Blum. bijdr. p. 1088. but not of Swartz.

Smooth Rose-apple. Tree.

16 J. LINEA'TA (D. C. l. c.) corymbs terminal or axillary, compound; calyx 4-cleft; ovarium elongated; leaves broad-lanceolate, bluntly acuminated, glabrous, with fine parallel veins, shining. ♄. S. Native of Java, in mountain woods, where it is called *Kikangar*. My'rtus lineàta, Blum. bijdr. p. 1087. but not of Swartz.

Lined-leaved Rose-apple. Tree 20 feet.

17 J. A'LBA; racemes terminal and axillary; the terminal ones forming a panicle; peduncles 3-5-flowered; leaves very broad, elliptic, cordate at the base, strongly veined; petioles very short. ♄. S. Native of the East Indies. Calycine lobes broad, short, and rounded. Eugènia álba, Roxb. hort. beng. p. 37.

White Rose-apple. Tree.

18 J.? CAULIFLÒRA (D. C. l. c.) panicles lateral; flowers in nearly sessile glomerules; calyx 4-cleft, attenuated at the base; leaves sessile, oblong, bluntly acuminated, rather cordate at the base, coriaceous, glabrous, and shining. ♄. S. Native of Java, at the foot of Mount Burangrang, where it is called *Kupa*. My'rtus caulifiòra, Blum. bijdr. p. 1086. but not of Mart.

Stem-flowered Rose-apple. Tree 20 to 30 feet.

19 J. A'QUEA (Rumph. amb. 1. p. 126. t. 30. f. 2.) panicles axillary and terminal; leaves elliptic-acuminated, auricled at the base, on very short petioles; stigma simple. ♄. S. Native of the Moluccas. Eugènia àquea, Roxb. hort. beng. p. 37. Fruit torose, depressed.

Watery Rose-apple. Clt. 1820. Tree 20 to 30 feet.

20 J.? DOME'STICA (Rumph. amb. 1. p. 121. t. 37.) racemes lateral, short; leaves ovate, acute; fruit obovate. ♄. S. Native of the Moluccas.

Domestic Rose-apple. Tree.

21 J. **Hardwíckia**; leaves sessile, cordate at the base, elliptic, obtuse; corymbs terminal; peduncles usually 3-flowered; flowers sessile on the peduncles; calycine segments roundish; stamens exserted. ♄. S. Native of the Mauritius. Perhaps a species of *Jossínia* (v. s. in herb. Lamb.).

Hardwick's Rose-apple. Tree.

22 J. rotundifòlia; corymbs terminal; leaves roundish, coriaceous, with revolute margins, reticulately veined, glabrous. ♄. S. Native of the Isle of France. Perhaps a species of *Jossínia* (v. s. in herb. Lamb.).

Round-leaved Rose-apple. Tree.

The *Eugènia oblàta*, *E. lanceæfòlia*, and *E. lanceolària* of Roxb. hort. beng. p. 37. are probably referrible to this genus, but they have not yet been described.

Cult. A genus of fine trees, with large foliage, beautiful flowers, and eatable fruit. They thrive well in a mixture of sand, loam, and peat; and flower freely when the plants are of good size. Ripened cuttings strike root readily in sand, under a hand-glass.

Tribe IV.

BARRINGTONIEÆ (plants agreeing with the genus *Barringtònia* in important characters). D. C. dict. class. vol. 11. not. 1826. prod. 3. p. 288. A genus of *Lecythídeæ*, Rich. et Poit. Lobes of calyx 4-6. Petals 4-6. Stamens innumerable, equal, disposed in many series; filaments monadelphous a short way at the base. Fruit baccate or dry, valveless, many-celled. Cotyledons large and fleshy.—Trees. Leaves dotless, alternate, or nearly opposite, or in crowded whorls, quite entire or serrated. Flowers in racemes or panicles.

XXXV. BARRINGTO'NIA (dedicated to the Honourable Daines Barrington, F.R.S. A.S. &c. an active Fellow of the Society of Antiquaries, and author of several papers in their Transactions). Forst. gen. no. 38. D. C. prod. 3. p. 288. Butónica, Lam. dict. 1. p. 515. Juss. gen. p. 326.—Commersònia, Sonn. voy. guin. t. 8, 9. Huttum, Adans. fam. 2. p. 88. —Mitrària, Gmel. syst. p. 799. but not of Cav.

Lin. syst. *Monadélphia, Polyándria.* Tube of calyx ovate; limb 2, rarely 3-parted; lobes oval, obtuse, concave, permanent. Petals 4, large, coriaceous. Stamens numerous, in many series; filaments filiform, long, free, but joined together into a short ring at the base; anthers roundish. Style filiform, length of stamens; stigma simple. Urceolus rising from the top of the ovarium, and sheathing the base of the style. Ovarium 4-celled; cells 2-ovulate. Berry large, ventricose at the base, pyramidal and tetragonal upwards, crowned by the limb of the calyx, 1-celled when mature; cell obversely pear-shaped, fibrous, almost putamineous. Seed ovate-globose, pendulous, attenuated upwards. Embryo exalbuminous (Blume), elliptic-globose, having its radicle superior, and confused with the cotyledons, which are conferruminated, and the embryo is therefore pseudo-monocotyledonous.—Large trees. Leaves crowded, opposite, or in whorls, dotless, obovate. Flowers large, disposed in a terminal thyrse; pedicels furnished with 1 bractea each.

1 B. speciòsa (Lin. fil. suppl. p. 312.) flowers disposed in an erect thyrse; leaves shining, cuneate-oblong, obtuse, quite entire; fruit acutely tetragonal, pyramidal. ♄. S. Native of the south of China, Java, Sumatra, the Moluccas, and of the islands in the Pacific Ocean, at the mouths of rivers by the sea-side. Blum. bijdr. p. 1096. Gaud. in Freyc. voy. part. bot. p. 483. Butónica, Rumph. amb. 3. p. 114. B. Butónica, Forst. gen. t. 38. Mammèa Americàna, Lin. spec. p. 737. Commersònia, Sonn. voy. guin. 1. p. 14. t. 8. and t. 9. Mitrària Commersònia, Gmel. l. c. Butónica speciòsa, Lam. dict. 1. p. 521. Flowers purple and white, large and handsome. The drupe is reddish brown; the seeds of which, mixed with bait, inebriates fish in the same manner as *Cócculus Indicus.*

Shewy Barringtonia. Clt. 1785. Tree 30 to 40 feet.

2 B. racemòsa (Blum. in litt. ex D. C. prod. 3. p. 288.) racemes pendulous, very long; leaves cuneate-oblong, acuminated, serrulated; fruit bluntly tetragonal, pyramidal. ♄. S. Native of Malabar, Moluccas, and Marianne Island. in humid woods. Gaud. in Freyc. voy. part. bot. p. 483. t. 107. Samstravadi, Rheed. mal. 4. t. 6. Eugènia racemòsa, Lin. spec. p. 673. Lam. dict. 3. p. 197.

Racemose-flowered Barringtonia. Clt. 1822. Tree 30 to 40 ft.

Cult. Most splendid trees, with large, shewy foliage and flowers, but difficult to cultivate. They require to be kept moist and warm, and the house in which they are grown should never be allowed to fall below 60° of Fahrenheit. A mixture of sand, loam, and peat is a good soil for them. Cuttings, taken off at a joint when the wood is ripe, planted in sand, with a hand-glass over them, root readily. The cuttings should not be stripped of any of their leaves.

XXXVI. STRAVA'DIUM (*Tsjeria Samstravadi* is the Malabar name of one of the species). Juss. gen. p. 326. D. C. prod. 3. p. 289.– Stravàdia, Pers. ench. 2. p. 30. Meteòrus, Lour. coch - Maníchea, Sonn. voy. guin. p. 139. tt. 92, 93. ex Juss.

Lin. syst. *Monadélphia, Polyándria.* All as in *Barringtònia*, but differs in the limb of the calyx being 4-parted. Ovarium semi-bilocular; cells biovulate. Fruit oblong, tetragonal. Perhaps only a section of *Barringtònia*, according to Gærtn. and Blume.

1 S. a'lbum (D. C. prod. 3. p. 289.) leaves cuneate-oblong, acuminated, obsoletely serrulated; racemes very long, pendulous; drupe ovate. ♄. S. Native of the Moluccas, in woods on the sea-shore. Rumph. amb. 3. p. 116. Stravàdia álba, Pers. Flowers white. Perhaps sufficiently distinct from *Barringtònia racemòsa.*

White-flowered Stravadium. Tree 20 to 30 feet.

2 S. ru'brum (D. C. l. c.) leaves cuneate-oblong, acuminated, obsoletely serrulated; racemes very long, pendulous; drupe acutely 4-angled. ♄. S. Native of the Moluccas and Malabar, in bogs and watery places.—Rumph. amb. 3. t. 115.- -Rheed. mal. 4. t. 7. Eugènia acutángula, Lin. spec. p. 673. Barringtònia acutángula, Gærtn. fruct. p. 97. t. 111. Stravàdia rùbra, Pers. Flowers red.

Red-flowered Stravadium. Clt. 1822. Tree 20 to 30 feet.

3 S. coccíneum (D. C. l. c.) leaves ovate-oblong, subserrated; racemes very long, pendulous; drupe bluntly octagonal. ♄. S. Native of Cochin-china, in woods. Meteòrus coccíneus, Lour. coch. p. 410. Flowers scarlet. Fruit brown. Petals concrete, with the tube of the stamens.

Scarlet-flowered Stravadium. Tree 30 to 40 feet.

4 S. spica'tum (Blum. in litt. ex D. C. prod. 3. p. 289.) leaves cuneate-oblong, acute, serrated; spikes filiform, pendulous. ♄. S. Native of Java, in the province of Bantam, in the lower woods. Barringtònia spicàta, Blum. bijdr. p. 1097. Calyx 4-cleft. The rest unknown.

Spike-flowered Stravadium. Tree.

5 S. exce'lsum (Blum. in litt. D. C. prod. 3. p. 289.) leaves oblong, attenuated at both ends, finely serrulated; racemes compound, terminal; drupe oblong, tetragonal. ♄. S. Native of the Island of Nusa-Kambanga, in woods on the sea-shore. Barringtònia excélsa, Blum. bijdr. p. 1097. Tree 80 feet high. Calyx 4-cleft. The rest unknown.

Tall Stravadium. Tree 80 feet.

Cult. For culture and propagation see *Barringtònia.*

XXXVII. GUSTA'VIA (dedicated to Gustavus III. king of

Sweden, and patron of Linnæus, and who presented a large collection of Indian plants to him). Lin. amœn. 8. (1775.) p. 266. Lin. fil. suppl. 51. Poit. mem. mus. 13. p. 156. D. C. prod. 3. p. 289.—Pirigàra, Aubl. guian. (1775.) 1. p. 487. H. B. et Kunth, nov. gen. amer. 7. p. 261.—Spallanzània, Neck. elem. (1790.) no. 733.

LIN. SYST. *Monadélphia, Polyándria.* Tube of calyx turbinate (f. 125. *a.*); limb entire, or 4-6-8-lobed. Petals 4-6-8 (f. 125. *c.*), ovate, nearly equal. Stamens numerous, monadelphous at the base, and somewhat adnate to the claws of the petals. Ovarium 4-6-celled; cells many-seeded. Style short. Stigma obtuse. Capsule ovate, or nearly globose, 5-6-celled, coriaceous, valveless, umbilicate from the vestiges of the calyx. Seeds few in each cell, ovate, clothed with coriaceous membranes, suspended by long plicate funicles, fixed to the central column. Embryo fleshy. Cotyledons 2, large, nearly equal, convex on the outside, and flat inside. Radicle obtuse, hardly prominent.—Trees. Leaves alternate, large, dotless, serrated, or quite entire, glabrous. Racemes terminal, few-flowered. Flowers bibracteate, white and shewy.

1 G. AUGU'STA (Lin. amœn. acad. 8. p. 266. t. 5.) flowers of 8 petals; calyx entire, glabrous; leaves oblong-lanceolate, acuminated, much narrowed at the base, membranous, remotely and sharply toothed. ♄. S. Native of Surinam, Maranham; and of New Granada, near Turbaco, where it is called *Membrilo* and *Baco*, ex H. B. et Kunth. Pirigàra supérba, H. B. et Kunth, nov. gen. amer. 7. p. 261. Fruit unknown. Petals white. Stamens yellow. The flowers smell sweet, but the wood is extremely fetid. In Surinam it is used for hooks.

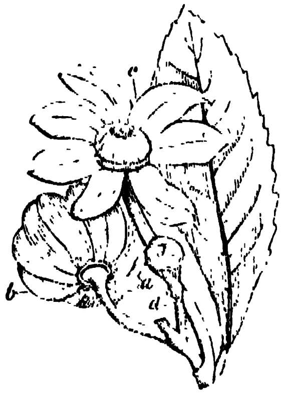
August Gustavia. Clt. 1794. Shrub 5 to 10 feet.

2 G. SPECIÒSA (D. C. prod. 3. p. 289.) flowers 6-petalled; calyx nearly entire, and are as well as the pedicels and ovaria tomentose; leaves oblong-lanceolate, acuminated, quite entire, narrowed at the base, coriaceous. ♄. S. Native of New Granada at Mariquita, where it is called *Chupa.* Pirigàra speciòsa, H. B. et Kunth, nov. gen. amer. 7. p. 200. By eating the small fruit of this tree, the body becomes yellow, and after it remains 24 or 48 hours, nothing can erase the colour, according to Humb. and Bonpl.

Showy Gustavia. Tree.

3 G. URCEOLA'TA (Poit. mem. mus. 13. p. 156. t. 5.) flowers 6-7-petalled; calyx glabrous, with an entire margin; leaves oblong-lanceolate, obtuse, or acutish, membranous, remotely subserrated on the margin. ♄. S. Native of French Guiana, where it is called *Bois puant*, because the wood becomes fetid after exposure to the air. Petals oval, obtuse, an inch long, white, rather rose-coloured on the outside. Fruit wingless. Wood fetid. (f. 125.)

FIG. 125.



Urceolate-calyxed Gustavia. Tree.

4 G. PTEROCA'RPA (Poit. l. c. p. 158. t. 6.) flowers 6-petalled; calycine lobes 6, permanent, girding the fruit; leaves oval-oblong, acuminated, rather coriaceous, quite entire, or hardly denticulated. ♄. S. Native of Guiana, at La Maza and Roura. Smaller than the first. Fruit depressed, girded by a circular wing or margin. In the specimens of Perrotett the leaves are quite entire, but in the figure of Poit, they are somewhat denticulated.

Wing-fruited Gustavia. Tree 10 to 20 feet.

5 G. FASTUÒSA (Willd. spec. 3. p. 847.) flowers 6-petalled; lobes of calyx 6, linear, thick, acute, permanent; leaves obovate, acuminated, rather repandly serrulated. ♄. S. Native of Guiana, in woods about Sinemari, where it is called *Pirigara-mepo.* Pirigàra hexapétala, Aubl. guian. 1. p. 490. t. 193. G. hexapétala, Smith, in Rees' cycl. no. 2. Leaves obovate, acuminated. Bracteas oblong, acute. Lobes of calyx narrow, acute, fleshy. Stigma tetragonal. Capsule roundish, rather cinereous, 4-celled, crowned by the truncate lobes of the calyx. Funicles thick. Perhaps the same as the first species. Petals white. Stamens yellow.

Disdainful Gustàvia. Clt. 1823. Tree 20 feet.

6 G. BRASILIA'NA (D. C. prod. 3. p. 290.) flowers 6-petalled; lobes of calyx 6, ovate, acutish, foliaceous, flat; leaves oval-oblong, acuminated, rather repandly toothed. ♄. S. Native of Brazil, on the banks of the river Amazon, near Garupa. G. fastuòsa, Mart. herb. This plant differs from the preceding species in the leaves being oval or oval-oblong, not obovate, and in the bracteas on the peduncles being ovate-obtuse, not oblong, acute; lobes of calyx ovate. Fruit 6-ribbed, not roundish and yellow, nor cinereous.

Var. γ, minor (D. C. l. c.) flowers a little smaller; leaves a little narrower. ♄. S. Native of Para, in Brazil.

Brazilian Gustavia. Tree 20 feet.

7 G. TETRAPE'TALA (Ræusch. ex D. C. prod. 3. p. 290.) flowers 4-petalled; lobes of calyx 4, roundish, at length deciduous; leaves oblong-lanceolate, acuminated, serrated, attenuated at the base. ♄. G. Native of Cayenne, on Mount Courou. Pirigàra tetrapétala, Aubl. guian. 1. p. 489. t. 192. This is perhaps the same as *G. augústa.*

Tetrapetalous Gustavia. Tree 20 feet.

8 G. VA'LIDA (D. C. l. c.) flowers 4?-petalled; lobes of calyx 4, roundish; leaves cuneate-oblong, acutish, denticulated. ♄. S. Native of Java, in woods, and in the island of Nusa-Kambanga. Pirigàra válida, Blum. bijdr. p. 1096. Cotyledons foliaceous, according to Blume. Radicle very long, clavate, ascending.

Strong Gustavia. Tree 30 to 40 feet.

Cult. A showy genus, with large leaves and flowers. A mixture of loam, peat, and sand answers the species best; and ripened cuttings root freely, if planted in sand, with a hand-glass over them, in a moist heat.

† *Genera belonging to Myrtàceæ, but are not sufficiently known. Most of them probably belong to the Tribe Mýrteæ.*

XXXVIII. CATI'NGA (*Iva Catinga* is the Guiana name of the first species). Aubl. guian. 1. p. 511. t. 203. Juss. gen. 325. D. C. prod. 3. p. 294.

LIN. SYST. *Icosándria, Monogýnia.* Tube of calyx ovate; limb 4-toothed, acute, small. Petals? Stamens numerous. Drupe or berry globose or ovate, crowned by the calycine limb, 1-celled, 1-seeded, having the bark or rind fleshy and filled with aromatic oily vesicles.—Trees, natives of Guiana, with opposite, or nearly alternate, oval, entire leaves, which are acuminated at both ends, and full of pellucid dots. This genus is not sufficiently known.

1 C. MOSCHA'TA (Aubl. l. c. t. 205. f. 1.) fruit globose. ♄. S. Native of Guiana, where it is called *Iva Catinga.* Fruit exhaling a scent like musk.

Musk Catinga. Tree 50 feet.

2 C. AROMA'TICA (Aubl. l. c. t. 203. f. 2.) fruit ovate, attenuated at both ends. ♄. S. Native of Guiana, where it is called *Goyavarana.*

Aromatic Catinga. Tree 40 feet.

Cult. For culture and propagation see *Gustàvia*, p. 870.

XXXIX. PETALOTO'MA (from πεταλον, *petalon*, a petal, and τομη, *tome*, a section; in reference to the cut petals). D. C. prod. 3. p. 294. Diatòma, Lour. coch. p. 296. but not of D. C.

Lin. syst. *Icosándria, Monogýnia.* Tube of calyx campanulate, baccate; limb 8-cleft; segments acute. Petals 6-8, with filiform claws, and roundish cut limbs. Disk fleshy, crenated. Stamens 16, inserted in the disk. Anthers roundish. Style filiform; stigma 4-5-cleft, with the lobes ovate, furrowed and spreading. Berry round, crowned, 1-seeded.—A tree, with brachiate branches. Leaves opposite, ovate, glabrous, quite entire. Racemes short, nearly terminal. Flowers copper-coloured. The affinity of this genus is doubtful, unless it agrees with *Alángium*, but differs from it in the leaves being opposite, in the stigma being 4-5-cleft; stigmas and anthers roundish.

1 P. brachia'ta (D. C. l. c.) ♄. G. Native of Cochinchina, in woods. Diatòma brachiàta, Lour. l. c.

Armed Petalotoma. Tree 10 feet.

Cult. For culture and propagation, see *Gustàvia*, p. 870.

XL. FŒTI'DIA (from *fœteo*, to stink; smell of wood). Comm. in Juss. gen. p. 325. Lam. ill. t. 419. dict. 2. p. 157. D. C. prod. 3. p. 295.

Lin. syst. *Icosándria, Monogýnia.* Tube of calyx tetragonal and hemispherical; limb 4-parted; lobes valvate in æstivation, permanent, at length reflexed. Petals wanting. Stamens numerous, disposed in many series; filaments capillary, free. Style filiform; stigma 4-cleft. Berry dry, hard, nucumentaceous, indehiscent, flat above, and bluntly tetragonal beneath, 4-celled; cells 1-2-seeded.—Tree. Leaves alternate, crowded on the branches, sessile, oval, attenuated at both ends, quite entire, obtuse, glabrous, nerved, dotless. Peduncles 1-flowered, in the axils of the upper leaves.

1 F. Mauritia'na (Lam. l. c.) ♄. G. Native of the Mauritius, where it is called *Bois puant.* F. Borbonica, Ræusch. The wood is a good substitute for walnut wood.

Mauritian Fœtidia. Clt. 1827. Tree 15 to 20 feet.

Cult. For culture and propagation see *Gustàvia*, p. 870.

XLI. COUPOU'I (*Coupoui-rana* is the name given to the tree by the Indians of Guiana). Aubl. guian. suppl. p. 16. t. 377.

Lin. syst. *Icosándria, Monogýnia.*? Tube of calyx ovate; limb permanent, 5-lobed. Petals and stamens unknown. Berry ovate, crowned by the calyx, 1-celled, 1-seeded. Seed large.—A tall tree. Leaves alternate, on long petioles, obovate, acute, cordate at the base, glabrous. Flowers unknown.

1 C. aqua'tica (Aubl. l. c.). ♄. S. Native of Guiana. Leaves 20-22 inches long, and 9 inches broad. Fruit about the form and size of an orange.

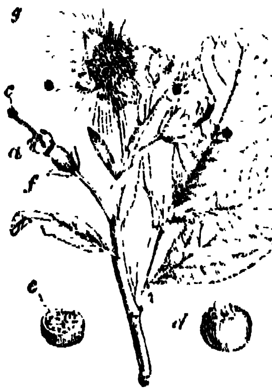
Aquatic Coupoui. Tree 60 feet.

Cult. For culture and propagation see *Gustàvia*, p. 870.

XLII. CARE'YA (in honour of the Rev. William Carey, of Serampore, a distinguished botanist). Roxb. corom. 3. p. 13. D. C. prod. 3. p. 295.

Lin. syst. *Monadélphia, Polyándria.* Tube of calyx ovate; limb 4-parted (f. 126. *b*). Petals 4, ovate, concave, spreading. Stamens numerous; filaments filiform, free, but cohering at the base with the petals into a ring; outer ones sterile (f. 126. *g.*); anthers of the fertile ones ovate and bilocular. Style filiform; stigma capitate (f. 126. *a.*), obscurely 4-toothed. Berry globose (f. 126. *d.*), covered by the fleshy calyx, and crowned by its lobes, pulpy, many-seeded, 4-celled (f. 126. *e.*) when young. Seeds oval, compressed.—East Indian herbs or trees, with alternate, feather-nerved, dotless, glabrous leaves; and large flowers with white petals, and red or yellow stamens.

FIG. 126.



1 C. herba'cea (Roxb. l. c. t. 217.) herbaceous; leaves on short petioles, obovate-cuneated, serrulated; racemes short; flowers pedunculate; outer filaments sterile, exceeding the fertile ones. ♃. S. Native of Bengal. Berry an inch in diameter. Leaves 4-8 inches long. Petals white. Stamens red. (f. 126.)

Herbaceous Careya. Fl. July, Aug. Clt. 1808. Pl. ½ to 1 ft.

2 C. arbòrea (Roxb. l. c. p. 14. t. 218.) arboreous; leaves on short petioles, obovate-cuneated, hardly serrated; spikes terminal, few-flowered; flowers sessile; outer filaments sterile, but not equal in length to the fertile ones. ♄. S. Native of the East Indies, in mountain valleys. Berries 4 inches in diameter, yellowish inside. Leaves 6-12 inches long. Petals yellowish. Stamens reddish.

Tree Careya. Clt. 1823. Shrub 6 to 10 feet.

3 C. macrosta'chya (Jack, in mal. misc. 1. no. 2. p. 47.) arboreous; leaves petiolate, obovate, rather serrated; racemes lateral, nodding, densely many-flowered; flowers sessile, in many series. ♄. S. Native of Pulo-Pinang. The inflorescence is different from those of the other species. Ovarium 4-celled: cells 4-ovulate.

Long-spiked Careya. Tree 20 feet.

4 C. sphæ'rica (Roxb. hort. beng. p. 52.). ♄. S. Native of the East Indies. This species is not described.

Spherical-fruited Careya. Shrub 3 to 4 feet.

Cult. *Careya* is a genus of fine shrubs and trees, with showy flowers. Their culture and propagation are the same as that for *Gustàvia*, p. 870.

XLIII. GLAYPHY'RIA (from γλαφυρος, *glaphyros*, elegant; in reference to the neatness and elegance of the shrubs). Jack, in Lin. trans. 14. p. 128. D. C. prod. 3. p. 295.

Lin. syst. Unknown. Limb of calyx 5-lobed. Petals 5. Berry 5-celled, many-seeded. Seeds fixed to the axis, 2 rows in each cell.—Small Indian trees, with alternate, minutely stipitate leaves, and few-flowered, axillary peduncles. Fabric of seeds unknown.

1 C. nítida (Jack, l. c.) leaves obovate. ♄. S. Native of the higher mountains of India, particularly on the Sugar-loaf Mountain, in the interior of Bencoolen, where the leaves are used by the natives in place of tea.

Shining-leaved Glaphyria. Tree 10 to 20 feet.

2 C. serícea (Jack, l. c.) leaves lanceolate, acuminated. ♄. S. Native of Pulo-Pinang, and on the west coast of Sumatra. Calyxes, peduncles, bracteas, and young leaves silky. Petals and cells of ovarium 5-6 in number.

Silky Glaphyria. Tree.

Cult. For culture and propagation see *Gustàvia*, p. 870.

XLIV. CROSSO'STYLIS (κροσσος, *krossos*, a fringe, and στυλος, *stylos*, a style; in reference to the lobes of the stigma, which are fringed). Forst. gen. t. 44. Juss. gen. p. 432.

Lin. syst. *Icosándria, Monogýnia.* Calyx quadrangular, adnate to the ovarium at the base, 4-cleft beyond the middle, permanent. Petals 4, unguiculate, alternating with the calycine lobes. Stamens about 20; filaments connate at the base into a ring, interspersed with many sterile, small hairs. Style 1, filiform. Stigma cruciately 4-lobed; lobes fimbriately trifid at the apex. Berry half superior, hemispherical, with many stripes, 1-celled, many-seeded. Seeds numerous, small, fixed to the central placenta.

1 C. BIFLÒRA (Forst. l. c.). ♄. S. Native of the Society Islands. The rest unknown.

Two-flowered Crossostylis. Tree.

Cult. For culture and propagation see *Gustàvia*, p. 870.

XLV. GRI'AS (from γραω, *grao*, to eat; fruit eatable). Lin. gen. no. 659. Swartz, obs. p. 215. Smith, in Rees' cycl. vol. 15.

LIN. SYST. *Icosándria, Monogynia.* Tube of calyx adhering to the ovarium; limb small, 4-cleft, obtuse. Petals 4, coriaceous. Stamens numerous, inserted in a square disk; filaments joined into 5 series at the base; inner ones very short: anthers kidney-shaped, small. Style wanting. Stigma cruciate, hidden by the incurved stamens. Drupe ovate, 8-furrowed, crowned by the calyx; nucleus oblong.—A tall, hardly branched tree. Leaves very long, oblong, entire, cuneated at the base, on short petioles. Flowers large, white. Peduncles short, many-flowered. This genus is said to belong to *Myrtàceæ* by Sir J. E. Smith, but it appears to be much more nearly allied to *Guttíferæ*.

1 G. CAULIFLÒRA (Lin. spec. p. 732.). ♄. S. Native of Jamaica, in subalpine, boggy places, where it is called *Anchovy pear*. Sloan. hist. 2. p. 123. t. 217. f. 1-2. leaf. Brown, jam. p. 245. Lunan. hort. jam. 1. p. 19. The leaves are 2-3 feet long. The berry is ovate and crowned by the calyx, about the size and shape of an alligator's egg, of a brownish russet colour: it is pickled and eaten like the mango, which it greatly resembles in taste. It is readily propagated by seeds, and the plants must be kept in a moist heat. To grow it for fruit, plant in a border, and train horizontally near the light.

Stem-flowered Grias or Anchovy-pear. Clt. 1768. Tree 20 to 50 feet.

Cult. This tree grows best in loamy soil; and large cuttings succeed best under a hand-glass, in heat.

ORDER CII. LECYTHII'DEÆ (plants agreeing with *Lécythis* in important characters). Rich. mss. Poit. mem. mus. 13. p. 141. (1825.) Lindl. introd. nat. syst. p. 44. Myrtàceæ, sect. Lecythídeæ, D. C. prod. 3. p. 290. Rich. in ann. des sc. 1. p. 321. (1824.)

Calyx superior, 2 or 6-leaved, or urceolate, with a divided limb (f. 127. *a.* f. 128. *a.*); valvate, or imbricate in æstivation. Corolla of 6 unequal petals, cohering at the base, with an imbricated æstivation. Stamens indefinite, epigynous, connected into a single petaloid, cucullate, unilateral body (f. 127. *l.* f. 128. *c.*). Ovarium inferior, 2-6-celled; ovula indefinite, or definite, attached to the axis; stigma simple. Fruit a woody capsule (f. 127. *i.* f. 128. *f.*), either opening with a lid or remaining inclosed. Seeds several, covered by a thick integument. Embryo without albumen, either undivided, or with 2 large, petaloid, fleshy, or leafy cotyledons, sometimes folded upon the radicle, which is next the hylum.—Large trees, with alternate, entire, or toothed leaves, with minute, deciduous stipula, and without pellucid dots. Flowers large, terminal, or lateral, solitary, or racemose. This order has been combined, by De Candolle and others, with *Myrtàceæ*, from which it differs most essentially in their alternate, often serrated leaves, without pellucid dots.

The fruit of *Couroupìta Guianénsis*, called in Guiana *Abricot sauvage*, in Cayenne is vinous and pleasant. The most gigantic tree in the ancient forests of Brazil is that called the *Jaca-pucaya*; it is the *Lécythis ollària*, the seeds of which are large and edible. Pr. trav. p. 83. The fleshy seeds of most of the species of *Lécythis* are edible, but some of them leave a bitter unpleasant after-taste in the mouth. The bark of *Lécythis ollària* is easily separable by beating the liber into a number of fine distinct layers, which divide so neatly from each other, that when separated they have the appearance of thin satiny paper. Poiteau says that he has counted as many as 110 of these coatings. The Indians cut them in pieces as wrappers for their cigars. The well-known Brazil nuts of the shops of London are the seeds of the *Bertholletia excélsa*. The lacerated parts of the flowers of *Couroupita Guianénsis* become blue upon exposure to the air.

Synopsis of the genera.

1 LE'CYTHIS. Limb of calyx 6-lobed. Staminiferous ligula bearing the anthers at the base, and the sterile filaments at the apex on the inside. Ovarium 2-6-celled, many-ovulate. Capsule opening by a lid.

2 ESCHWEILE'RA. Limb of calyx bent back and applied to the tube, and more or less adnate to it. The rest as in *Lécythis*.

3 BERTHOLLE'TIA. Limb of calyx 2-parted, deciduous. Corolla and stamens as in *Lécythis*. Ovarium 4-5-celled; cells 4 ovulate. Capsule large, opening by a lid. Seeds triangular.

4 COUROUPI'TA. Calyx and corolla as in *Lécythis*. Ovarium 6-celled. Capsule with the lid not separable.

5 COURA'TARI. Limb of calyx 6-parted. Petals 6, joined at the base. Stamineous ligula unilateral, and antheriferous inside. Fruit 3-celled, but at length 1-celled, with a convex lid, which is formed from the dilatation of the top of the central column.

I. LE'CYTHIS (λεκυθος, *lecythos*, an oil-jar; form of seed vessels). Lœfl. itin. p. 189. Lin. gen. no. 664. Lam. ill. t. 476. Poit. l. c. D. C. prod. 3. p. 290.

LIN. SYST. *Monadélphia, Polyándria.* Tube of calyx turbinate; limb 6-lobed, permanent (f. 127. *a.*). Petals 6, unequal. Staminiferous ligula (f. 127. *l.*) bearing the anthers at the base, and the sterile filaments at the apex on the inside. Ovarium 2-6-celled; cells many-ovulate. Style short. Capsule coriaceous or woody, circumcised at the apex, and therefore opening by a lid at the top (f. 127. *b.*). Seeds few or solitary in each cell ovate-oblong, fixed to the central column at the base, covered by a fleshy membrane. Embryo undivided. Cotyledons thick, closely conferruminated.—Trees nearly all glabrous. Fruit large, turbinate, or globose. Seeds edible. Numbers of the species are not well known.

* *Leaves serrated.*

1 L. OLLA'RIA (Lin. spec. p. 734.) leaves sessile, serrated, cordate-ovate; racemes terminal; fruit roundish. ♄. S. Native of Cumana, in fields, ex Lœfl. itin. p. 159.; and of Brazil, if the *Jaca-pucaya*, Marcgr. bras. p. 128. be the same. Pis. bras. p. 135. with a figure. The tree is called at Barcinoma *Ollata*. Fruit the size of a child's head, according to Marcgraff. Corolla white, with a yellow nectary. The seeds are like chestnuts, eatable either raw or roasted. The bark of the tree serves to make ink.

Ollata Cannon-ball-tree. Tree 40 to 60 feet.

2 L. MÌNOR (Jacq. amer. p. 168. t. 109.) leaves petiolate, serrated, lanceolate-oblong; racemes terminal; fruit globose. ♄. S. Native in the woods of Carthagena, especially about La Quinta. Flowers large, sweet scented, white, but with the strap of the stamens yellow. Fruit 2 inches in diameter. Seeds eatable, and with a very agreeable taste. Monkeys are said to be extremely fond of them.

Smaller Cannon-ball-tree. Clt. 1825. Tree 60 feet.

3 L. LANCEOLÀTA (Poir. dict. p. 27.) leaves petiolate, serrated, lanceolate, acuminated; racemes lateral; fruit ovate. ♄. S. Native of Brazil, whence it has been introduced to Madagascar and the Mauritius. Flowers smaller than those of the first species. Petals very blunt, nearly equal. Fruit large.

Lanceolate-leaved Cannon-ball-tree. Tree.

4 L. ELLÍPTICA (H. B. et Kunth, nov. gen. amer. 7. p. 259.) leaves petiolate, elliptic, short-acuminated, rounded at the base, dentately crenated; racemes straight; petals obtuse. ♄. S. Native of South America, on the banks of the river Magdalena, near Morales. Fruit unknown.

Elliptic-leaved Cannon-ball-tree. Tree.

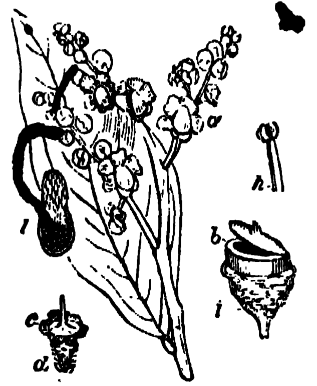
5 L. DU'BIA (H. B. et Kunth, l. c.) leaves oblong, acuminated, narrowed at the base, obsoletely toothed. ♄. S. Native on the banks of the river Magdalena. Flowers and fruit unknown.

Doubtful Cannon-ball-tree. Tr.

6 L. LONGIFÒLIA (H. B. et Kunth, l. c.) leaves petiolate, lanceolate, acuminated, acute at the base, obsoletely and remotely toothed, conduplicate. ♄. S. Native of South America, where it is called *Cocos de mono*. Flowers and fruit unknown.

Long-leaved Cannon-ball-tree. Tree.

FIG. 127.



* * *Leaves quite entire.*

7 L. GRANDIFLÒRA (Aubl. guian. 2. p. 712. tt. 283, 284, and 285.) leaves petiolate, oval, acute, quite entire, stiff; racemes axillary and terminal; pedicels thick, shorter than the largest petal; fruit ovate, nearly globose; operculum acute. ♄. S. Native of Cayenne, in woods, where it is called, as well as several other species, *Canari Macaque* and *Marmite de singe*. L. ollària, Lin. amœn. but not of his spec. pl. according to the Linnæan herbarium, ex Smith, in Rees' cycl. 20. no. 1. Leaves glabrous on both surfaces, rather velvety beneath when young. Pedicels thick. Flowers 2 inches in diameter. Petals deep red, very hard. Fruit 4-5 inches in diameter. Seeds eatable and very palatable.

Great-flowered Cannon-ball-tree. Clt. 1824. Tr. 60 to 80 ft.

8 L. CORIA'CEA (D. C. prod. 3. p. 291.) leaves on short petioles, oval, acutish, quite entire, stiff, glabrous on both surfaces; panicles axillary and terminal; pedicels slender, about the length of the flowers. ♄. S. Native of Brazil, in the province of Rio Negro. Consistence and nervation of leaves nearly as in *L. grandiflòra*, but the flowers are 3-times smaller. Fruit unknown.

Coriaceous-leaved Cannon-ball-tree. Tree.

9 L. IDATÌMON (Aubl. guian. 2. p. 721. t. 28[illegible].) leaves on short petioles, ovate-lanceolate, acuminated, quite entire; racemes axillary and terminal; pedicels slender, longer than the flowers; petals obtuse; fruit nearly ovate, depressed, 4-celled. ♄. S. Native of Guiana, in woods, at the river Sinemari, and of Brazil, in Maranham, and the province of Para. Flowers rose-coloured. Fruit an inch in diameter. The leaves in the Brazilian specimen are less intensely reticulated than in the Guiana plant. Perhaps *L. lùtea* is a variety of this species, only differing in the colour of the flowers.

Idatimon Cannon-ball-tree. Clt. 1825. Tree 60 feet.

10 L. LÓNGIPES (Poit. mem. mus. 13. p. 144. t. 2.) leaves petiolate, oblong, quite entire, abruptly acuminated; racemes terminal, loose, pendulous; fruit ovate, depressed, 2-celled. ♄. S. Native of Cayenne, at Mount Mahari. Flowers violaceous. Fruit violaceous, with a white lid, 18-24 lines in diameter.

Var. β, platycárpa (Poit. l. c.) fruit large, depressed; flowers smaller, pendulous. ♄. S. Native of Cayenne, at Savanna Baduel. Perhaps a proper species.

Long-petioled Cannon-ball-tree. Tree 20 to 30 feet.

11 L. PEDICILLA'RIS (D. C. l. c.) leaves on short petioles, oblong, gradually acuminated, quite entire; panicles terminal; pedicels slender, length of corolla. ♄. S. Native of Brazil. Intermediate between *L. lóngipes* and *L. corrugàta*, but the colour of the flowers and fruit is unknown; it however differs from the first species in the leaves being not abruptly but gradually acuminated, and in the flowers being smaller; and from the second in the pedicels being 6-times longer than the flowers; and from both in the lobes of the calyx being oval-oblong, not roundish.

Pedicelled-flowered Cannon-ball-tree. Tree.

12 L. ACUMINA'TA (D. C. l. c.) leaves on short petioles, quite entire, oval, abruptly acuminated, rather membranous; panicle elongated, sparingly branched at the base; pedicels slender, length of the corolla. ♄. S. Native of Brazil, in the province of Rio Negro. This species is allied to *L. lóngipes* and *L. pedicellàris* in the elongated pedicels, but differs from the first in the leaves being oval, not oblong, and in the racemes being erect, not pendulous, &c., and from the second in the leaves being abruptly, not gradually acuminated. Fruit unknown.

Acuminated-leaved Cannon-ball-tree. Tree.

13 L. SUBBIFLÒRA (Ruiz et Pav. fl. per. 4. t. 461.) leaves petiolate, oblong-lanceolate, quite entire, acuminated; pedicels 1-flowered, usually 2-together; petals obtuse. ♄. S. Native of Peru.

Somewhat-two-flowered Cannon-ball-tree. Tree.

14 L. ALBIFLÒRA (D. C. l. c.) leaves petiolate, oval, acute or acuminated, rather coriaceous, quite entire; panicle terminal, with its branches angular; pedicels longer than the corolla; petals rather unequal. ♄. S. Native of Brazil, in the province of Para, at the Rio Negro, in woods. Lécythis, Mart. herb. Flowers white, nearly like those of *L. Idatìmon*. Fruit unknown. Leaves less coriaceous, but much more reticulated than in *L. Idatìmon*.

White-flowered Cannon-ball-tree. Tree 60 feet.

15 L. CORRUGA'TA (Poit. mem. mus. 13. p. 145. f. 3.) leaves petiolate, oblong, acute, coriaceous, quite entire; panicle terminal, erect; flowers on very short pedicels; fruit turbinate, [illegible]lled, corrugated. ♄. S. Native of Guiana, along the river Mana. Flowers rose-coloured. Fruit an inch in diameter, girded by the calyx, deeply corrugated by transverse wr[illegible] (f. 127.)

C[illegible]ated-fruited Cannon-ball-tree. Shrub 6 to 10 feet.

16 L. ZABUCA'JO (Aubl. guian. [illegible]. p. 719. t. 288. and t. 284.) leaves petiolate, lanceolate-oblong, acuminated, quite entire; racemes terminal; pedicels rather shorter than the flowers; petals [illegible]; fruit ovate. ♄. S. Native of Guiana, in woods, where it is called by the natives *Quatelé* and *Zabucajo*. Petals

white, edged with rose-colour, nearly equal. Fruit 4 inches in diameter. Racemes nodding. Seeds eatable, and preferable to our almonds.

Zabucajo Cannon-ball-tree. Tree 50 to 60 feet.

17 L. amàra (Aubl. guian. 2. p. 716. t. 286. and t. 285. f. 1.) leaves petiolate, oblong, acuminated, quite entire, stiff; racemes axillary and terminal; pedicels rather shorter than the flowers; petals acutish; fruit ovoid, 4-celled. ♄. S. Native of Guiana, in woods. Fruit the size and form of an egg. Flowers small, yellow. Seeds bitter, but eaten by monkeys.

Bitter-seeded Cannon-ball-tree. Clt. 1825. Tree 10 to 12 ft.

18 L. parviflòra (Aubl. guian. 2. p. 717. t. 287.) leaves petiolate, oblong, acuminated, quite entire; racemes panicled, terminal; pedicels rather shorter than the flowers; petals acutish; fruit rather ovate, and somewhat 2-celled. ♄. S. Native of Guiana, on the banks of rivers. Flowers small, sulphur-coloured. Nucleus of seeds bitter. Fruit tender, not woody, 2-seeded.

Small-flowered Cannon-ball-tree. Clt. 1825. Shrub 4 to 6 ft.

19 L. ovalifòlia (D. C. l. c.) leaves petiolate, oval, obtuse at the base, acute at the apex, or rather acuminated, quite entire; racemes sub-panicled; pedicels shorter than the flowers; sepals and petals very blunt. ♄. S. Native of Brazil. Leaves rather membranous, lateral nerves distant. Petioles 3-4 lines long. Flowers the size of those of *L. Idatimon.* Fruit unknown.

Oval-leaved Cannon-ball-tree. Tree.

† *A species not sufficiently known.*

20 L. multiflòra (Smith in Rees' cycl. vol. 20. no. 8.) leaves unknown; racemes terminal, panicled; petals obtuse; calycine lobes tomentose. ♄. S. Native of Guiana. Flowers apparently yellow.

Many-flowered Cannon-ball-tree. Tree.

Cult. All the species of *Lécythis* require a strong heat. A mixture of loam and sand is the best soil for them. Ripened cuttings will root if planted in sand with a hand-glass over them, in a strong heat.

II. ESCHWEILE'RA

(evidently named after some person of the name of Eschweiler). Mart. mss. ex D. C. prod. 3. p. 293.

Lin. syst. *Monadélphia, Polyándria.* All as in *Lécythis,* but differs in the limb of the calyx being bent back upon the tube, and more or less adnate to it. Perhaps only a section of *Lécythis.*

1 E. parviflòra (Mart. mss. ex D. C. l. c.) leaves ovate, gradually acuminated, coriaceous, quite entire; lateral nerves hardly distinct, never elevated. ♄. S. Native of Brazil. Zabucàjo, Pison, bras. p. 66. with a figure. Panicle terminal. Pedicels very short. The fruit agrees with that of *Lécythis corrugàta,* but is much more turbinate at the base, and the limb of the calyx is 6-lobed and folded back upon the tube.

Small-flowered Eschweilera. Tree 40 feet.

2 E. grandiflòra (Mart. herb. ex D. C. l. c.) leaves oblong-lanceolate, obtuse at the base, acuminated at the apex, stiffish, with quite entire margins; lateral nerves distinct, not elevated beneath. ♄. S. Native of Brazil, in the province of Para. Leaves almost like those of *Lécythis Zabucàjo,* Aubl. t. 288. but they are less reticulated. Fruit globose, with a very blunt lid.

Great-flowered Eschweilera. Tree.

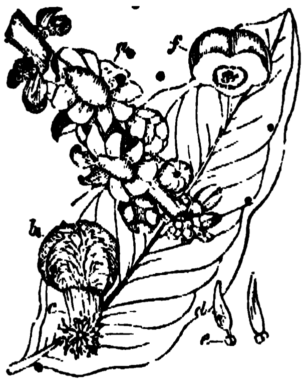
Cult. For culture and propagation see *Lécythis.*

III. BERTHOLLETIA

(in honour of Louis Claude de Berthollet, the celebrated French chemist). Humb. et Bonpl. pl. equin. 1. p. 122. t. 36. Poit. mem. mus. 13. 148. t. 4. D. C. prod. 3. p. 293.

Lin. syst. *Monadélphia, Polyándria.* Limb of calyx bipartite, deciduous. Corolla and stamens as in *Lécythis.* Style curved, bent to the side, opposite the bundle of stamens. Stigma capitate. Ovarium 4-5-celled; cells 4-seeded. Seeds placed by pairs. Capsule large, roundish, valveless, woody, fleshy inside, opening by a lid. Seeds 16-20, fixed to the base of the central column, erect, triangular, convex on the outside, bony, wrinkled. Embryo fleshy, undivided in consequence of the cotyledons being conferruminated.—A tall tree, having the young branches leafy at the apex. Leaves alternate, oblong, quite entire, rather coriaceous. Flowers cream-coloured. Stamens white.

FIG. 128.



1 B. excélsa (Humb. et Bonpl. l. c.) ♄. S. Native of South America, spontaneous in woods on the banks of the Orinoco, and now cultivated in Brazil, Guiana, &c. H. B. et Kunth, nov. gen. amer. 7. p. 260. Rich. anal. fr. p. 74. and Tonka. Rich. ibid. p. 84. The triangular seeds known by the name of Brazil-nuts in our shops are the produce of this tree. The tree is said to be originally from the province of Para in Brazil, and is said also to form forests on the borders of the Orinoco. The almonds or nuts have been known to the Portuguese for a very long time, and are now known in all parts of Europe; in France under the name of Chastaignes du Bresil; in Spain under that of Almendron; in Portugal under Castanas de Maranon; in England under the name of Para-nuts or Brazil-nuts. The natives of the country call them Juvia, the Brazilians Capucaya. The Portuguese at Para carry them to Cayenne and Maranham, and sell them under the name of Tuka. The capsule or fruit is as large as a large cannon-ball, containing many triangular nuts, laid over each other in a regular manner. An oil is prepared from them, as well as from the seeds of several species of *Lécythis,* which is in great request in Brazil.

Tall Bertholletia or Brazil-nut. Tree 100 to 150 feet.

Cult. For culture and propagation see *Lécythis.*

IV. COUROUPITA

(*Couroupitoutoumou* is the Caribbean name of the tree). Aubl. guian. 2. p. 708. Poit. mem. mus. 13. p. 152. D. C. prod. 3. p. 293.—Pontopiddàna, Scop.—Elshóltzia, Rich. but not of Willd.—Lécythis species, Willd.—Pèkea species, Juss.

Lin. syst. *Monadélphia, Polyándria.* Calyx and corolla of *Lécythis.* Stamiiniferous ligula furnished with anthers, both at the base and apex. Ovarium turbinate, 6-celled. Parietal dissepiments reflexed towards the axis, and stretched even to the column; funicles concrete among themselves, and therefore bearing many ovula. Style wanting. Stigma stellately hexagonal. Capsule crustaceous, globose, girded by the calycine circle, valveless, pulpy inside. Operculum not separable. The pulp before the fruit is ripe is fleshy, but after deliquescence it vanishes, and at length the endocarp is separable from the epicarp. Seeds imbedded in the pulp, numerous, ovate, covered by a coriaceous villous membrane. Embryo roundish, compressed, beaked. Cotyledons large, foliaceous, nerved, plicate, corrugated, curved under the club-formed radicle.—Trees. Leaves petiolate, oblong-cuneated, rather crenulated. Stipulas small, caducous. Racemes simple, rising from the trunk and branches, bracteate. Flowers large, of a dirty whitish or flesh-colour.

1 C. Guiane'nsis (Aubl. guian. 2. p. 708. t. 28[illegible].) leaves acute; edge of calyx circumcised; petals acute. ♄. S. Native of Guiana and Cayenne, in sand by the sea side, where it is called *Couroupitoutoumou*, ex Barrere; *Abricot sauvage*, ex Aublet; *Calebasse-colin*, ex Poit. Fruit larger than a head, and consequently called *boulet de canon* or *cannon-ball*. Tuss. ant. 2. p. 45. f. 20-11. Lécythis bracteàta, Willd. Pèkea Couroupita, Juss. Pulp of fruit vinous. Flowers flesh-coloured, size of those of *Lécythis grandiflòra*, sweet-scented. The pulp of the fruit is white, acid, and not disagreeable.

Guiana Cannon-ball-tree. Clt. 1820. Tree 50 to 100 ft.

2 C. Nicaraguare'nsis (D. C. prod. 3. p. 294.) leaves obtuse; margin of calyx lobed; petals obtuse. ♄. S. Native of South America, near Nicaragua. Lécythis Nicaraguarénsis, Moc. et Sesse, fl. mex. icon. ined. Differs from the first in the flowers being smaller, of a dirty whitish brown-colour, and in the pulp of the fruit being bluish.

Nicaragua Cannon-ball-tree. Tree 40 to 50 feet.

Cult. For culture and propagation see *Lécythis*, p. 874.

V. COURATA'RI (*Couratari* is the Guiana name of the first species). Aubl. guian. 2. p. 723. t. 290. Rich. ann. sc. nat. 1. p. 329. Poit. mem. mus. 14. p. 154. D. C. prod. 3. p. [illegible].—Lecythópsis, Schrank in akad. munch. phil. 7. p. 241.—Curupita, Gmel.

Lin. syst. *Monadélphia, Polyándria.* Tube of calyx turbinate; limb 6-parted. Petals 6, joined at the base. Stamens numerous; filaments concrete into an urceolately concave truncate unilateral ligula, bearing the anthers on the inside. Ovarium 3-4-celled; cells 4-ovulate; ovulas erect. Style subulate, simple. Fruit or pyxidium oblong, somewhat trigonal, 3-celled, but at length becoming 1-celled, coriaceous, valveless, closed; operculum convex, formed from the central dilated column. Seeds oblong-lanceolate, numerous, disposed in 3 bundles in the bottom of the fruit. Embryo conduplicate, with a long root. Cotyledons 2, long, foliaceous, corrugated. Radicle incumbent.—Trees. Leaves alternate, exstipulate, quite entire. Racemes axillary, spicate.

1 C. Guiane'nsis (Aubl. l. c. t. 290.) fruit somewhat tetragonal, with the orifice entire; seeds girded by a wing. ♄. S. Native of Guiana, near Aroura, at the river Sinemari, where it is called *couratari*, *maou*, and *baluta blanc*. Rich. l. c. t. 21. good. The inhabitants of Guiana form cordages of the bark of this tree.

Guiana Couratari. Tree 60 feet.

2 C. Estrelle'nsis (Raddi, mem. pl. bras. add. p. 25. f. 2.) fruit nearly cylindrical, with a lobate orifice; seeds acute upwards. ♄. S. Native of Brazil, on the mountains of Estrella. Flowers unknown.

Estrella Couratari. Shrub 6 to 10 feet.

Cult. For culture and propagation see *Lécythis*, p. 874.

END OF THE SECOND VOLUME.

GILBERT AND RIVINGTON, PRINTERS, ST. [illegible], LONDON.